

CONNECTING THE DOTS

A ROAD MAP FOR BETTER INTEGRATION
IN LATIN AMERICA AND THE CARIBBEAN

Coordinated by
MAURICIO MESQUITA MOREIRA

Special Report on Integration and Trade



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PROLOGUE

The quest for regional integration has been a centerpiece of the development strategy of Latin American and Caribbean (LAC) countries. In the past three decades, preferential trade agreements (PTAs) have become the instrument of choice. However, while this “new regionalism” was successful in overcoming the limitations of previous inward-looking integration initiatives, the proliferation of PTAs resulted in a regulatory architecture that does not necessarily provide firms with the nimbleness required to compete in the global economy of the 21st century.

With this challenge as its backdrop, this report provides a comprehensive review of the trade integration policies undertaken in LAC in the past quarter-century. It begins with an in-depth characterization of the current state of PTAs across the region, measuring current results against original objectives. This is followed by an econometric impact evaluation of the agreements that is based not only on an unprecedented granular analysis of intraregional trade flows, but also on an assessment of their effectiveness as springboards for greater insertion into the global economy. Taking stock of this wealth of analytical evidence, it outlines an agenda for closing the gap between expectations and results.

The contribution of this research to the vast literature on LAC integration is twofold. The empirical analysis focuses for the first time on the results since the turn of the millennium, when LAC’s regionalism has been tested by the proliferation of PTAs around the world and major transformations in the drivers of global interdependence. On the other hand, rather than focusing on the multiple political and economic facets of regional integration, it zeroes in on the trade dimension to put forward a policy proposal that aims to address the current balkanization of the regional trading system step-by-step. More to the point, it provides an estimation of the gains to be expected from a fully-fledged regional

free trade area, and from a more gradual convergence approach based on the cumulation of the rules of origin among existing agreements.

Supporting LAC countries in the pursuit of deeper integration lies at the heart of the institutional strategy of the Inter-American Development Bank (IDB). The central tenet is that by simultaneously addressing deficiencies in the policy and regulatory frameworks—the integration software—and in physical cross-border infrastructure—the integration hardware—the IDB can focus on its comparative advantages, while tailoring interventions to the needs of individual member countries and subregions.

The outlined policy road map to address existing inefficiencies contributes to this mandate. Given the current uncertain global trade environment, the report argues that it is in the region's best interest to go beyond the current mosaic of small agreements and to move gradually towards a unified regional market. By connecting these dots, policymakers across the region have an opportunity to upgrade their integration software and thereby to fulfill the long-professed aspiration of improving lives through regional integration.

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IN BRIEF

Connecting the Dots

As governments throughout Latin America and the Caribbean (LAC) from across the entire political spectrum continue to profess their commitment to regional integration, what can be said of their experiment with the “new regionalism” in the last quarter of a century? Has it met expectations? Do these policies still make sense in a much-changed world economy? What should the agenda ahead be?

- Looking first into the rearview mirror, one can see a nuanced picture. The open regionalism of the early 1990s clearly overcame the paralysis of the postwar period, which was rooted in a sharp conflict between countries’ protectionist leanings and their aspirations toward integration. The quantitative exercises in this study show unequivocally that subregional preferential trade agreements (PTAs) were powerful tools for promoting regional integration: they boosted intraregional trade by 64% on average, despite a mixed record of implementation.
- However, the results also show that these PTAs were very ineffective in meeting what was their main economic motivation: to boost competitiveness abroad. The new regionalism’s shift to more pragmatic, subregional setups was a mixed blessing. It simplified and expedited negotiations, but it opened the door to fragmentation and a mosaic of small PTAs, setting strict limits to trade and productivity gains.
- LAC’s small, subregional PTAs, whose members share similar comparative advantages, are poorly equipped to generate large enough scale and special-

ization gains to move the global competitiveness needle. This is especially true at a time when the emergence of mega-economies and mega-agreements are transforming the world economy.

- If LAC governments want to hold on to their regional integration objectives and give them a stronger economic backbone, they have little choice but to converge to a regionwide free trade agreement (LAC-FTA). Unlike during previous initiatives, the region has now a favorable policy environment and a strong head-start: nearly 90% of intraregional trade is already duty-free.
- Governments can pick different routes to convergence, depending on their political circumstances. They could take a more cautious, step-by-step approach, beginning by extending the cumulation of rules of origin among existing agreements and then filling in gaps in these relationships. Alternatively, they could plot a nonstop course to a LAC-FTA.
- Given the region's experiences with customs unions, supranational institutions, and complex disciplines, the recommendations point to a "plain vanilla" free trade zone, based on intergovernmental architecture and with a focus on goods and services. In the spirit of a "living agreement," other issues such as intellectual property, labor, or the environment may be considered once the foundations for this regional free trade agreement (LAC-FTA) for goods and services is firmly in place.
- The agreement should also include a broad chapter on trade facilitation, covering not just customs-related measures but also mechanisms capable of minimizing transportation and transaction costs, such as technical standards, phytosanitary measures, and logistics. While efforts to rationalize and promote the harmonization of these measures do not necessarily depend on a formal trade agreement, this platform represents a major opportunity to facilitate coordination and enforce the commitments already contained in a series of subregional initiatives relating to both infrastructure and trade facilitation.
- There is no need for all the region's governments to be involved at the early stages of the negotiation. All is needed is a critical mass of countries with enough gravitational pull and in this regard Argentina, Brazil, and Mexico are in a unique position to make things happen and eventually bring together the region's largest subregional blocs—the Pacific Alliance (PA) and MERCOSUR—whose combined US\$4.3-trillion market accounts for 81% of LAC's GDP.

- Estimates of the immediate, localized impact of a LAC-FTA point to average gains of 9% for interregional trade in the intermediate goods used in the region's exports, which would be an important boost for LAC's underdeveloped value chains. Likewise, an average 3.5% increase is expected for intraregional trade as whole (an additional US\$11.3 billion, based on 2017 flows), with significant variance across subregions and sectors (ranging from 1% in mining in the Andean countries to 8% in manufacturing in Mexico and 21% in agriculture in Central America).
- Even if these gains are taken at face value—and they are admittedly partial, lower-bound estimates—they cannot be dismissed as irrelevant, particularly in a context where intraregional trade has fallen by 26% between 2012 and 2017. Estimates that seek to capture economy-wide effects tell a similar story of modest yet palpable gains that are particularly useful for illustrating the insurance policy dimension of potential convergence. If frictions in global trade increase—a probability which seems to be increasing by the hour—a regionwide FTA would mitigate negative impacts on LAC exports by as much as 40%.
- These estimates also send an important message in terms of the advantages of taking an aggressive approach to convergence rather than a cautious one. If the gains of moving all the way toward a LAC-FTA are palpable but limited, a slow, step-by-step approach could render these gains irrelevant despite the eventual political advantages of such strategy, particularly given the pace of the transformations sweeping the world economy. If governments in the region are really committed to strengthening both the political and the economic cases for integration, time, unfortunately, is not on their side.



INTRODUCTION

As governments across the region and across the entire political spectrum continue to profess their commitment to deeper regional integration, what can be said of the experiment with the “new regionalism” that Latin America and the Caribbean (LAC) has been engaged in for more than a quarter of a century? Has it met expectations? Do these policies still make sense in a much-changed world economy? What should the agenda ahead be?

LAC has a long history of trial and error, and successes and failures, in pursuing regional integration. The first formal attempts came in the 1960s with the Central American Common Market (CACM) and the Latin American Free Trade Area (LAFTA, South America plus Mexico), which then evolved into the Latin American Integration Association (LAIA).¹ Other initiatives followed, such as the Andean Community (CAN) and the Caribbean Free Trade Association (CARIFTA), which later became the Caribbean Community (CARICOM). Most of these early initiatives, however, bore few economic or institutional fruits.

The quest for integration was reignited in the early 1990s, when the aftermath of the debt crisis and the ensuing market-oriented reforms gave rise to a “new regionalism”—a group of deeper, more comprehensive, and more open integration initiatives that led to the consolidation of five subregional trade blocs: CAN, the CACM, CARICOM, the Southern Common Market (MERCOSUR), and the North American Free Trade Area (NAFTA).

A quarter of a century later, this initial scenario of five trade blocs evolved into a broad, complex network of intra- and extraregional preferential trade agreements

WHAT ARE THE RESULTS?
WHAT SHOULD
THE AGENDA BE?

¹ LAIA, also known by its Spanish acronym ALADI, was founded in 1980 and its members are currently Argentina, Bolivia, Brazil, Chile, Colombia, Cuba, Ecuador, Mexico, Panama, Paraguay, Peru, Uruguay, and Venezuela. Nicaragua has been in the process of accession since 2011.

(PTAs) that reaches as far as Europe and Asia and covers a wide, varied range of disciplines from trade through investment to labor regulation. The initial agreements themselves underwent major changes born out of internal conflicts, shifting memberships, the emergence of competing initiatives such as the Pacific Alliance (PA), and, in some cases, new commitments toward deeper integration. They have also been joined by new sectoral initiatives that work on specific issues: infrastructure and other development issues are the focus of the Initiative for the Integration of the Regional Infrastructure of South America (IIRSA) and the Mesoamerica Plan, while the Latin American Integrated Market (MILA) is financially oriented. New regional institutions with objectives beyond an economic agenda have also emerged, such as the Union of South American Nations (UNASUR) and the Community of Latin American and Caribbean States (CELAC).

These developments raise important questions that are key to designing an effective policy agenda for the coming decades and generations: what lessons can be drawn from the experiences of this last quarter century? Has the “new regionalism” met the economic and political expectations around it? Which institutional architecture has delivered the best results—common markets, customs unions, or free trade zones? How do intraregional agreements compare to extraregional ones? How have regional and multilateral integration interacted? How can we build on the legacy of these initiatives?

This is not the first time these questions have been asked. There is a vast literature on the new regionalism in LAC, but most of the empirical analysis focuses on the economic impacts (trade and investment) and institutional developments of the 1990s, as reviewed and analyzed by the IDB (2002). What has been almost entirely absent is a solid and comprehensive analysis of the crucial developments in the first decade and a half of the 21st century, when the region’s integration initiatives were tested by major events such as the proliferation of new PTAs, the marked divergences in member countries’ political cycles, the emergence of China and global value chains, the onset of negotiations around mega-agreements such as the Trans-Pacific Partnership (TPP) and the Transatlantic Trade and Investment Partnership (TTIP), the Great Recession, and, most recently, the Brexit referendum and the United States’ decision not to ratify the TPP and to renegotiate NAFTA.²

² The TPP was signed in 2016 between Australia, Brunei, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore, the United States, and Vietnam. The US subsequently withdrew on January 23, 2017, but in March 2018 the remaining 11 members agreed to go ahead with implementing a modified agreement which was renamed Comprehensive and Progressive Agreement for Trans-Pacific Partnership, or CPTPP. See, for instance, <https://www.economist.com/blogs/economist-explains/2018/03/economist-explains-8>. The TTIP is an agreement between the United States and Europe whose negotiations were interrupted by the Brexit referendum. See <https://ustr.gov/ttip>.

This report seeks to revisit these questions and is organized into five sections.³ The first tries to pinpoint the main economic motivations behind LAC's age-old push for deeper integration. It argues that this has always been about the scale and specialization gains that a larger market can bring and their impact on extraregional exports. The second section addresses the questions of how far LAC has gone in its pursuit of integration, and where it now stands in terms of the depth, breadth, and implementation of its main PTAs. It reveals that there has been significant progress in building a vast network of intraregional PTAs, but that integration still suffers from excessive fragmentation, implementation issues, and important missing links in terms of relationships and products covered.

The third section combines the best methodological tools available to assess how far LAC integration has fulfilled governments' expectations. It looks at the impact of PTAs on intraregional trade, trade diversion, and extraregional exports. The evidence suggests that even though considerable progress has been made in liberalizing and boosting intraregional trade, the impact on extraregional exports has mostly been confined to PTAs that involve large partners outside the region. The small size and similar comparative advantages of the intraregional PTAs, as well as deficiencies in implementation, seem to explain most of the results.

The fourth section takes stock of the findings and outlines an agenda for closing the gap between expectations and results, against the backdrop of the recent changes in the world economy. Its main message is that there is a need to go beyond the current mosaic of small agreements and work toward a unified regional market—ultimately a LAC free trade agreement or LAC-FTA—building upon the existing network of PTAs. The key challenges are filling in the remaining product and relationship gaps and unifying the spaghetti bowl of rules of origin (RoOs).

The fifth and final section offers a few estimates of the potential trade gains associated with a move toward a unified regional market. It argues that though the gains are far from a panacea, the region can hardly afford to leave them on the table in this challenging trade environment. Moreover, addressing the current fragmentation is the best way to strengthen the economic fundamentals of what is essentially a long-professed political goal.

³ A preview of some of the findings and policy recommendations of this report appeared in Powell (2017).

WHY INTEGRATION?

SECTION

1

LAC regional integration has always been about improving lives by reaping size and specialization gains. That much was clear in this proposal put forward by the Economic Commission for Latin America (ECLAC) in the late 1950s: *“The progressive realization of the common market will gradually transform it through the major advantages that may arise from a more rational organization of the productive system in which the land’s potential is used most effectively and in which industry can grow, moving beyond the narrow limits of the domestic market. This increased productivity would then build on its already significant contribution to standards of living in Latin America.”*⁴

AGREEMENTS ARE STILL
BEING SOLD ON SCALE AND
SPECIALIZATION GAINS

It goes on to argue that: *“Increasing industrial exports to the rest of the world may be one of the consequences of the common market, even if it is not its direct, primary, immediate objective. This objective is twofold; a) to intensively develop the industrial exports of each country in Latin America to the rest of these, and b) to foster the traditional trade in primary products ...”*⁵

Thirty years later, these very same expectations around scale and specialization would inspire a new wave of integration initiatives and still seem to be guiding today’s policy makers. All around the region, integration agreements are still sold on the idea that a larger, more competitive market will make firms more productive on the back of scale and specialization gains while providing more opportunities for every member to diversify toward higher value-added goods or tasks, usually associated with manufacturing.⁶

⁴ ECLAC (1959: 4). Translated from the Spanish-language original.

⁵ ECLAC (1959: 7). Translated from the Spanish-language original.

⁶ See, for example, Argentina’s Strategic Industrial Plan 2020 (2011: 275).

As far back as Adam Smith, economic theory provides broad support for the importance of these gains, but the case for regional trade liberalization, as opposed to unilateral or wider multilateral liberalization, is not so clear-cut. Still, there are good reasons for pursuing a regional strategy. The first has to do with the need for reciprocity. In the context of unilateral liberalizations, large countries have an incentive to apply what is known as an *optimal tariff* to improve their terms of trade. Since they account for a significant share of global markets, a tariff would reduce demand for their imports, leading to a drop in the prices of their imports vis-à-vis the prices of their exports. If there were no coordination, countries left to their own unilateral devices might then apply relatively high tariffs, an outcome that would be inefficient compared to a coordinated agreement on a lower tariff structure. Countries' decisions around their tariff policies then become like the prisoner's dilemma, and some level of coordination is required to avoid an inefficient, uncoordinated outcome.⁷ The same coordination problem arises in connection with countries' incentives for protecting their markets to scale up at home and be more competitive abroad.⁸ In addition to this fundamental coordination problem, there is also the argument that reciprocity may yield more predictable market access.⁹

Why regional? Since coordination can happen at both the regional and multilateral levels, the case for a regional approach must go beyond the need for reciprocity. It must bring in arguments about strategy, such as the greater simplicity and speed of regional negotiations, the potential of PTAs to minimize the disadvantages of country size to capture welfare and growth-enhancing sectors with increasing returns, and their potential for minimizing adjustment costs and maximizing gains by giving members more time to adjust and learn how to survive in a more competitive multilateral environment.¹⁰

More complicated than justifying the theoretical relevance of a regional approach is how to go about its implementation. There is a vast literature, starting with Viner (1950), that draws attention to the risks of regional integration—which range from trade diversion to agglomeration—and discusses optimal strategies in terms of partners and PTA design.¹¹ The resulting message is clear: the motivation behind them might be the same, but not all integration schemes are equal. The range of combinations between types of partner (e.g., North–South or

MORE COMPLICATED THAN
JUSTIFYING THE PTAs
THEORETICAL RELEVANCE
IS HOW TO GO ABOUT ITS
IMPLEMENTATION

⁷ See Bagwell and Staiger (2002).

⁸ For example, Venables (1987), Brander and Spencer (1984), Ossa (2011), and Mrázová (2011).

⁹ Limão and Maggi (2015).

¹⁰ See Cooper and Massell (1965) and Devlin and French-Davis (1999). See, for example, Baldwin (2009) and Estevadeordal et al. (2009) for a review of the arguments for regional integration.

¹¹ For example, Frankel, Stein, and Wei (1996), Venables (2003), and Baldwin (2011).

South–South) and types of design (e.g., customs unions, free trade zones, or common markets) can produce vastly different results. This is particularly relevant to understanding results and properly framing expectations about LAC integration. As has been shown elsewhere, the limitations of market size and similarity of comparative advantages in South–South agreements make them more prone to trade diversion and to the divergence of member country incomes.¹²

Likewise, regional integration initiatives do not emerge in an economic and political vacuum. If the macroeconomic and growth fundamentals are weak, as has been often the case in the region until recently, benefits are likely to be minimal. If there is no political consensus within and across member countries on what economic policies to follow, the results are also bound to be disappointing. The external environment also matters. An agreement signed in a world economy with few agreements is likely to involve different motivations and payoffs than an agreement signed in a world heavily populated by PTAs like the one we are living in today. For instance, in the early 1990s, preferences that formed part of even relatively small agreements could go some way toward meeting the objectives of trade creation and scale gains, whereas that is unlikely in the current context of mega-economies and agreements. There has also been a radical change in perspective. Early on, signing PTAs may have been seen as a proactive trade policy; now, however, they are perceived as little more than a damage limitation exercise, as countries scramble to minimize trade diversion costs.¹³

Politics also matter. Even though it seems that economics has historically been the main driver of LAC integration, it was clearly not the only motivation. Both governments and academics usually mention political or political economy–related reasons for integration. Unlike economic motivations, these reasons are harder to generalize for the whole region and their results much harder to assess empirically. All the same, they cannot be ignored, particularly because they often play an important role in explaining design and implementation decisions. The main, most often-cited political motivation is the quest for security and political stability in the region, clearly inspired by the example of the European Union.¹⁴ The main idea is that an increase in the intraregional flow of goods, investment, and people creates a web of common interest that can reduce rivalries among member states and forge political consensus on

POLITICAL ECONOMY
MOTIVATIONS ALSO
MATTER

¹² See Venables (2003) and Moncarz, Olarreaga, and Vaillant (2016).

¹³ See Baldwin and Jaimovich (2012).

¹⁴ See, for example, World Bank (2000).

issues such as democratic rule and economic policies. This seems to have been a major motivation behind agreements such as MERCOSUR, CAN, the CACM and CARICOM. The results, as is discussed in the following sections, have been mixed.

Along with security and stability comes the idea that regional agreements can increase member countries' bargaining power in international negotiations, including the signing of other trade agreements. It is harder to disagree with the logic of this argument, but has it actually proved to be the case? Have members of subregional agreements effectively exercised this advantage when negotiating new treaties with other countries or blocs? Again, LAC's experience seems mixed and it is important to understand why, since the benefits can be substantial—particularly for small countries, as seems to have been the case in the negotiations of CAFTA and the CARIFORUM-EU PTA.

In the realm of political economy, the so-called lock-in or domestic-commitment argument is particularly prominent and has even been the subject of a formal theory.¹⁵ The main idea is that trade agreements can help governments to reduce the influence of domestic lobbies and, therefore, guarantee the consolidation of sound economic policies. The most frequently cited example in the region is Mexico and the negotiation of NAFTA, but this could be easily extended to all North–South agreements LAC countries have signed.¹⁶ How important this motivation was for the signing of these agreements is difficult to assess because there is no clear counterfactual. It is hard to believe, though, that these agreements would have been signed if sizeable market access gains were not on the table. In any case, even a cursory look at the countries in the region that have engaged in North–South agreements reveals that they did manage to achieve a significant degree of stability in their economic policies. That is not the case, though, for the intraregional, South–South PTAs, where, for instance, MERCOSUR and CAN experienced significant volatility in their member countries' economic policies.

While acknowledging the relevance of political or political economy–related motivations, the fundamental premise of this report is that they are unlikely to have been the dominant force behind the “new regionalism” in LAC and could hardly have been acted upon without a clear economic motivation. The analysis in the following sections focuses precisely on how the region acted upon this motivation and the results obtained so far.

¹⁵ See, for example, Fernandez and Portes (1998) and Maggi and Rodríguez-Clare (2007).

¹⁶ See, for example, Whalley (1998).

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LAC'S JOURNEY TO INTEGRATION: HOW AND HOW FAR DID IT GO?

SECTION 2

LAC arguably started pursuing regional integration earlier than any other region in the world except Europe and has gone much further in doing so. However, it has been a long and winding road, one that illustrates the difficulties in translating sound motivations into effective designs and implementation. LAFTA, for instance, which was launched in 1960 and was the most promising of the early initiatives due to the size of the market involved, had no chance of producing meaningful scale and diversification gains if liberalization was supposed to be mainly restricted to “industries that do not exist yet, or that are at an early stage of development” so as to protect “existing industries.”¹⁷ The initiative aimed at free trade by 1973 but never came close to achieving its objectives due to member countries’ pursuit of protectionist industrialization strategies.¹⁸

These contradictions between integration objectives and national policies also undermined the subregional initiatives that followed, seen as a more viable alternative to a complex regionwide agreement. The Central American Common Market (CACM, 1960), the Andean Community (CAN, 1969), and the Caribbean Community (CARICOM, 1973) (see boxes 2 to 4) all failed to significantly dismantle trade barriers, which was aggravated by the fact that they represented significantly smaller markets than LAFTA, which undercut their potential gains.

In 1980, the region made another attempt at a regionwide integration through the signing of the Montevideo Treaty, which established the Latin American Integration Association (LAIA). Unlike LAFTA, LAIA does not require that bi-

¹⁷ ECLAC (1959: 4). Translated from the Spanish-language original.

¹⁸ LAFTA was signed in February 1960, by Argentina, Brazil, Chile, Colombia, Ecuador, Mexico, Peru and Uruguay. Bolivia, Paraguay, and Venezuela became members shortly thereafter. See Milenky (1973).

lateral preferences be extended to all the other members of the agreement (the most favored nation, or MFN, clause). Despite these more flexible rules, the new arrangement did little to free up intraregional trade, at least in its first decade, as members remained committed to protectionist strategies.¹⁹ However, it laid the legal framework for the proliferation of intraregional PTAs that followed, which contributed significantly to free intraregional trade but with one important collateral cost: the fragmentation and dilution of trade gains.

This proliferation of PTAs came in the 1990s when this mismatch between integration and national policies was much reduced by a regionwide shift toward market-friendly policies. In the context of what became known as the “Great Liberalization,” LAC embarked on a new wave of regional integration initiatives which advanced hand-in-hand with unilateral and multilateral liberalizations and thus were less prone to conflicts between regional and national trade policies and less exposed to trade diversion.²⁰ Unfortunately, the trend toward fragmentation triggered by the disappointment around LAFTA not only endured but also came to include a very active bilateral component.

Under the guise of the “new regionalism,” the subregional dimension was reinvigorated with the creation of the CARICOM Single Market and Economy (CSME, 1989), the relaunch of CACM (1991) and CAN (1993), and the establishment of a new bloc, MERCOSUR (1991). Inspired by the European Union model, they all aimed to create customs unions or even single markets (CARICOM) with free movement of goods, services, and labor and an extensive list of supranational institutions. While these arrangements all made significant advances compared to their previous incarnations, particularly in terms of freeing intrabloc trade, they generally fell short of implementing full customs unions or even free trade zones. Some, such as the CACM, came closer than others to achieving this, but not enough to eliminate “exceptions” or cumbersome and costly RoOs.²¹ They also struggled to develop effective regional institutions that had sufficient technical expertise and political clout to pursue the goals of the agreements, enforce their rules, and mediate disputes (see boxes 2 to 5). That was particularly the case for CAN, where political disagreements eventually led to Venezuela leaving the agreement in 2006.

**THE NEW REGIONALISM
BROUGHT FREER
INTRAREGIONAL TRADE BUT
ALSO FRAGMENTATION**

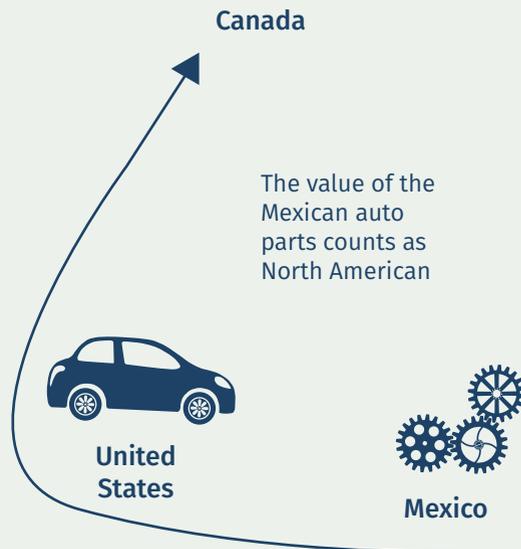
¹⁹ See, e.g., Da Silva Bichara (2012).

²⁰ For details on the “Great Liberalization” see Estevadeordal and Taylor (2013). On the “new regionalism” see, for example, Estevadeordal, Giordano, and Ramos (2014), Inter-American Development Bank (2002), Porta (2008), and Lagos (2008) and references cited therein.

²¹ See box 1 for a definition of rules of origin.

BOX 1 WHAT ARE RULES OF ORIGIN (RoOs)?

The RoOs 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 have it still qualify for duty-free treatment under the agreement. These criteria are negotiated as part of the agreement and can range from the very restrictive (almost no imported materials allowed) to the quite permissive (significant imported inputs allowed). 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. Regardless of the restrictiveness of RoOs and the need for them, these types of controls can impede trade flows among a group of countries, even if they all share PTAs.



WHAT IS CUMULATION OF RoOs?

One feature of almost all RoOs is the ability to “cumulate” inputs from other members of the agreement. For example, within NAFTA, auto parts from Mexico can be used in auto assembly in the United States and not disqualify the resulting cars from preferential treatment going into Canada, because all three countries are NAFTA members and so intermediate inputs from any one of them can be treated as “originating” in any of the others. Within the agreement, supply chains can thus function freely and the resulting products can benefit from it. However, the formation of more sophisticated supply chains across countries linked by different agreements can be limited by the fact that there is no cumulation *across agreements*.

The weakness of regional institutions, compounded by the imperfect nature of the customs unions, also undermined the blocs’ abilities to negotiate with the rest of the world, whether within or outside the region, which eventually led to new perforations of the common external tariff (CET) as members sought to sign new PTAs bilaterally.

With the benefit of hindsight, the difficulties faced by these agreements were perhaps to have been expected. Size brings benefits but it also entails costs,

**MEXICO AND CHILE TOOK
A DIFFERENT PATH AND
AVOIDED AMBITIOUS
REGIONAL PROJECTS IN
FAVOR OF STANDARD PTAs**

which come in the form of heterogeneous preferences.²² The larger and deeper the political union is, the more difficult it is to devise policies and produce public goods that satisfy every member's political and economic preferences. This is particularly true when these preferences are volatile and member countries lack solid institutions to promote consensus and anchor regional institutional development.

To put it plainly, replicating the European model without Europe's political consensus and financial and institutional resources was bound to be a bumpy ride, and this was confirmed by the reality on the ground. What is perhaps surprising is that even for the CACM and CARICOM, which have relatively small political and economic territories (all but three CARICOM countries—Jamaica, Trinidad and Tobago, and Haiti—are classified by the United Nation as “microstates”) and which obviously stand to gain from sharing social and physical infrastructure, such trade-offs between the size of the union and the complexity of satisfying all parties' preferences have proven too steep to accept.²³

In any event, however miscalculated the political ambitions behind these agreements were and whatever the shortcomings in their implementation, their trade gains were bound to be relatively small because of the inherent limitation of their economic size and the similarity of comparative advantages within them, as will be discussed in more detail in section 3.

Perhaps understanding these limitations and trade-offs better, Mexico and Chile took a different path and avoided ambitious regional projects in favor of standard PTAs, most of which were bilateral, except for Mexico's membership of NAFTA (1994).²⁴ NAFTA was a breakthrough on at least two counts: it broke with the customs union/single market model and went beyond the region to sign a PTA with none of the limitations of size and comparative advantages typical of the intra-LAC PTAs. NAFTA also opened the door to several other extraregional PTAs involving the US, Europe, and Asia, including the recently negotiated but as yet unratified TPP and its reduced version, the CPTPP. This expansion was spearheaded by Mexico and Chile, followed by Peru, Colombia, and Central America.

While it made perfect economic sense for Chile and Mexico to embark on such endeavors, this process brought greater fragmentation to the region, as what

²² See Alesina and Spolaore (2003).

²³ See Mesquita Moreira and Mendoza (2007) for a detailed discussion about these trade-offs in CARICOM.

²⁴ See Miller (2016) for a detailed description of the agreement.

would come to be known as the “spaghetti bowl” was piled high with regional and bilateral PTAs, that rested on an even larger collection of RoOs. There is no doubt that LAC is mostly better off with this tangle of PTAs than with no PTAs at all, as it has significantly reduced trade costs for intraregional trade. It is also clear, though, that it has left the region worse off than if it had been free of the distortions of multiple preferences and RoOs, as originally envisaged by LAFTA.

The good news is that, ironically, this legacy of fragmentation has left a strong platform from which the region can resume its quest for an integrated market, with enough scale and resource diversity to generate significant trade gains and boost its competitive position abroad. There have already been concrete initiatives to take advantage of this platform by consolidating existing agreements and harmonizing preferences and rules. The most prominent of these initiatives is the Pacific Alliance, an agreement between Colombia, Chile, Mexico, and Peru that was launched in 2012 (see box 6). Mexico’s 2011 agreement with Central America, which consolidated four previous bilateral agreements, points in the same direction. The big prize, though, would be a regionwide consolidation of existing agreements: an initiative along the lines of what was unsuccessfully attempted, in a hemispheric scale, with the Free Trade Area of the Americas (FTAA) in the early 2000s. Is it an unrealistic preposition? This question can only be answered by having a clear understanding of how far the region has gone in liberalizing intraregional trade.²⁵

THE GOOD NEWS IS THAT THIS LEGACY OF FRAGMENTATION HAS LEFT A STRONG PLATFORM FROM WHICH THE REGION CAN RESUME ITS QUEST FOR AN INTEGRATED MARKET

Surprisingly Close to Free Intraregional Trade, But...

Where does the region stand on liberalizing intraregional trade? Excluding those agreements that cover less than 80% of products, there are currently 33 LAC-to-LAC PTAs in force, including the four original blocs discussed earlier (CACM, MERCOSUR, CAN, and CARICOM; see Annex 1). This network of agreements covers bilateral relationships accounting for approximately 85% of the current value of intraregional trade, and nearly half of that takes place within the four original agreements themselves (figure 2.1).²⁶ The other half is made up of bilateral or plurilateral PTAs, including those that connect Mexico and Chile to other LAC countries and MERCOSUR and CAN member countries.

²⁵ For an analysis of the FTAA initiative, see Estevadeordal et al. (2004).

²⁶ IDB estimates based on INTrade for 2016.

BOX 2 THE CENTRAL AMERICAN COMMON MARKET (CACM)^a

The General Treaty on Central American Economic Integration which established the CACM was signed in December 1960 by El Salvador, Guatemala, Honduras, and Nicaragua. Membership was later expanded to include Costa Rica in 1962 and Panama in 2012. The CACM was originally established with the objective of forming a customs union within five years. However, the unfavorable economic environment of the 1970s and 1980s, together with military conflict in some countries, led to stagnation in the integration process until the early 1990s, when it regained momentum and became heavily institutionalized.

In 1991, countries reaffirmed their political commitment to integration through the Tegucigalpa Protocol, which created the Central American Integration System (SICA).^b The SICA is an overarching framework under which four subsystems were later established to manage economic, social, political, and cultural integration. In 1993, a protocol to the 1960 General Treaty on Central American Economic Integration created the Subsystem for Economic Integration, whose technical and administrative body is the Secretariat for Economic Integration (SIECA), to oversee the application of all legal instruments regulating trade relations. This protocol effectively brought the CACM within the larger institutional framework of the SICA, which also includes the Central American Parliament and the Central American Court of Justice.

In terms of trade regulations, over 99% of tariff lines are eligible for duty-free treatment among the five original bloc members.^c Similarly, norms were enacted to reduce nontariff barriers (NTBs), including those pertaining to technical and sanitary and phytosanitary standards, while safeguard measures were excluded from application among member countries.

With regard to deeper disciplines, Costa Rica, El Salvador, Guatemala, Honduras, and Nicaragua signed the CACM Agreement on Investment and Trade in Services in 2002.^d However, as the agreement recognizes the limitations established in national legislation, signing it did not necessarily imply that cross-border services and investment would be liberalized to a greater degree than what was already allowed under each country's internal regulations and under multilateral agreements such as the General Agreement on Trade in Services (GATS).

Although, as its name implies, the CACM aims to achieve a common market, it is still in the process of establishing a customs union, which is expected for 2024. As of 2014, the CET covered 95.7% of tariff lines (8-digit level). However, following Panama's entry into the bloc, this figure was substantially reduced due to the country's exclusion of several tariff lines from its harmonization commitments. Moreover, negotiations of extrabloc PTAs on a bilateral basis further perforated the CET, as individual members extended different tariff preferences to nonmember countries.

As with other ambitious LAC integration schemes, the CACM's challenge is to turn a complex and costly institutional and legal apparatus (SICA is made up of approximately 600 legal instruments) into an effective tool for regional integration. There are improvements to be made in implementation—which could be facilitated by more realistic goals—and in coordination between regional and national institutions. SIECA, for instance, is often charged with implementing potentially conflicting instructions emanating from political bodies, such as the SICA.

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BOX 2 THE CENTRAL AMERICAN COMMON MARKET (CACM)^a *(continued)*

The time seems ripe for the subregion to take stock of its integration objectives. A common market, with fully functional supranational institutions, has proved to be an elusive proposition, either because of limited financial and institutional resources or because member countries are not ready to compromise on their national interests. The customs union seems to be a more viable proposition, but then the whole institutional and legal apparatus would need to be streamlined and focus on the objective at hand. The status quo does seem to be the best option to rationalize the use of scarce financial and institutional resources and maximize the gains from integration.

^a This box draws on, but also departs from, Santamaría and Zúñiga (2016).

^b Belize and the Dominican Republic became full members of the SICA in 2000 and 2013, respectively, but are not party to the CACM.

^c Unroasted coffee and cane sugar are the only general exceptions to the duty-free rule, in addition to a short list of bilateral exceptions. The figures exclude Panama, which acceded in 2012 and is in the process of eliminating intrabloc tariffs.

^d Two additional protocols on investment and trade in services were signed in 2007 and 2011, but are pending ratification.

BOX 3 THE ANDEAN COMMUNITY (CAN)^a

The agreement, then known as the Andean Pact, was originally signed in 1969 by Bolivia, Chile, Colombia, Ecuador, and Peru, with the goal of forming a common market. Venezuela joined the group in 1973, and Chile left in 1976 amid disagreements about the bloc's idea of fostering more import substitution. The relaunching of the agreement came in 1992, under the auspices of the "new regionalism," when a free trade area was finally implemented with ambitions to become a customs union. The bloc's relaunch was accompanied by greater institutionalization of the regional integration process under the framework of the Andean Integration System. The system is made up of both intergovernmental and supranational bodies: the former includes the Andean Presidential Council, the Andean Council of Ministers of Foreign Affairs, and the Commission of the Andean Community, while the Andean Parliament, the General Secretariat, and the Andean Court of Justice perform supranational legislative, executive, and judiciary functions, respectively.

All products enjoy duty-free status when traded among the four member countries. Common regulations on technical and sanitary measures and cross-border transportation, among other matters, were also adopted. However, residual protection has disrupted trade relations, particularly with regards to the imposition of safeguard measures, which are allowed and have been utilized in a few circumstances.^b Moreover, although member countries have agreed to submit any trade disputes to the Court of Justice, its decisions have often yielded no consequences for the offending country.

As to services, the general framework adopted recognizes MFN and national treatment (NT) principles as established in the GATS. In practice, apart from Bolivia and the financial and broadcasting sectors, trade in services is fully liberalized. In terms of investment, no harmonized legal framework exists,

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BOX 3 THE ANDEAN COMMUNITY (CAN)^a *(continued)*

which led individual countries to negotiate bilateral investment treaties (BITs) among themselves and with third parties. The stance on foreign investment adopted by Colombia and Peru, which have aggressively pursued more comprehensive BITs and subjected themselves to international arbitration, has been distinct from that of Bolivia and Ecuador, which have tended to restrict the scope of such agreements and rejected the authority of the International Centre for Settlement of Investment Disputes (ICSID).

The bloc's ambitious integration goals were eventually undermined by growing political and economic divergences among member countries, with Colombia and Peru pushing for market-oriented policies and greater integration with the world economy, while Venezuela, Bolivia, and Ecuador were pivoting back toward the more interventionist and protectionist policies of the Andean Pact. Venezuela eventually left the bloc in 2006 and joined MERCOSUR, while Colombia and Peru started signing bilateral PTAs with the US, EU, and Asia, and joined Mexico and Peru to form the Pacific Alliance in 2011 (see box 5). This growing divergence marked the end of the bloc's customs union ambitions. Even though all member countries had adopted a CET in 1995, its implementation was suspended in 2007 and replaced by a common tariff policy to facilitate negotiations with third parties.

Despite radically dialing back its ambitions for a free trade agreement, the bloc still carries the costs of supranational institutions. The time is ripe for rethinking their functionality and, in fact, that of the whole agreement, in the face of the new realities of integration in the subregion.

^a This box draws on, but also departs from, COMEXPERU (2016).

^b Ecuador has initiated the application of safeguard measures against Colombia and Peru five times, most recently in 2015, having received authorization from the CAN's General Secretariat on three occasions.

BOX 4 THE CARIBBEAN COMMUNITY (CARICOM)^a

CARICOM was officially established in 1973 with the signing of the Treaty of Chaguaramas by Barbados, Guyana, Jamaica, and Trinidad and Tobago. Membership was expanded in later years with the inclusion of Antigua and Barbuda, The Bahamas, Belize, Dominica, Grenada, Haiti, Montserrat, St. Kitts and Nevis, Saint Lucia, St. Vincent and the Grenadines, and Suriname. In 1989, the CARICOM Heads of Government agreed to advance the integration process by establishing the CSME, which would entail the free movement of goods, services, capital, and labor (i.e. the single market), the harmonization of economic policy, and possibly the adoption of a single currency (i.e. the single economy).^b

The Revised Treaty of Chaguaramas establishing the CSME entered into force in January 2006, and a revised governance structure was also adopted. The Conference of Heads of Government and the Council of Ministers are the main CARICOM decision-making bodies. They are assisted by a

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BOX 4 THE CARIBBEAN COMMUNITY (CARICOM)^a *(continued)*

permanent secretariat, five ministerial councils, and four technical committees responsible for enacting and implementing policy in different areas (finance, foreign relations, human and social development, trade and economic development, national security, and law enforcement). Finally, the Caribbean Court of Justice was established as the final court of appeal, but not all member states have implemented provisions to subject themselves to its authority.

In moving forward with the implementation of the CSME, CARICOM countries agreed to a two-phase approach: the single market was to be fully implemented by 2008, and the single economy by 2015. To date, approximately 70% of the commitments undertaken to create the single market have been implemented—the greatest progress has been on ensuring the free movement of goods and people. However, large disparities still exist in the average tariffs imposed by individual member states as exceptions abound.^c

NTBs in the form of excise duties, customs surcharges, taxes on foreign currency transactions, and environmental fees, among others, are prevalent and particularly restrictive for some key products traded within the region. The 12-member states of both CARICOM and the CSME apply a CET on goods originating in nonmember countries. However, there is a wide dispersion in the range of actual tariffs implemented, as the CET contains several perforations and some countries have yet to apply it fully.

With regard to deeper disciplines, liberalization of trade in services has been slow, with many of the required legislative and administrative measures found not to be fully implemented. Although member countries approved a draft CARICOM Financial Services Agreement, a regionwide investment regime is not yet in place. Moreover, little has been achieved toward implementing the single economy, as the harmonization of macroeconomic and sectoral policies has not yet become a reality.

With the single market at least a decade behind schedule, the subregion would do well to revisit where it stands in the trade-off between size and national preferences and rethink the path it wants to follow. As argued elsewhere (Mesquita Moreira and Mendoza, 2007), the CSME can offer important gains that come from sharing physical and social infrastructure, but this would require compromising on national preferences, which has proved to be elusive. A customs union is less demanding in this regard and could be instrumental in facilitating negotiations to increase the bloc's market access in Latin America and elsewhere, which is imperative given the erosion of the historic nonreciprocal preferential access to traditional trade partners in Europe and North America. The status quo—this gray zone between a common market, customs union, and free trade zone—entails significant credibility costs and undermines trade gains. As with others PTAs in the region, the bloc has a lot to benefit from a thorough and realistic revision of its goals.

^a This box draws on, but also departs from, Nurse (2016).

^b Three countries are members of CARICOM, but not of the CSME: Haiti, Montserrat, and The Bahamas.

^c A special regime for “disadvantaged countries, regions and sectors” was established within the framework of the CSME treaty, excluding some member states from application—or allowing them to delay implementation—of provisions.

BOX 5 THE SOUTHERN COMMON MARKET (MERCOSUR)^a

MERCOSUR was established in 1991 when Argentina, Brazil, Paraguay, and Uruguay signed the Treaty of Asunción. Venezuela was granted full membership in 2012 but has recently been suspended for political reasons, while Bolivia is in the process of accession.^b The bloc's original aim was to become a common market characterized by: (i) the free movement of goods, services, and production factors, (ii) a CET and common commercial policies with respect to third parties and in multilateral fora, (iii) the coordination of macroeconomic and sectoral policies, and (iv) the harmonization of rules and regulations in relevant areas. While considerable progress has been made toward the first two goals, there is still a sizeable implementation gap, which is even more pronounced in the latter two.^c

MERCOSUR's ambition of becoming a deeply integrated area was met with an equally ambitious institutional framework. Three intergovernmental bodies—the Common Market Council, the Common Market Group, and the MERCOSUR Trade Commission—share decision-making authority, alongside a permanent secretariat and supranational bodies such as a parliament (Parlasur) and the Permanent Review Tribunal.

Tariffs and NTBs were largely eliminated among member countries in the first four years of the agreement, except for sugar and vehicles, but politically negotiated exceptions to the bloc's rules have been common. Moreover, many NTBs, safeguards, and special schemes such as import licensing and export processing zones have been implemented, even though these are not allowed under MERCOSUR rules, and are disrupting intrabloc trade flows.^d Recently (2016–2017), under the auspices of an ad hoc task force (*Grupo Ad Hoc*, in Spanish), the bloc has made significant progress toward identifying and eliminating many of these NTBs, but quite a few remain.^e

With regard to deeper disciplines, in 2005 the Montevideo Protocol on Trade in Services came into force. This protocol is generally in line with the GATS but had a more ambitious goal of universal liberalization within 10 years, which was not accomplished.^f On the matter of investment, after two failed attempts, the bloc finally signed, in April 2017, an investment cooperation and facilitation protocol, which includes a state-to-state dispute settlement mechanism.^g Another important progress step forward was the signing of the government procurement protocol in December 2017, an agreement that has long eluded the bloc.^h Both protocols are in the process of ratification.

One area in which MERCOSUR has made noteworthy progress is on facilitating intrabloc labor movement. Since 2009, when a residency agreement came into force, nationals of MERCOSUR member countries and of Bolivia, Chile, Colombia, Ecuador, and Peru have been able to apply for residency in the territory of any other signatory state, subject only to a criminal background check and the payment of fees.ⁱ But while requests for residency have been streamlined, burdensome requirements for the mutual recognition of degrees and diplomas, which would allow migrants to work abroad, still pose barriers to intrabloc relocation (Baraldi 2014).

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BOX 5 THE SOUTHERN COMMON MARKET (MERCOSUR)^a (continued)

With regard to extrabloc relations, member countries agreed to a CET in 1994, which currently covers 70.8% of tariff lines. Since being established, the CET has been perforated by a series of exceptions whose removal has been postponed until 2024. Additionally, although members have agreed to the collective negotiation of PTAs with third parties, agreements previously signed by individual countries remain valid, and the negotiation of new ones, even if on a collective basis, does not require identical liberalization commitments. MERCOSUR has not been very active in signing PTAs outside the LAIA area, having signed only a limited number of partial agreements with countries like India and Israel. Recently, though, new administrations in member countries have been trying to make up for this inaction, resuming in earnest previously stalled negotiations, such as the one with the European Union, and announcing new ones with EFTA (European Free Trade Agreement), Canada, Korea, Japan, ASEAN, Australia and New Zealand. The bloc is also engaged in a formal dialogue about convergence with the Pacific Alliance (see IDB 2017).

As with other LAC deep integration schemes, MERCOSUR has made substantial progress on liberalizing intraregional trade but fell short of implementing its more ambitious goals of a customs union and a common market, facing difficulties in the implementation of its rules, despite its heavy institutional apparatus. As in the other cases, the status quo can be significantly improved: after more than a quarter of a century, the bloc is still caught between a free trade zone, a customs union, and a common market, without having fully implemented any of these schemes. To boost its credibility, the MERCOSUR needs to undertake an urgent, realistic review of its objectives and implementation mechanisms. If anything, the experience of the past 26 years suggests that member countries have underestimated the difficulties of a building a stable political consensus around key policy principles.

^a This box draws on, but also departs from, Campos and Gayá (2016).

^b Accession to MERCOSUR is a two-step process: first, all member countries sign an Accession Protocol with the applicant country, which is subsequently ratified by their national congresses, if ratification of international treaties is mandatory per domestic legislation. As of early 2017, the Brazilian Congress was yet to ratify Bolivia's Accession Protocol, which was signed in 2015. In July 2016, Brazil, Argentina, Uruguay, and Paraguay blocked Venezuela from taking on the *pro tempore* presidency of the MERCOSUR, on the grounds that the country had not fulfilled its accession commitments. In August 2017, Venezuela was notified of its impending suspension over failure to comply with the bloc's democratic clause (Ushuaia Protocol).

^c See Vaillant (2014) for a detailed discussion of MERCOSUR's evolution.

^d For example, while MERCOSUR regulations prohibit the application of safeguards, countries have applied them in accordance with WTO rules.

^e See IDB (2017), p.49.

^f Paraguay has not yet ratified the protocol.

^g Protocolo de Cooperación y Facilitación de Inversiones Intra-MERCOSUR in Spanish. See http://www.mre.gov.py/tratados/public_web/ConsultaMercosur.aspx.

^h Protocolo de Contrataciones Públicas de MERCOSUR in Spanish. See http://www.mre.gov.py/tratados/public_web/ConsultaMercosur.aspx.

ⁱ If approved, residency is initially granted for a period of two years, and can become permanent if the migrant shows proof of sufficient income.

BOX 6 THE PACIFIC ALLIANCE (PA)

The Pacific Alliance (PA) was officially established in April 2011 by the governments of Chile, Colombia, Mexico, and Peru to create an area of deep integration to boost economic growth, development, and competitiveness. It would do so by progressively advancing toward the free movement of goods, services, capital, and people and by serving as a platform for the global integration of its member countries, especially with the Asia-Pacific.

In May 2016, the Additional Protocol to the Framework Agreement of the Pacific Alliance entered into force, establishing a free trade zone. This protocol harmonized and deepened the scope of previous existing bilateral trade agreements between the four member countries, resulting in the immediate elimination of tariffs on 92% of goods traded among them, with a schedule for the elimination of remaining tariffs and the expansion of trade opportunities. The PA countries committed to liberalizing all goods traded among them (except for sugar and related products). Goods that were not previously included in bilateral agreements are thus now part of the PA's free trade zone; some examples of these include dairy, rice, wheat, rubber products, and some trailers. In 2018, in line with the schedule, tariffs were eliminated on eggs, pork and related products, turkey, sea products, and instant coffee, among others, bringing the PA closer to its objective of free movement of goods.

The PA is facilitating trade through initiatives such as the Authorized Economic Operator program, which expedites the movement of goods and improves safety, and the interoperability of the Single Windows for Foreign Trade (VUCEs), which works by connecting the different countries' VUCEs with one another. Consequently, the administrative procedures for international trade can take place through a single, automated, online portal, eliminating the use of paper and making the flow of goods more efficient. The PA's VUCE system passed a major milestone in 2017, when the exchange of phytosanitary certificates began, and the bloc is working to implement a digital certificate of origin and harmonize customs declarations.

From a private sector perspective, the PA grants businesspeople access to a seamless market and enables them to obtain inputs at more competitive prices, to achieve economies of scale, and to enter a network of more than 70 RTAs that include the world's largest economies. The PA countries have also adopted a unique set of RoOs that allow for cumulation of origin. The Additional Protocol thus provides the basis for increased trade and investment within the PA, as well as more integrated supply chains for achieving higher levels of competitiveness in third-country markets.

The PA is also pursuing a broad, emerging agenda to advance the integration of its financial markets. In 2015, the Presidents' Summit created the Council of Finance Ministers to take advantage of the opportunities offered by the financial integration of the PA to ensure solid, stable, sustainable, inclusive growth, triggering a progressive agenda to promote and facilitate financial operations and increase certainty among investors. This agenda includes: (i) creating a "funds passport," by which a collective investment vehicle (CIV) will be recognized in the PA region once one of the PA

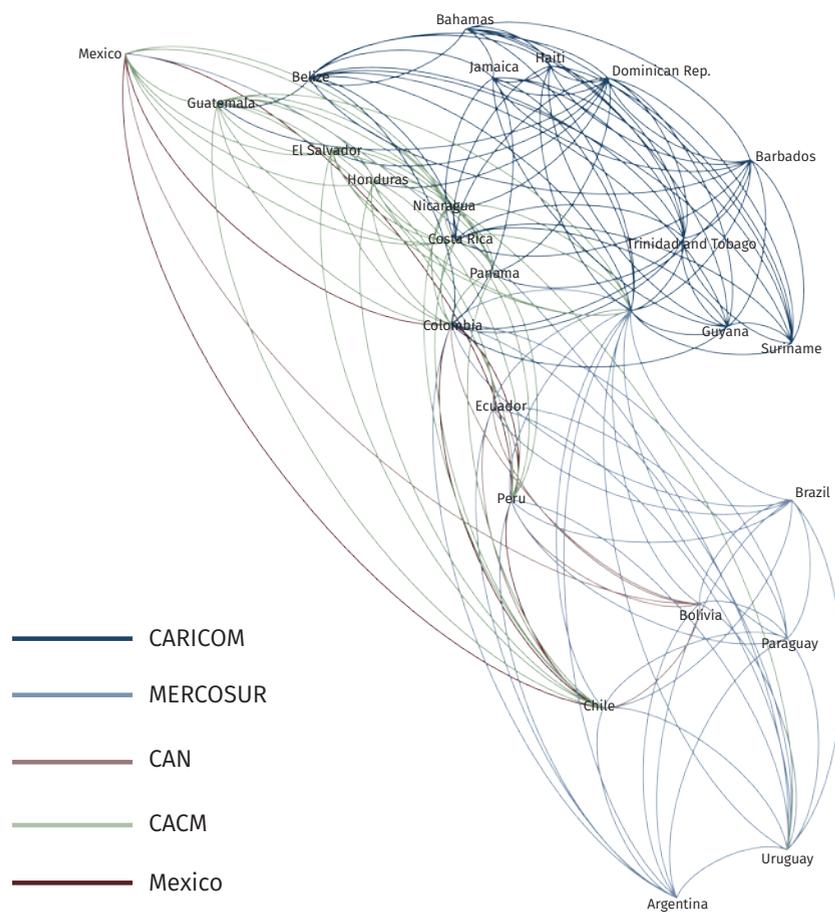
(continued on next page)

BOX 6 THE PACIFIC ALLIANCE (PA) *(continued)*

countries has granted a CIV authorization; (ii) harmonizing the tax treatment for pension funds, which establishes a cap of 10% on taxes applicable to these investments and prevents double taxation; (iii) promoting exports of services by facilitating administrative procedures that include online accreditation and verification of service providers' residences and fiscal incentives such as avoiding double taxation for international trade in services; (iv) strengthening the FinTech market, ensuring an efficient, coordinated regulatory framework to drive financial inclusion, including for SMEs, and safe electronic payments; (v) attracting private and institutional investment for infrastructure projects, observing best practices on public-private partnerships; and (vi) issuing a joint catastrophe bond (CatBond) worth US\$1.3 billion, a share of which will be issued to a country after an earthquake depending on its magnitude and location, while the regulatory harmonization of the four countries will enable future such issues. The first step toward the financial integration of the PA was the gradual interconnection of member countries' stock markets to form the Latin American Integrated Market (MILA), creating the second-largest stock exchange in LAC with a market capitalization of more than US\$700 billion and that includes over a thousand listed companies.

The trade and financial pillars are complemented by functional cooperation efforts, which include innovation, sustainable mining practices, support for SMEs, joint embassies, the elimination of visas for intraregional tourists (in place since 2013), gender, and education, including university scholarships. This cooperation goes beyond the public sector to include the private sector, led by the PA Business Council (CEAP).

Some observers have labeled the Pacific Alliance a "convergence experiment" within the complex web of PTAs in LAC (Villarreal 2016). It differs from other initiatives in that it represents a pragmatic and innovative approach to building upon existing free trade areas to achieve greater economic integration and serve as a global export platform, which is complemented by the integration of PA's financial markets. In addition, it is much leaner in terms of institutionalization, as it relies on the coordination between the ministries and agencies of the four member countries and some IFIs. For instance, the Council of Finance Ministers and their Working Groups rely on a Technical Secretariat provided by the Inter-American Development Bank rather than a permanent secretariat and supranational bodies. As such, the PA may be providing an innovative model for how to knit together free trade areas and financial markets in LAC and link them to extraregional initiatives. In fact, the group has sparked considerable interest at the regional and global levels. In LAC, this has included the establishment of a formal dialogue with MERCOSUR to promote convergence trade and trade facilitation convergence between the two blocs, including a roadmap adopted at the ministerial level (IDB 2017). Beyond the region, the PA includes 52 observer countries, and negotiations are at an advanced stage with the four PA's Associate Members (Australia, Canada, New Zealand, and Singapore) toward establishing liberalized trade.

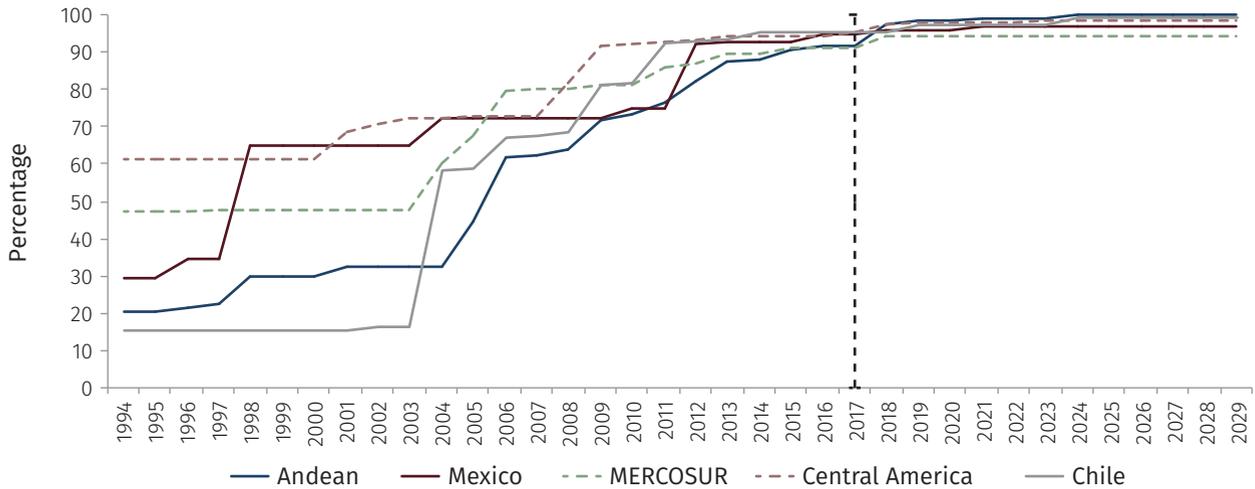
FIGURE 2.1 INTRA-LAC PREFERENTIAL TRADE AGREEMENTS

Source: IDB estimates with INTrade data.

Note: The picture is organized around the 1990s regional agreements, including Mexico that is part of NAFTA. Annex I provides a list of the PTAs included and their grouping by core agreement.

Although this network is fragmented and was built with little attempt to coordinate or synchronize liberalization schedules, it has been very effective in bringing down traditional trade barriers to intraregional trade. As shown in figure 2.2, the process of reducing tariffs has been, or will be, completed within the next few years for all countries in terms of both the share of tariff lines and the share of trade covered. This extensive coverage and their advanced stage of implementation support the argument made earlier that all these decades of fragmentation have left a strong platform from which LAC can launch an attempt to fully integrate the regional market. If the region is so close to free intraregional trade, LAFTA's once idealistic-sounding objectives suddenly seem

FIGURE 2.2 NEGOTIATED TARIFF REDUCTION SCHEDULES
(Percentage of duty-free intraregional trade based on 2014 trade values)



Source: IDB estimates with INTrade data.

Note: Trade flows correlated with tariff reduction schedules included in the official trade agreement annexes. Trade is classified as duty-free starting in the year the tariff elimination process is complete. This analysis assumes all trade would comply with the respective RoOs to be eligible for duty-free treatment and does not reflect actual preference utilization rates. Each line represents the weighted average of the individual bilateral tariff concessions involving the countries of the group with intra-LAC partners. Bilateral trade is used as weights.

a realistic proposition. At the same time, however, it is important not to underestimate the task ahead. There are at least two important gaps to be filled: one relates to goods, services, and investment and the other to relationships.

The goods, services, and investment gap. The first has to do with the product coverage of the existing PTAs. Even though most PTAs will have reached their full liberalization potential by 2020, tariffs on a number of products will not be completely eliminated. These exclusions cover only a small fraction of total trade, but they involve major exports for some of the countries involved. Exclusions in the Andean and Central American subregions are concentrated in agricultural and labor-intensive goods, whereas in MERCOSUR they mostly fall on machinery (much of which is exempted from the CET) and motor vehicles, which are subject to tariff quotas and balanced-trade requirements (see table 2.1).

There are also issues relating to services and investment coverage, which varies significantly across the network of PTAs (figure 2.3). While nearly all agreements involving CAN, the CACM, and Mexico have specific disciplines on trade in services and on investment, only half of MERCOSUR agreements include services, while investment is dealt with separately in bilateral investment treaties (BITs).

IT IS IMPORTANT NOT TO UNDERESTIMATE THE TASK AHEAD. THERE ARE AT LEAST TWO IMPORTANT GAPS TO BE FILLED: ONE RELATES TO GOODS, SERVICES, AND INVESTMENT AND THE OTHER TO RELATIONSHIPS

TABLE 2.1 EXCLUDED TRADE BY SECTOR
(Percentage of intraregional trade in excluded products based on 2014 trade values)

Section	Description	CACM	CAN	MERCOSUR	Mexico	Chile	CARICOM
1	Animal Products	8%	34%	4%	26%	1%	0%
2	Vegetable Products	2%	17%	0%	13%	0%	0%
3	Animal/Vegetable Fats	8%	0%	0%	0%	0%	0%
4	Processed Foods/Tobacco	48%	29%	2%	23%	95%	97%
5	Minerals	0%	0%	0%	0%	0%	0%
6	Chemicals	2%	0%	9%	7%	3%	0%
7	Plastics	2%	0%	4%	0%	0%	0%
8	Leather	0%	0%	14%	0%	0%	0%
9	Wood Products	19%	0%	10%	0%	0%	0%
10	Paper Products	0%	0%	0%	0%	0%	0%
11	Textiles and Apparel	2%	19%	7%	0%	0%	0%
12	Footwear	0%	0%	0%	0%	0%	0%
13	Stone/Glassware	0%	0%	1%	0%	0%	0%
14	Precious/Semi-Precious Mat.	0%	0%	0%	0%	0%	0%
15	Base Metals	0%	0%	7%	0%	0%	0%
16	Machinery and Elec. Equip.	0%	0%	20%	0%	0%	0%
17	Motor Vehicles/Vessels	10%	0%	20%	31%	0%	0%
18	Precision Instruments	0%	0%	1%	0%	0%	0%
19	Arms and Munitions	0%	0%	0%	0%	0%	0%
20	Misc. Articles	0%	0%	1%	0%	0%	3%
21	Art and Antiques	0%	0%	0%	0%	0%	0%

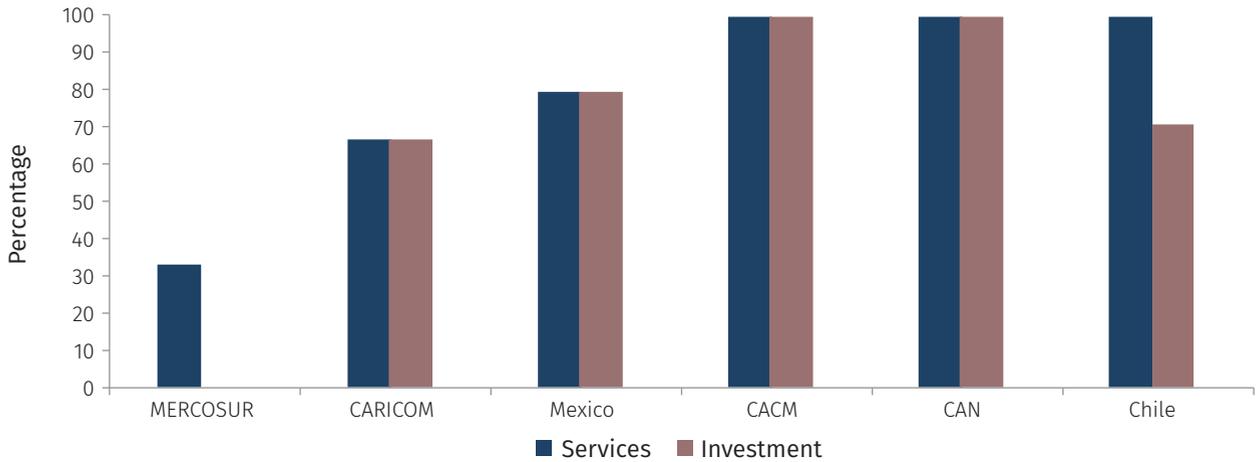
Source: IDB estimates with INTrade data.

Note: Value of bilateral imports of goods excluded from preferential treatment. Due to changes in the Harmonized System and national tariff nomenclatures over time, calculations are at the subheading (6-digit) level. Subheadings are considered to be excluded if any of the tariff lines associated with the subheading is excluded from full tariff elimination under the agreement. CARICOM only permits exclusions of products in intraregional trade by countries designated as less developed, of which Belize is the only IDB member. These figures are thus based on Belize's imports of the excluded products from CARICOM.

THERE IS STILL WORK TO BE DONE IN EXPANDING THE COVERAGE OF SERVICES AND INVESTMENT

As shown in figure 2.4, within the universe of agreements that do contain provisions for services and investment, nearly all establish MFN and national treatment obligations, though the language might differ. In agreements where MFN treatment is not granted, the reason is often that countries within core agreements opted to reserve the right to liberalize further among themselves without

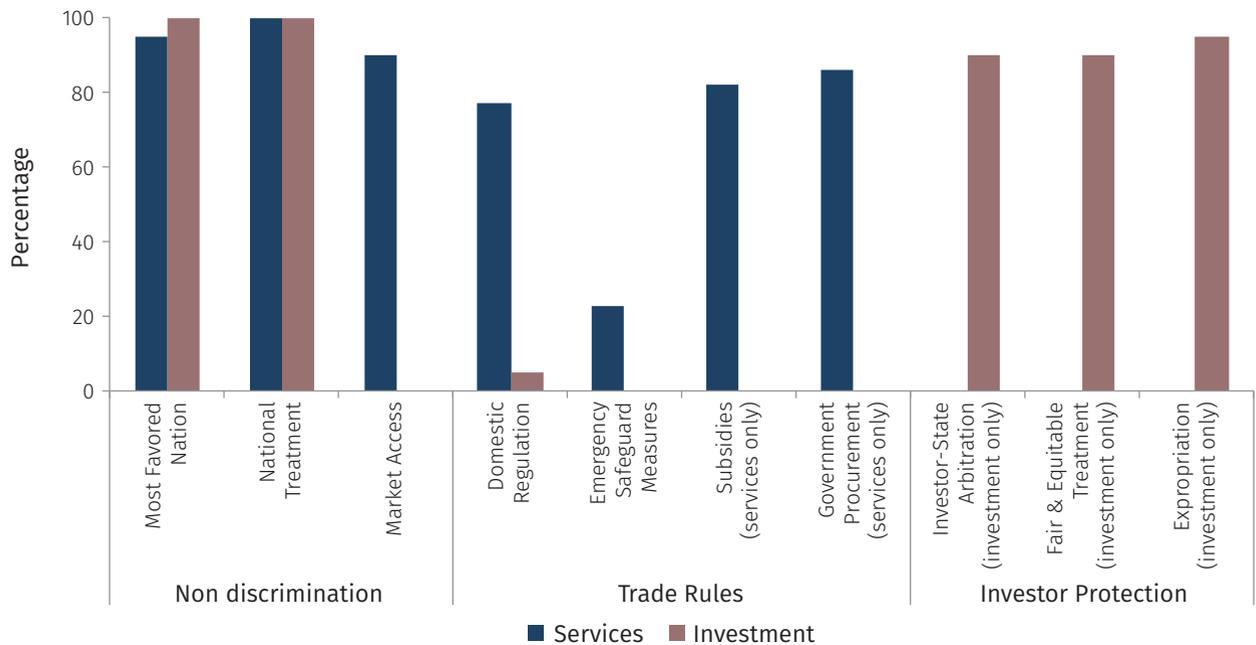
FIGURE 2.3 COVERAGE OF PROVISIONS ON SERVICES AND INVESTMENTS
(Percentage of intra-LAC agreements)



Source: IDB estimates.

Note: Horizontal investment disciplines refer to those found in specific investment chapters within PTAs and are modeled on BITs. These differ from investment as a mode of supply in the services chapters of some PTAs.

FIGURE 2.4 COVERAGE OF SERVICES AND INVESTMENT DISCIPLINES
(Percentage of Intra-LAC agreements with services and investment provisions)



Source: IDB estimates.

having to extend this treatment to other partners. Most services chapters have specific disciplines on market access, but very few are included in investment chapters.

Of the agreements analyzed, 77% contain provisions on domestic regulations in service industries, about half of which replicate the General Agreement on Trade in Services (GATS) provisions while the other half follow the NAFTA approach of including a best-endeavor necessity test that implies even weaker regulatory discipline than the GATS.²⁷ With few exceptions, agreements expressly exclude subsidies and government procurement from services disciplines. Furthermore, very few agreements contain provisions on emergency safeguard measures. Finally, regarding investment-specific disciplines, over 90% of agreements include provisions establishing investor-state arbitration, fair and equitable treatment, and expropriation.

It should nonetheless be noted that agreeing to disciplines does not mean that sectors are fully liberalized. Figure 2.4 shows the coverage of specific disciplines on services and investment in the subgroup of intra-LAC PTAs that includes services and investment provisions, but it does not address the content of such disciplines, their level of convergence across agreements, or the actual commitments undertaken by countries in their liberalization schedules.

LAC countries also follow different scheduling approaches when it comes to services, with two main models being followed. The first model is the GATS approach, based on a positive list in which parties specify the level and type of foreign participation allowed for each service sector. The second approach is based on the NAFTA model, following a negative list that implies that trade is unrestricted across all service sectors unless limitations are scheduled. Of the intraregional agreements, 14% utilize a positive list for services, 77% use a negative list, and 9% use a hybrid of the two.²⁸

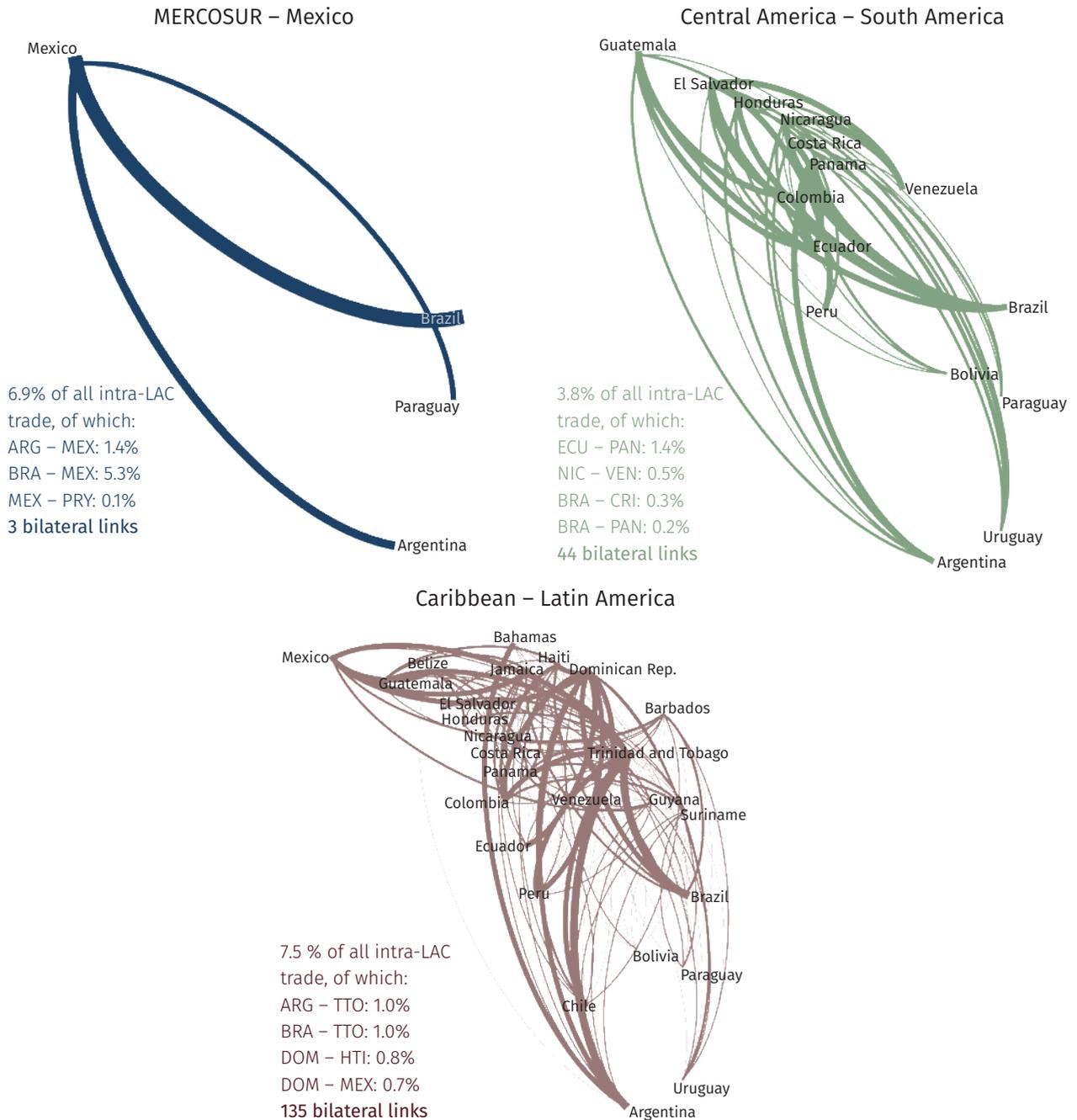
The relationship gap. The other important gap is in the coverage of bilateral or subregional relationships. As mentioned earlier, just under 20% (in value) of regional trade, corresponding to a total of 183 bilateral links, remains excluded from preferential treatment (figure 2.5). The bulk of trade not covered by PTAs is between MERCOSUR countries and Mexico and between

²⁷ As stated in NAFTA-type agreements, domestic regulation provisions are best-endeavor undertakings only, meaning that instead of guaranteeing that domestic regulations will meet standards, they require that states make a good faith effort to comply.

²⁸ In general, MERCOSUR follows a positive list approach, CARICOM utilizes a hybrid, and the others use a negative list.

FIGURE 2.5 MISSING LINKS IN LAC'S INTEGRATION ARCHITECTURE

(Percentage of LAC's intraregional trade by value and number of bilateral relationships lacking formal PTA)



Source: IDB estimates.

Note: This figure shows LAC's bilateral trade relationships (links) that are not covered by PTAs. They are seen from the perspective of Mexico (blue lines), Central America (green), and the Caribbean (brown). The thickness of the lines is proportional to the value of the trade involved.

JUST UNDER 20% OF REGIONAL TRADE REMAINS EXCLUDED FROM PREFERENTIAL TREATMENT, BUT THE REGION'S 33 PTAs HAVE 47 RoOs

the CARICOM countries and Latin America. The former consists of a few high-value trade flows, while the latter is the sum of many lower-value trade relations.

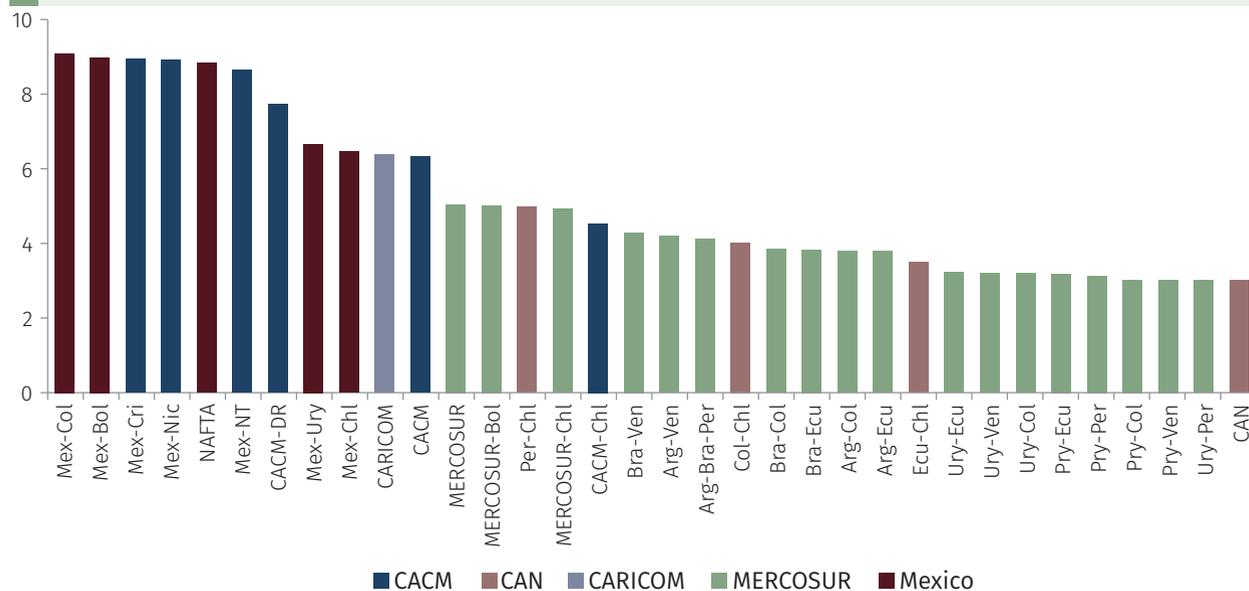
Although these missing links comprise less than 20% of the value of intra-regional trade, two qualifications are in order. First, the fact that the share of non-PTA trade is relatively low may be partially attributable to its non-preferential nature, in other words, it is possible that the share of trade flows between non-PTA countries would increase if market access were facilitated by the signing of new agreements. Second, and particularly relevant in the case of MERCOSUR–Mexico, these flows involve the largest economies in Latin America (Brazil and Mexico) and include products with higher value added than those exported extraregionally, potentially holding a key to the formation of regional value chains. In sum, while most of current trade may take place under preferences, completing these missing links may generate yet more trade.

To sum up these product and relationship gaps, table 2.2 gives a different perspective by bringing them together in a matrix format. As in figure 2.2, the focus is on duty-free goods under PTAs, but this time the coverage ratio is weighted by the partner's exports to the world rather than bilateral trade. This gives a more accurate picture since bilateral trade weights tend to overestimate the degree of liberalization. Goods with duty-free rates are most likely to have larger trade flows. The broad picture of the missing relationships does not change, but it is clear that the degree of liberalization within and between the existing PTAs—in particular between MERCOSUR and CAN countries—is significantly lower than what bilateral trade weights might suggest.

Beyond the gaps: RoOs. Filling in these gaps will be an important step, but it is not the only action necessary to achieve free trade across the region. There is also the challenge of addressing the costs of 47 RoOs adopted by the region's 33 PTAs.²⁹ RoOs—the “necessary evil” of PTAs—not only restrict firms' input choices but also impose significant compliance and enforcement costs, particularly in the context of multiple PTAs (see box 1).

²⁹ It could be argued that another important challenge is to increase the utilization ratio of existing preferences—that is, to make sure exporters use the preferences granted by the existing PTAs. There is not enough reliable data to make a general statement about the rate of preference utilization in LAC PTAs. ALADI (2017) offers estimates of trade under preferences, but under the general assumption that all preferences are fully utilized. Cadot et al. (2014), in turn, suggests that the utilization rates of LAC PTAs are significantly higher than those of other South–South PTAs.

FIGURE 2.6 RESTRICTIVENESS OF RoOs
(Index)



Source: IDB estimates, with INTrade data.

Note: The restrictiveness index is derived from an ordinal ranking based on the degree to which the RoOs require that inputs be sourced from within the signatory countries, with higher index values associated with a greater share of inputs restricted to regional suppliers. For more details, see Estevadeordal et al. (2009). This picture is organized around the 1990s regional agreements, including Mexico, which is part of NAFTA.

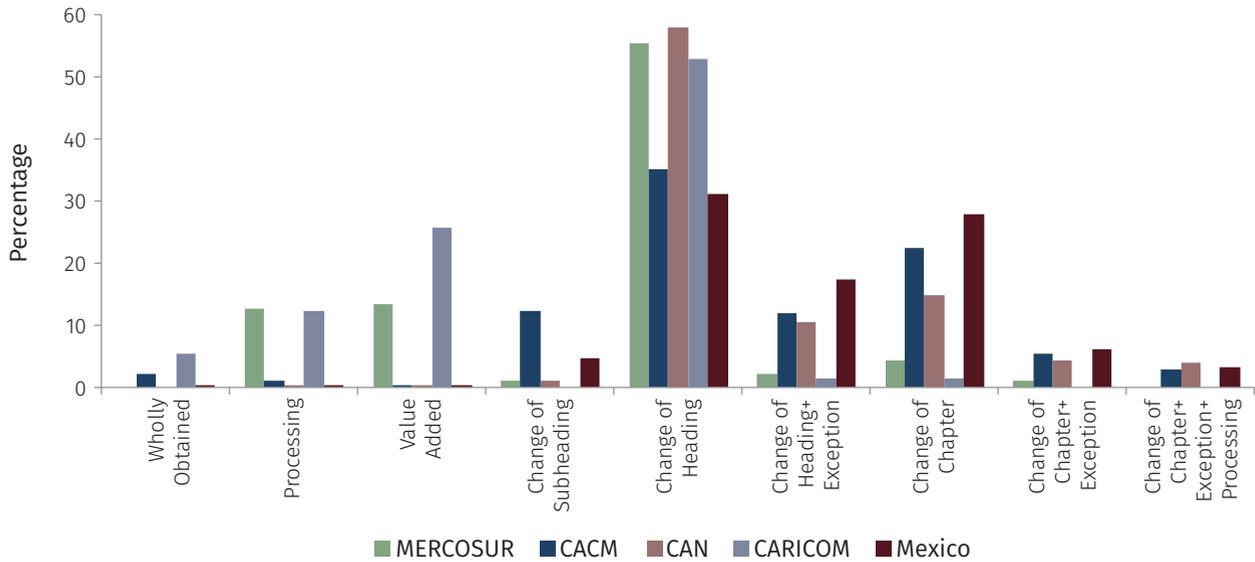
These rules can be more or less restrictive as they allow lesser or greater levels of extrabloc content, respectively.³⁰ Figure 2.6 shows the average level of restrictiveness of RoOs in LAC PTAs.³¹ The rules in NAFTA and the agreements signed by Mexico tend to be more restrictive, while CAN and many MERCOSUR agreements have less onerous requirements. The Central American rules are heavily influenced by the NAFTA and Mexican models, while the CARICOM rules are something of an outlier.

Figure 2.7 illustrates the different criteria used to define product-level RoOs in the agreements signed by different countries or groups of countries in the region. CARICOM and MERCOSUR apply mandatory processing and value-added

³⁰ Estevadeordal et al. (2009).

³¹ Strictly speaking, the index of restrictiveness measures the observed restrictiveness based on the criteria applied to each product. The effective restrictiveness of the rules will depend on the cost-effective availability of the necessary materials within the signatory countries. Where such inputs are economically available from suppliers within the PTAs "cumulation zone," even very demanding rules can have low or negligible compliance costs.

FIGURE 2.7 DEFINITION OF RoOs
(Percentage of products in each category)



Source: IDB estimates, with INTrade data.

Note: Based on the respective codified RoOs, the average share of products subject to each type of criterion is calculated for each agreement, and the simple average is presented. The tariff-shift requirements are presented in increasing order of restrictiveness.

rules to a relatively large share of products, reflecting the fact that these rules were negotiated in the late 1980s and early 1990s (i.e., before NAFTA), and, in the case of MERCOSUR, in keeping with the LAFTA/LAIA tradition for defining RoOs.³² Mexico and Central America use a greater variety of tariff-shift rules, reflecting NAFTA's influence as these countries have negotiated more recent agreements.³³

While applying different rules does not present a barrier to convergence in and of itself, it does indicate a difference in approaches to the discipline. This can lead to difficulties in developing mechanisms for cumulation of origin, wherein materials originating in a country under one agreement can also be

³² The LAFTA/LAIA RoO regime requires a change in tariff classification at the heading level or, alternatively, a regional value-added of at least 50% of the free-on-board export value. For an overview of RoO regimes, see Estevadeordal and Suominen (2008).

³³ Tariff shift means that a nonoriginating input must undergo such substantive transformation that the final product is classified under a different product heading, subheading, or chapter to be considered originating. Schemes utilizing the criterion of change of tariff heading often provide for a wide range of exceptions, given that, in some cases, a change of tariff heading may not imply substantial transformation, whereas in others, substantial transformation may occur without change of tariff heading.

considered as originating there for the purposes of another, thus allowing for the formation of longer supply chains. The absence of such cumulation can be a disincentive to sourcing production materials from the most efficient supplier within the region, which might not necessarily be based on a PTA partner country.

**THE GOAL OF A FULLY
INTEGRATED MARKET
CAN ONLY BE MET BY
CLOSING GAPS AND BY
CONSOLIDATING RoOs**

In sum, despite the often-overambitious aspirations and design shortcomings that have led to excessive fragmentation and to difficulties in implementation, LAC's integration initiative under the "new regionalism" has left the region closer to free trade than ever before. The challenges ahead, however, cannot be underestimated. The goal of a fully integrated market, which could allow the region to go beyond the limited trade gains imposed by fragmentation, can only be met by closing the goods/services/investment and relationship gaps and by consolidating the existing arsenal of RoOs. Before going into the policy specifics of how to go about this goal, it is important to take a closer look at the gains obtained so far, which is the objective of the next section.

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Annex I: Intra-LAC Preferential Trade Agreements

CARICOM	Caribbean Community (CARICOM)
	CARICOM–Costa Rica*
	CARICOM–Dominican Republic*
MERCOSUR	Common Market of the South (MERCOSUR) ^a
	MERCOSUR–Bolivia
	MERCOSUR–Chile
	MERCOSUR–CAN ^b
CAN	Andean Community (CAN)
	Colombia–Chile
	Colombia–Costa Rica* ^o
	Colombia–Northern Triangle (El Salvador, Guatemala, Honduras)*
	Peru–Panama*
	Peru–Chile
	Peru–Costa Rica*
	Peru–Honduras* ^o
Ecuador–Chile ^o	
CACM	Central American Common Market (CACM)
	Central America–Chile
	Central America–Dominican Republic
	Central America–Panama*
	Central America–Mexico ^c
	Panama–Chile*
Mexico	Pacific Alliance (Mexico, Peru, Colombia, and Chile)*
	Mexico–Chile
	Mexico–Panama*
	Mexico–Uruguay
	Mexico–Colombia
	Mexico–Peru*
	Mexico–Bolivia

Source: IDB with INTrade data.

Notes:

* Not included in the goods analysis in sections III and IV (figures 2.3, 2.6, 2.7 and 2.8, and table 2.1).

^o Not included in the services and investment analysis in section III (figures 2.4 and 2.5).

Two of the above subsume several agreements, so that the 29 agreements referenced in the table correspond to 33 different legal agreements as cited in the text. Furthermore, RoOs are negotiated on a bilateral basis in some agreements. As such, the following should be noted for the goods analysis:

^a included as bilateral agreements between MERCOSUR member countries (Argentina, Brazil, Paraguay, and Uruguay) and Venezuela; ^b Included as bilateral agreements between MERCOSUR member countries (Argentina, Brazil, Paraguay, and Uruguay) and CAN countries (Colombia, Ecuador, and Peru) covering both ACE 58 between MERCOSUR and Peru, and ACE 59 between MERCOSUR and Colombia and Ecuador; ^c Included as bilateral/plurilateral agreements between Mexico–Costa Rica, Mexico–Nicaragua, and Mexico–Northern Triangle (El Salvador, Guatemala, and Honduras) as well as the later Single FTA.

A QUARTER OF A CENTURY LATER: WHAT ARE THE RESULTS?

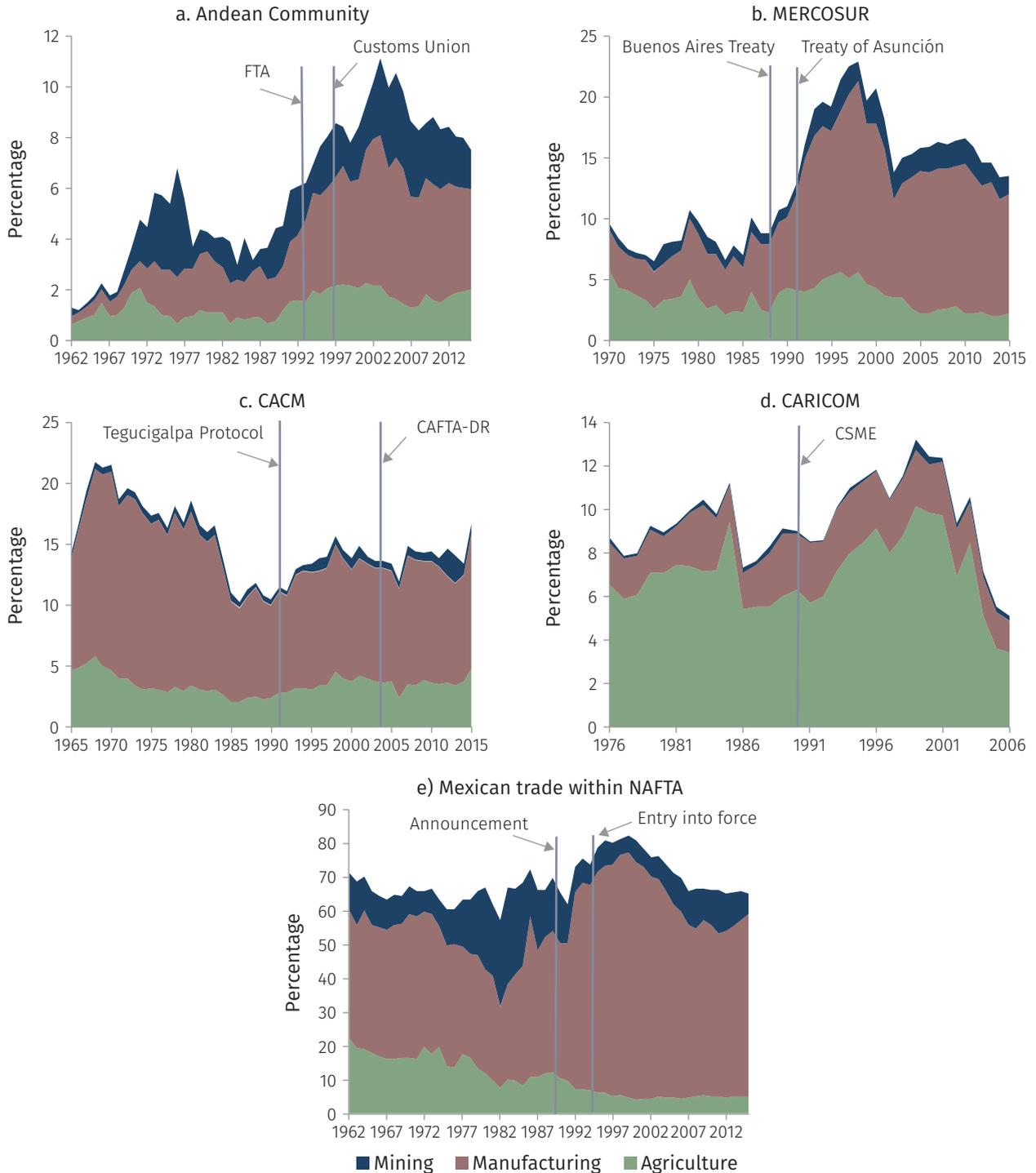
SECTION 3

In LAC's tour de force to leverage regional integration into a better standing in the world economy, the odds were stacked against success. The relatively small size of intraregional PTAs and the similarity of the members' comparative advantages inevitably imposed a tight limit on trade gains. But the proof is in the numbers: did these intraregional PTAs actually boost trade within the group? And did they substantially raise productivity and hence alter the region's role in the global economy?

The precise contribution of LAC's "new regionalism" PTAs is hard to pin down, as most were implemented alongside unilateral and multilateral liberalizations and against a background of significant currency and macroeconomic volatility. Figure 3.1 provides a first approximation of these gains, looking at a key trade outcome—intraregional share in total trade. As can be seen, all the agreements signed or relaunched in the early 1990s were followed, as was to be expected, by increases in the intraregional share of total trade. These were mostly driven by manufacturing, in some cases more significantly than others (e.g., Andean Community and MERCOSUR). Figure 3.2, in turn, shows that these gains do not seem to have been the product of a massive trade diversion, as both intraregional and world trade expanded in tandem.

The share of interregional trade, though, seems to have peaked in the early 2000s. The ensuing decline was much more pronounced in the Andean Community, MERCOSUR, and CARICOM. Structural changes in the world economy, such as the emergence of China, and growing trade frictions inside MERCOSUR and the Andean Community seem to have played an important part in reversing the trend toward growth. However, it is unlikely that even in more favorable circumstances the share of intraregional trade would have kept growing much beyond its peak in the early 2000s, as the limitations of size and factor endowments

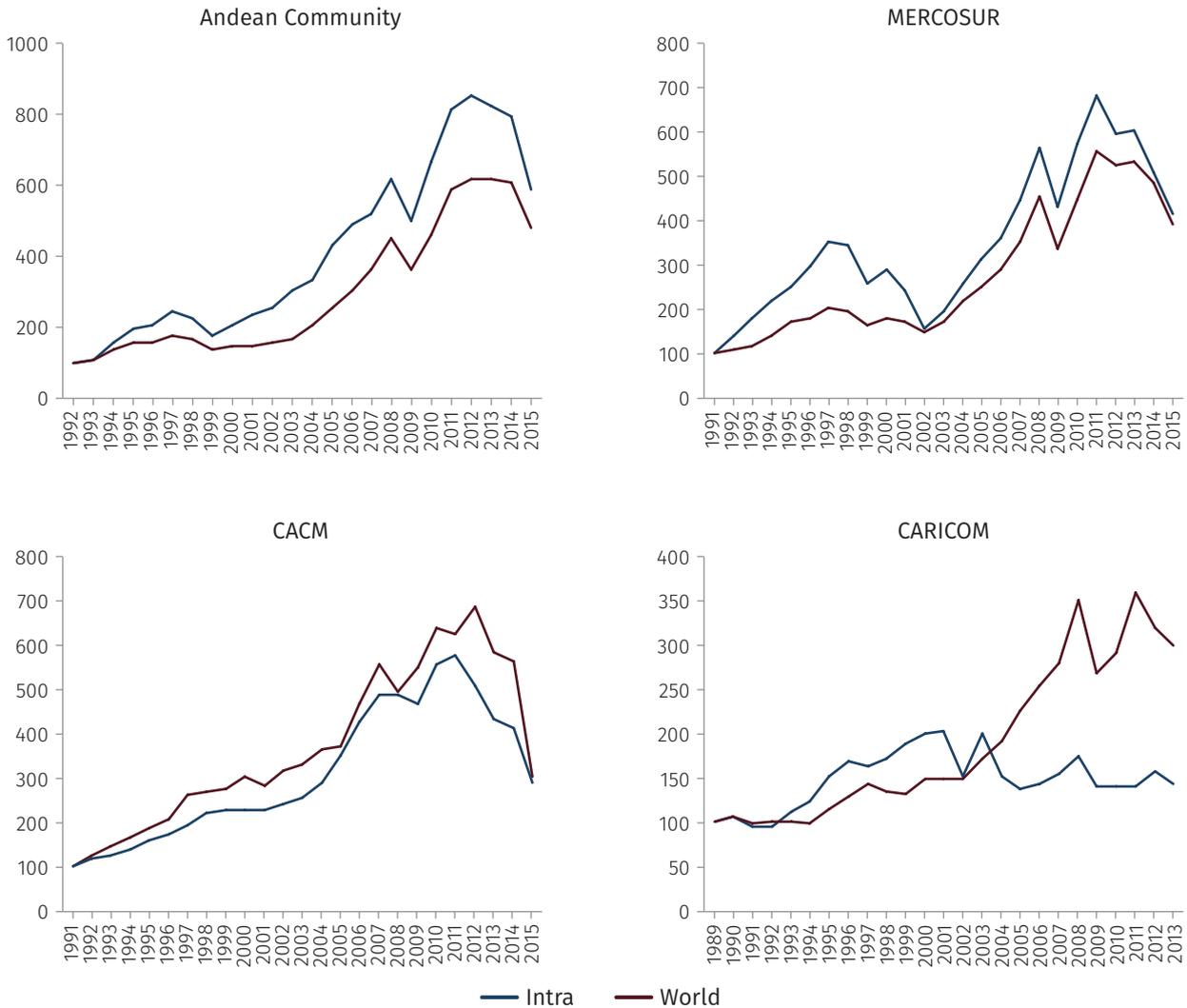
FIGURE 3.1 SHARE OF INTRAREGIONAL TRADE IN TOTAL TRADE



Source: IDB estimates.

Note: Intraregional trade share defined as intraregional exports plus imports divided by all exports and imports with all countries.

FIGURE 3.2 TRENDS IN INTRAREGIONAL AND WORLD TRADE FOR SELECTED LAC PTAs. PRICES IN 2009 US\$, PTA FIRST YEAR = 100



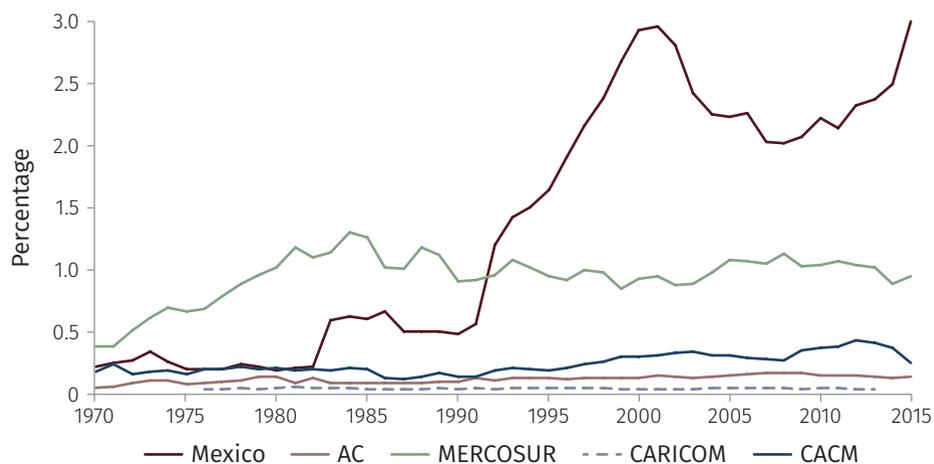
Source: IDB estimates with INTrade data.

Note: CARICOM time series is shorter due to a lack of intraregional data. Missing information on world trade was filled with partners' mirror data.

would have eventually kicked in. In fact, recent empirical evidence suggests that, once size and other geographical variables are considered, LAC does not seem to have much room for expanding intraregional trade.³⁴ These limitations, of course, tend to be even more binding given the current fragmentation of PTAs.

³⁴ See Bown et al. (2017), chapter 2.

**FIGURE 3.3 MEXICO WITHIN NAFTA AND SELECTED PTAs:
SHARE OF WORLD MANUFACTURING EXPORTS**



Source: IDB estimates with UN Comtrade data.

**LAC PTAs HAVE NOT RAISED
THEIR MEMBERS' SHARE OF
THE WORLD MARKET FOR
MANUFACTURED GOODS.
NAFTA IS THE EXCEPTION**

As argued earlier, the main motivation behind these agreements was not to increase the level of regional integration per se, but to reap scale and specialization gains to take growth opportunities abroad, particularly outside the natural resource areas that LAC trade has traditionally centered on. Figure 3.3 provides a first, unambitious look at a good proxy for this type of outcome—PTAs' shares in world manufacturing exports. If LAC's PTAs have had any positive impacts on their members' productivity, these fell short of significantly raising their participation in the world market for manufactured goods. The remarkable exception is Mexico, which appears to have reaped strong benefits from a PTA that brought a massive “home market” and a very diverse set of comparative advantages: NAFTA.

A Macro View

This preliminary evidence suggests that intra-LAC PTAs have a positive impact on intrabloc trade but less of an effect on LAC exports to the rest of the world, which underlines the limitations of a piecemeal approach to integration. However, a more definitive conclusion would demand a more rigorous econometric exercise. Such exercises are usually carried out using a gravity model—a standard methodology used by trade economists to assess the impact of PTAs on trade. The model assumes that trade between countries is a function

of the relative size of their economies, the distance between them, and other relevant geographical variables. The “PTA effect” is estimated with the help of an additional binary variable that captures whether the two countries share a PTA. The estimated coefficient of this variable reveals how much bilateral trade between PTA members increases compared to trade between countries that are not members of the same PTA. Statistical controls are added to make sure that the PTA effect is not biased by country-specific idiosyncrasies (such as macroeconomic and institutional volatility) that might impact trade but are unrelated to PTAs.

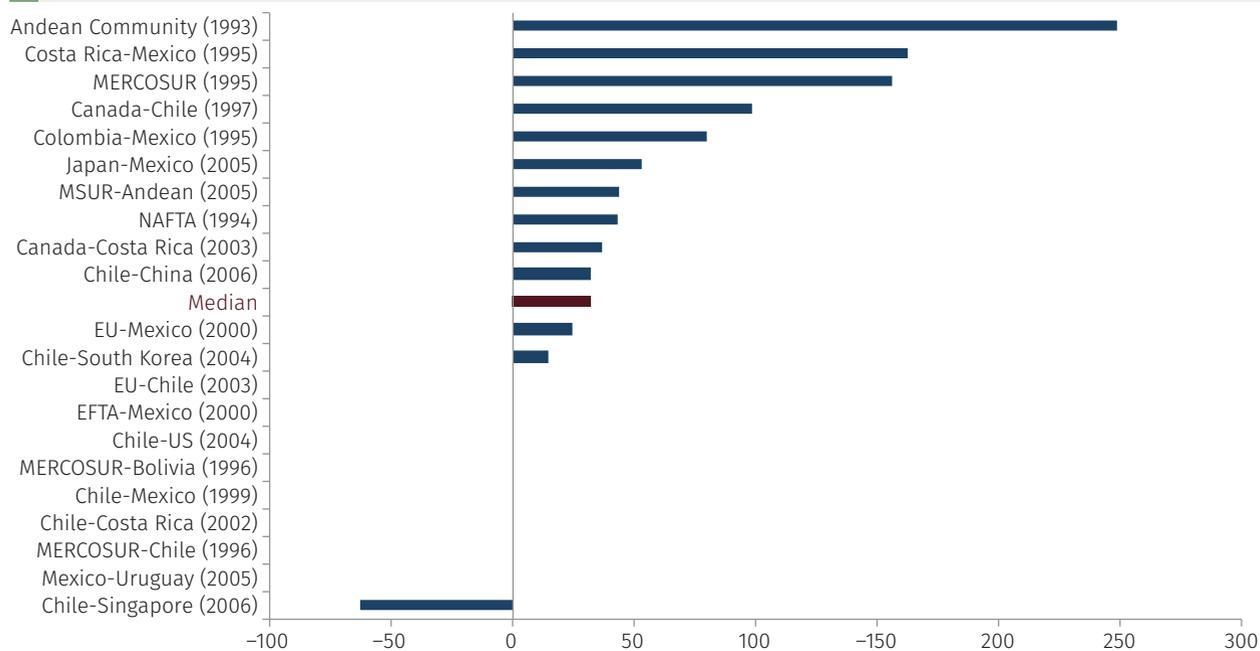
There is already a vast literature using gravity models to assess PTAs, including LAC PTAs, but much of it suffers from serious methodological problems and is mainly focused on the first decade of the agreements in question. Such studies fail, for instance, to adequately control for country and PTA idiosyncrasies and their results are very disparate.³⁵ However, one recent study addresses many of these methodological issues and seems to give a more robust picture of these PTA effects, albeit still a partial one. The study focuses exclusively on bilateral manufacturing trade between 70 countries in 1986–2006, but, unlike other exercises, it also includes data on domestic trade (proxied by manufacturing output less exports), which arguably should be considered in the computation of the “PTA effect.”³⁶

The results for the LAC PTAs included in the study are shown in figure 3.4 and they point to very strong impacts coming from two of the original “new regionalism” agreements—the Andean Community and MERCOSUR. These appear to have more than doubled (MERCOSUR) or tripled (Andean Community) intrabloc trade compared to trade with nonmembers. There is, however, considerable heterogeneity across LAC PTAs, making it difficult to identify a pattern. For instance, both the best (above the median, e.g. NAFTA) and worst performers (below the mean, e.g. Mexico–Uruguay) have intra- and extraregional PTAs between them. Moreover, the study does not attempt to estimate the importance of trade diversion beyond these gains or whether the PTAs in question boosted exports to the rest of the world.

To try to reach a better understanding of these issues, in this study, two further empirical exercises were carried out in the gravity tradition. The first followed a similar approach to the study discussed above, but disaggregated the PTA effect into three components: (i) intrabloc trade (when both countries are

³⁵ See Limão (2016) for a general review of the gravity-based empirical literature on PTAs.

³⁶ See Baier, Yotov, and Zylkin (2016).

FIGURE 3.4 INTRABLOC EFFECTS OF SELECTED LAC PTAs. 1986–2006 (%)

Source: Graph prepared by IDB staff based on Baier, Yotov, and Zylkin (2016).

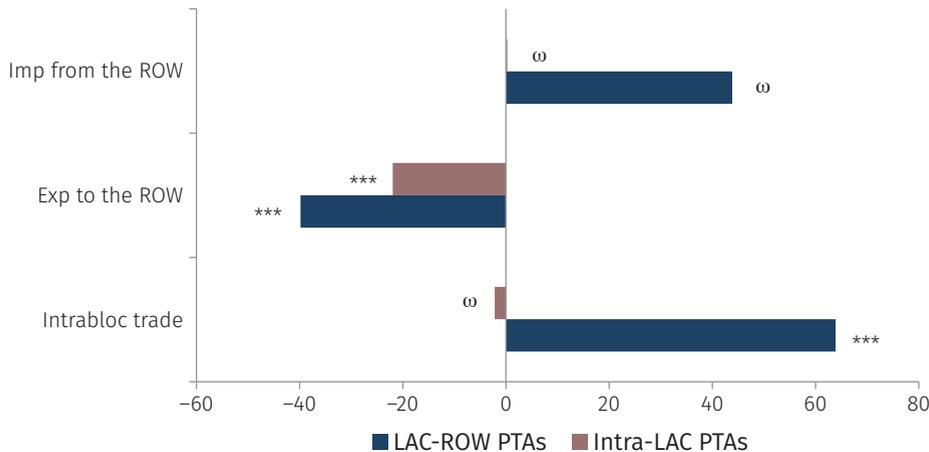
Note: Sample covers 70 countries, 17 of them combined into a single “rest of the world” category, and 65 PTAs. PTAs without statistically significant results were assigned zero impact. “Median” corresponds to the median result of the 65 PTAs.

PTA members), (ii) extrabloc imports (when only the importer is a member), and (iii) extrabloc exports (when only the exporter is a member).³⁷ This disaggregation helped to clarify the questions of whether these agreements boosted intrabloc trade (component i) at the expense of nonmembers (component ii) and whether they were able to boost extrabloc exports (component iii). The exercise used a larger sample, which covered more than 200 countries, for a longer period (1976–2013), and included the sum of bilateral trade in all sectors. It thus captured a larger number of LAC PTAs and better captured the situation before and after the agreements.³⁸

This approach, however, has its drawbacks, as it makes it virtually impossible to include domestic trade (as there is not enough data available) and, to

³⁷ Soloaga and Winters (2001) and Dai et al. (2014) follow similar approaches.

³⁸ See technical appendix 3.1 for details. A previous version of this exercise appeared in Powell (2017), chapter 7, based on a less rigorous specification, imposed by computational constraints that have since been overcome. This exercise also includes a longer list of intra-LAC PTAs, which were previously limited to the main four agreements.

FIGURE 3.5 IMPACT OF LAC PTAs ON INTRA- AND EXTRABLOC TRADE (%)

Source: IDB estimates.

Note: LAC-ROW PTAs are NAFTA and CAFTA-DR. Intra-LAC PTAs are listed in technical appendix 3.1. These are the results of a gravity model estimated by Poisson Maximum Likelihood (PPML) with pair, exporter-year, and importer-year fixed effects. See technical appendix 3.1, table A1, column 8. ω stands for results that are not statistically significant, *** for those significant at 1%, ** at 5% and * at 10%.

identify the agreements' individual effects.³⁹ To work around these limitations, LAC PTAs were grouped according to two geographical criteria: intraregional PTAs (only LAC members) and extraregional PTAs (LAC and non-LAC members). The results, presented in figure 3.5, are clearly more robust for intraregional PTAs. They seem to confirm the strong impact of these on intrabloc trade—an average 64% increase when compared to trade with nonmembers. At the same time, the results suggest that these gains cannot be explained away by a massive trade diversion—in fact, the estimated impact on extrabloc imports is positive but not statistically significant.

The results also tend to confirm the limitations of these agreements on boosting extrabloc exports, but the fact that the impact is estimated to have been strongly negative (–67% compared to intrabloc exports) is somewhat puzzling. One possible explanation is that of exports switching toward more protected and lucrative intrabloc markets, but that would require evidence of a massive trade diversion. This puzzle, though, might be solved if the unilateral liberalization

**INTRA-LAC PTAs INCREASED
INTRAREGIONAL TRADE BY
64% ON AVERAGE**

³⁹ The controls used to weed out partners' idiosyncrasies would be collinear with the variables used to measure the impact on trade diversion and extrabloc exports. See technical appendix 3.1.

that went hand-in-hand with the implementation of most of these agreements is brought into the picture. This would be consistent with a scenario where a switch in exports toward the regional market (that implies replacing foreign with regional suppliers) coexists with an expansion of extraregional imports (which benefits from the unilateral liberalization). The trade diversion, then, will manifest itself as an export diversion. This point is further illustrated in the sectoral discussion below.

Despite this puzzle, these results are far more conclusive than those obtained for extraregional PTAs, which are mostly statistically insignificant. Rather than suggesting that these agreements were and are irrelevant, which would contradict both the theory and results discussed earlier (e.g., the NAFTA gains shown in figure 3.4), this seems to indicate that the empirical strategy failed to properly identify these PTA effects. The only statistically significant result points to a negative impact on extrabloc exports, which is also somewhat puzzling, since larger markets are more likely to generate scale and specialization gains and are, therefore, more likely to make local firms more competitive abroad. A possible explanation might come from the large size differences between the markets involved (such as Mexico and the US in the case of NAFTA). This, combined with trade preferences, could lead the larger partner to absorb most of the smaller partner's productive capacity.

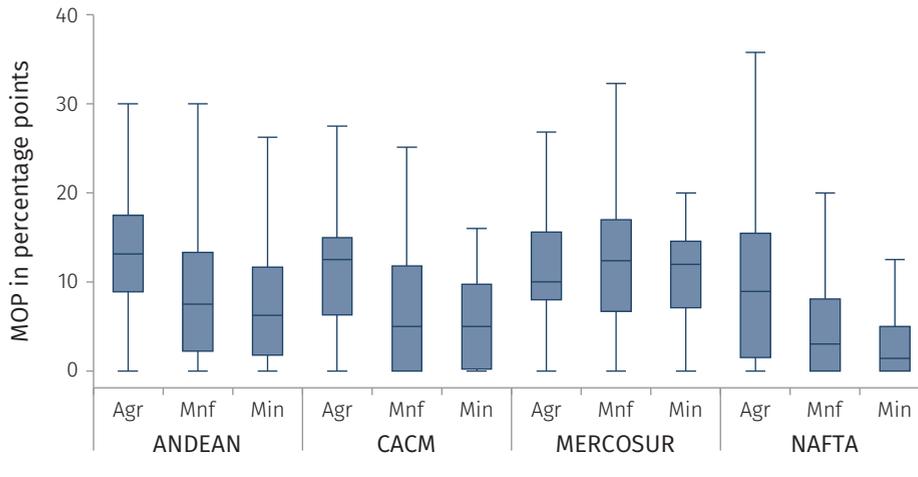
A Sectoral Perspective

The second exercise strays from the well-beaten path of the standard gravity model to bring more clarity not just on the effects of individual LAC-PTA but also on their sectoral ramifications. Instead of using the total sum of bilateral trade and simply a binary, “dummy” variable to capture the PTA effect, it relies on bilateral sectoral flows and on additional information about applied tariffs and the differences between these and the MFN tariff—the so-called margin of preference (MOP).⁴⁰ This additional information helped us to identify the heterogeneity of trade effects between and within PTAs (tariff preferences, for instance, vary widely in both dimensions) and it also helped to clarify the channels through which these effects travel.

This point is illustrated in figure 3.6, which shows the distribution of preferences by main activity sector for four of the region's major PTAs—the Andean

⁴⁰ See technical appendix 3.2 for details.

FIGURE 3.6 DISTRIBUTION OF MARGINS OF PREFERENCE (MOPs), SELECTED LAC PTAs



Source: IDB estimates.

Note: The MOP are calculated at the HS 6-digit level. See Appendix 3.2 for details.

Community, the Central American Common Market (CACM), MERCOSUR, and NAFTA.⁴¹ As can be seen, the MOPs that MERCOSUR grants its members for manufacturing goods are higher, on average, and have greater variance among them than those granted to agriculture goods. These MOPs, in turn, are distinctly different to those granted by the Andean Community. If the agreement is only represented by a dummy variable, these nuances are lost.

**MARGINS OF PREFERENCE
VARY SUBSTANTIALLY BOTH
WITHIN AND BETWEEN PTAs**

To understand these issues further, the PTA effect was broken down into two main components. The first is the direct effect from tariff reduction or elimination among member countries, which is mainly a price effect—Argentina, say, gets to sell more cars to Brazil than Mexico because it faces lower tariffs there.⁴² The second effect is the indirect benefits that are usually associated with PTAs and that come from factors such as less policy uncertainty, improvements in trade facilitation, removal of nontariff barriers, and greater incentives for trade-inducing foreign direct investment. Since these effects are not directly related to import prices, their relevance might not be captured by differences in applied tariffs across partners. As is the case in other studies, two other variables

⁴¹ CARICOM is not included because of data constraints.

⁴² The applied tariff might not be capturing all the direct effects if, for instance, the level of utilization of the agreement is low (which, as mentioned before, does not seem to be the case for LAC PTAs), with firms choosing to pay the MFN tariff to avoid stringent rules of origin or due to a lack of information.

PTA IMPACTS GO BEYOND PREFERENCES TO INCLUDE GAINS, FOR INSTANCE, ON TRADE FACILITATION, POLICYMAKING AND FDI

were introduced to make sure these effects were measured adequately: a general PTA dummy, such as the one used in previous exercises, and the PTA's MOPs.⁴³

The main assumption behind the use of MOPs is that some of these indirect effects, such as FDI, might be correlated with the scale of MOPs. For instance, the higher the MOP for vehicles that the US grants to its NAFTA partners, the greater the incentive for nonmember countries to invest in Mexico or Canada to have better access to the US market.

As in the first exercise, these trade effects were broken down into intra- and extrabloc imports and extrabloc exports to address the issues of trade diversion and export promotion. However, the inclusion of all this additional information in the analysis was not without cost. Due to sheer volume of data (the exercise covers bilateral relationships among 157 countries, 1200 products, and 296 PTAs between 1995 and 2013), all country and product idiosyncrasies and the selection bias created by a substantial number of nonexistent bilateral relationships could not be adequately controlled for due to computational constraints. Moreover, due to the lack of data on worldwide preferential tariffs, the sample period starts after the signing of most LAC PTAs, which made it more difficult to identify their effects.⁴⁴ Though important, these limitations do not seem to compromise the integrity of the analysis entirely, which at the very least sheds some light on previously unexplored issues.

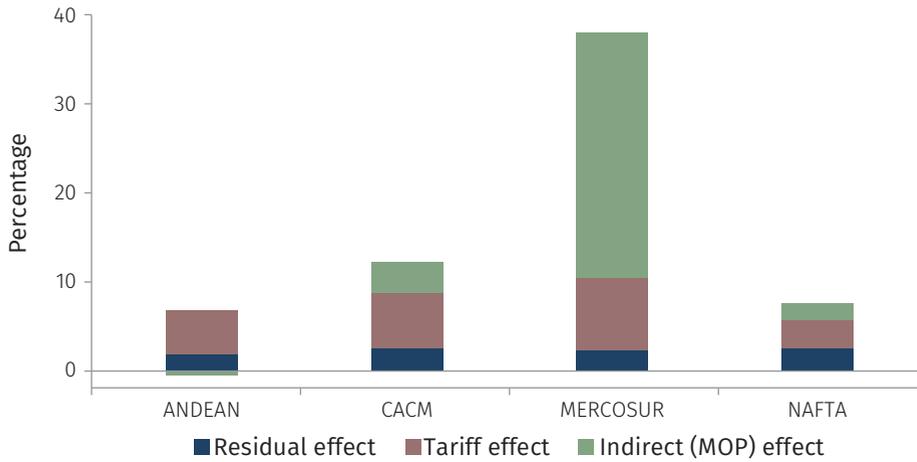
The results focus on the same four major LAC PTAs mentioned above and are reported at three different levels of aggregation: the economy, sector, and sub-sector levels. In the case of NAFTA, only bilateral relationships involving Mexico are considered since the main objective of the analysis is to capture the effects on LAC countries. Figures 3.7 to 3.9 present the first set of economy-wide results. They reaffirm, first, the individual statistical and economic significance of LAC's main PTAs, as suggested earlier. However, except for MERCOSUR, they point to much smaller impacts, ranging between 8% to 12% (figure 3.7)—clearly at the lower end of existing gravity estimates, such as those discussed in figure 3.4.

These results also show that intrabloc impacts go beyond lower tariffs and that some of the benefits come from indirect effects that are mostly, but not always, correlated with the MOP, as is revealed by the statistical significance of the PTA dummy. Even though tariff elimination is not the only source of benefits, it accounts for more than half of the effects in most cases, except again for MERCOSUR, where

⁴³ See Cipollina et al. (2013) and Cirera et al. 2016.

⁴⁴ See technical appendix 3.2 for details.

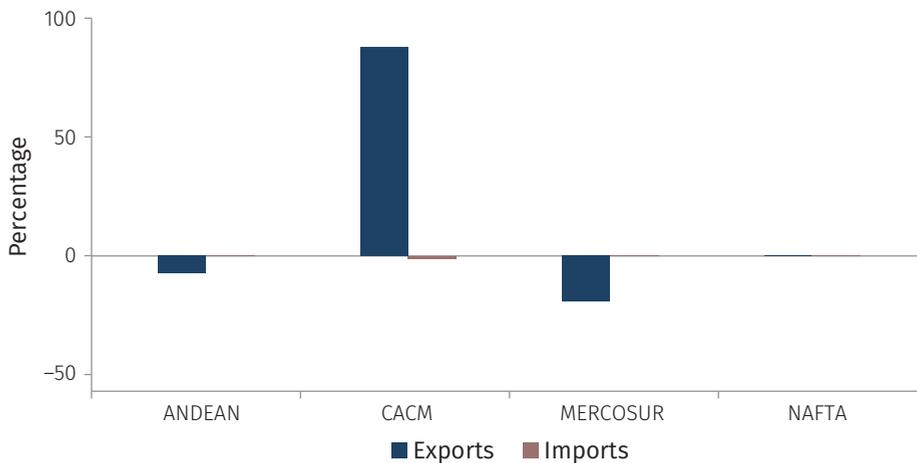
FIGURE 3.7 INTRABLOC TRADE EFFECTS FOR SELECTED LAC PTAs



Source: IDB estimates.

Note: Simulation based on the sum of the effects on main economic activities using the estimated coefficients presented in table A.3.3, columns 4, 6, and 8 of technical appendix 3.2. The tariff, indirect, and residual effect come from the tariff reduction, MOPs, and a catch-all PTA residual, respectively. NAFTA includes only Mexico's relationship with its two partners.

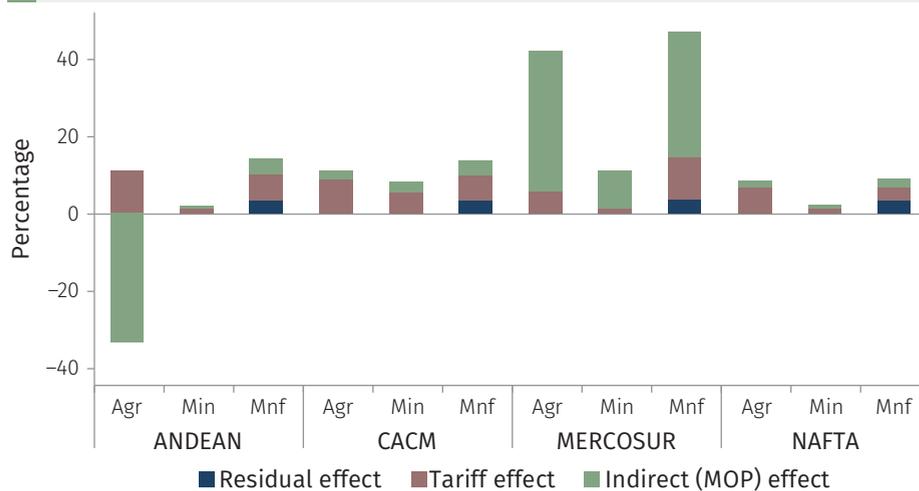
FIGURE 3.8 TRADE EFFECTS ON EXTRABLOC FLOWS FOR SELECTED LAC PTAs



Source: IDB estimates.

Note: Simulation based on the sum of the effects on main economic activities using the estimated coefficients presented in table A.3.3, columns 4, 6, and 8 of technical appendix 3.2. NAFTA includes only Mexico's relationship with its two partners.

FIGURE 3.9 INTRABLOC TRADE EFFECTS ON SELECTED LAC PTAs: AGRICULTURE, MANUFACTURING, AND MINING



Source: IDB estimates.

Note: Simulation based on the sum of the effects on main economic activities using the estimated coefficients presented in table A.3.3, columns 4, 6, and 8 of technical appendix 3.2. The tariff, indirect, and residual effect come from the tariff reduction, MOPs, and a catch-all PTA residual, respectively. Sectoral classification based on HS 1988/92. NAFTA includes only Mexico's relationship with its two partners.

THERE IS NO SUBSTANTIAL TRADE DIVERSION AMONG INTRA-LAC PTAs

the MOP is the dominant force. This exception might be related to the magnitude of blocs' MOPs, particularly in manufacturing, and the direct association between these and high NTBs on extrabloc imports, particularly in the last decade.⁴⁵

The evidence on intrabloc gains is complemented by the results on the impact of PTAs on extrabloc flows. There are two important messages here (figure 3.8). First, there is no substantial trade diversion in the PTAs that were included, which reaffirms the results of the first exercise. The only bloc for which there is a negative, statistically significant impact is the CACM, but this impact is less than 2%. This seems consistent with the fact that most agreements have relatively low MFN tariffs and extrabloc NTBs. The exception to this rule, once more, is MERCOSUR, a result that is difficult to square with the bloc's relatively high levels of protectionism. One hypothesis, based on the high variance of protection across sectors, is that economy-wide estimates reflect some sort of compensation across sectors, in which those with low levels of trade diversion more than offset sectors that are highly affected.

⁴⁵ See section 2.

The second message also broadly reaffirms the results of the first exercise, but with more detail and nuances. It centers on the lack of a positive impact on extrabloc exports for most intra-LAC PTAs, except for CACM, a result that is at odds with the relatively small size of this bloc's market. This inconsistency might be related to the fact that CACM coexisted with the Dominican Republic-Central America-United States Free Trade Agreement (CAFTA-DR) for six of the nine years of the period of analysis (1995–2013), which makes it difficult to disentangle their effects.⁴⁶ CAFTA-DR involves a much larger extraregional partner, with a widely different set of comparative advantages. That would also suggest a positive impact for NAFTA, but here, as in the previous exercise, the US tends to absorb most of Mexico's export capacity.

The second set of results breaks these effects down into broad sectors. As shown in figure 3.9, MERCOSUR and the Andean Community were the blocs with the highest intersectoral variation in intrabloc gains. In the former, manufacturing has a slight lead over agriculture, but gains in both sectors are mainly driven by indirect factors associated with the MOP. The most salient feature in the latter is the negative indirect impact on agriculture, which was possibly driven by intrabloc NTBs. There is much less variation across sectors in the other PTAs.

MERCOSUR AND THE ANDEAN COMMUNITY WERE THE PTAs WITH THE HIGHEST INTERSECTORAL VARIATION IN INTRABLOC GAINS

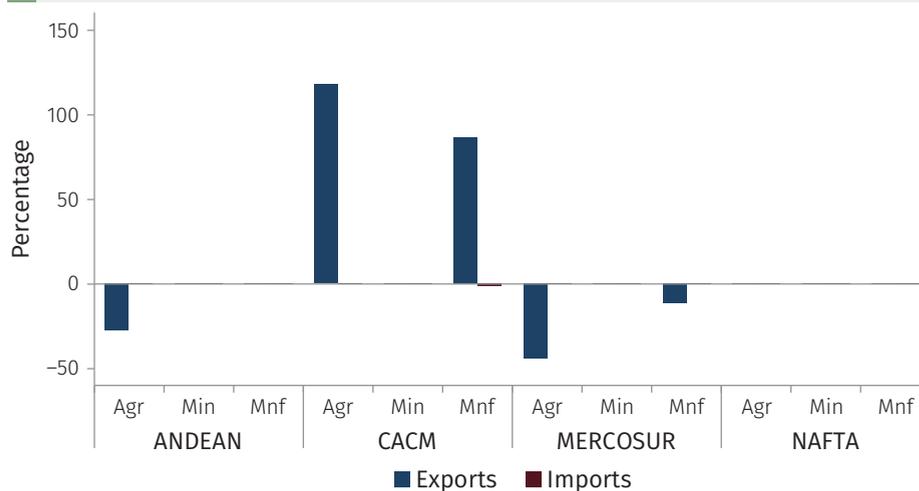
The results on extrabloc flows (figure 3.10) show that the small trade diversion observed earlier within the CACM (i.e., the negative impact on extrabloc imports) comes entirely from manufacturing. If the results are analyzed at an even finer sectoral disaggregation, there is no evidence of any statistically significant trade diversion within MERCOSUR. Aside from possible data limitations, the explanation for the MERCOSUR puzzle might be related to the difficulties in identifying this distortion in an agreement that has had some of the highest MFN rates in the region, but that was implemented in tandem with a significant unilateral liberalization.⁴⁷ This multidimensional liberalization has boosted both intra- and extraregional imports, which in sectors such as road vehicles had been at near autarkic levels (see box 3.1).

Regarding extrabloc exports, the results show that agriculture is the main factor behind CACM gains, followed closely by manufacturing. In contrast, there are significant negative impacts on agriculture in both MERCOSUR and the

⁴⁶ CAFTA-DR entered into force for the United States, El Salvador, Guatemala, Honduras, and Nicaragua in 2006, for the Dominican Republic in 2007, and for Costa Rica in 2009.

⁴⁷ For Brazil, see Mesquita Moreira and Correa (1998). For Argentina, see, for example, Galiani and Sanguinetti (2003). Other papers such as Soloaga and Winters (2001) and Freund (2010), which cover different periods and use different methodologies, also failed to find evidence of trade diversion in MERCOSUR.

FIGURE 3.10 TRADE EFFECTS ON EXTRABLOC FLOWS: AGRICULTURE, MANUFACTURING, AND MINING FOR SELECTED LAC PTAs



Source: IDB estimates.

Note: Simulation based on the sum of the effects on main economic activities using the estimated coefficients presented in table A.3.3, columns 4, 6, and 8 of the technical appendix 3.2. Sectoral classification based on HS 1988/92. NAFTA includes only Mexico's relationship with its two partners.

Andean Community and only the former seems to have suffered an adverse impact on manufacturing exports (-11%).

The third set of results goes a step further and shows the effects at the subsector level. It is beyond the scope of this report to offer a detailed analysis for each sector-PTA pair, but some patterns are worth noting. These include the presence of labor-intensive sectors (e.g., textile, clothing, and footwear) and agricultural sectors (meat and processed food) among the highest intrabloc trade gains in all LAC PTAs (figure 3.11). Capital-intensive sectors such as transportation products also lead the rankings for MERCOSUR and the Andean Community. As expected, what all these sectors have in common is relatively high MFN tariffs and MOPs, which hints at their weak competitive position against extrabloc imports, particularly from Asia. The contours of this correlation can be seen in figure 3.12.

Figures 3.13 and 3.14 detail the subsector results for extrabloc flows, considering only the blocs where the impact on exports or imports were statistically significant at the sector level. In the CACM, the extrabloc gains seem to be correlated with the comparative advantages that member countries have in the

BOX 3.1 MERCOSUR'S TRADE DIVERSION PUZZLE: THE AUTOMOTIVE INDUSTRY

Even though MERCOSUR has some of the highest MOPs among LAC PTAs, if not world PTAs, standard econometric tools largely fail to identify statistically significant signs of trade diversion (i.e., a shift from extra- to intrabloc suppliers), even at the sectoral level. The dynamics of trade and trade policy in the MERCOSUR automotive sector help to illustrate the empirical challenges around identifying this effect.

Since the MERCOSUR agreement was signed, the automotive sector (including auto parts) has accounted for 20% of the MERCOSUR trade, on average, and has also enjoyed one of the highest nominal MOPs, although quantifying the actual magnitude of this is far from a trivial task. Passenger cars, for instance, had a 20% MFN tariff in the first decade of the agreement, which was later raised to 35%. However, vehicles, alongside sugar, have figured permanently among the exceptions to the free trade zone and have been subjected to “administered trade.” In other words, bilateral trade between Brazil and Argentina, which account for nearly all the bloc’s vehicle production, has been subjected to a rule that imposes a *de facto* quota on duty-free trade, based on a cap on trade imbalances: a member’s exports cannot be more than 1.5 times greater than its imports.^a To complicate things further, in the mid-2000s, the two countries adopted several NTBs, ranging from hard-to-obtain import licenses to discriminatory taxes on car imports, which had a direct, heterogeneous effect on market access for both members and nonmembers.^b

To add a final layer of complexity, the intricate implementation of this PTA came back-to-back with the unilateral liberalization of trade during the bloc’s first five years of existence, a process that was eventually embodied in the common external tariff. This not only drastically reduced the MFN tariff for cars (Brazil’s import tariff for cars was as high as 116% in 1988), but also eliminated stringent NTBs that effectively ensured that import penetration was negligible.^c

Figure B.3.1 shows how trade in passenger cars has behaved during these complex changes in trade rules and barriers. The bloc was in a state of near autarky in the late 1980s, right before the agreement. So, it is fair to say that the agreement has created both intra- and extraregional trade where there was virtually none, and in this sense, there has not been any trade diversion. However, it is also reasonable to argue that whatever the actual values of MOPs have been, they have led intraregional trade to represent a much higher share of both imports and exports than would have been possible under free trade. That much is supported by the fact that extraregional exports remain limited, which is testimony to the lack of competitiveness of MERCOSUR products. In fact, in 2016, the value of extraregional exports, which account for a mere 20% of total MERCOSUR exports, were lower than in 1988 when measured in constant prices. This clearly falls short of the bloc’s motivations of becoming a platform to boost its members’ exports. More than 25 years after the agreement was signed, the signs of the “dynamic effects” of trade diversion have yet to materialize.

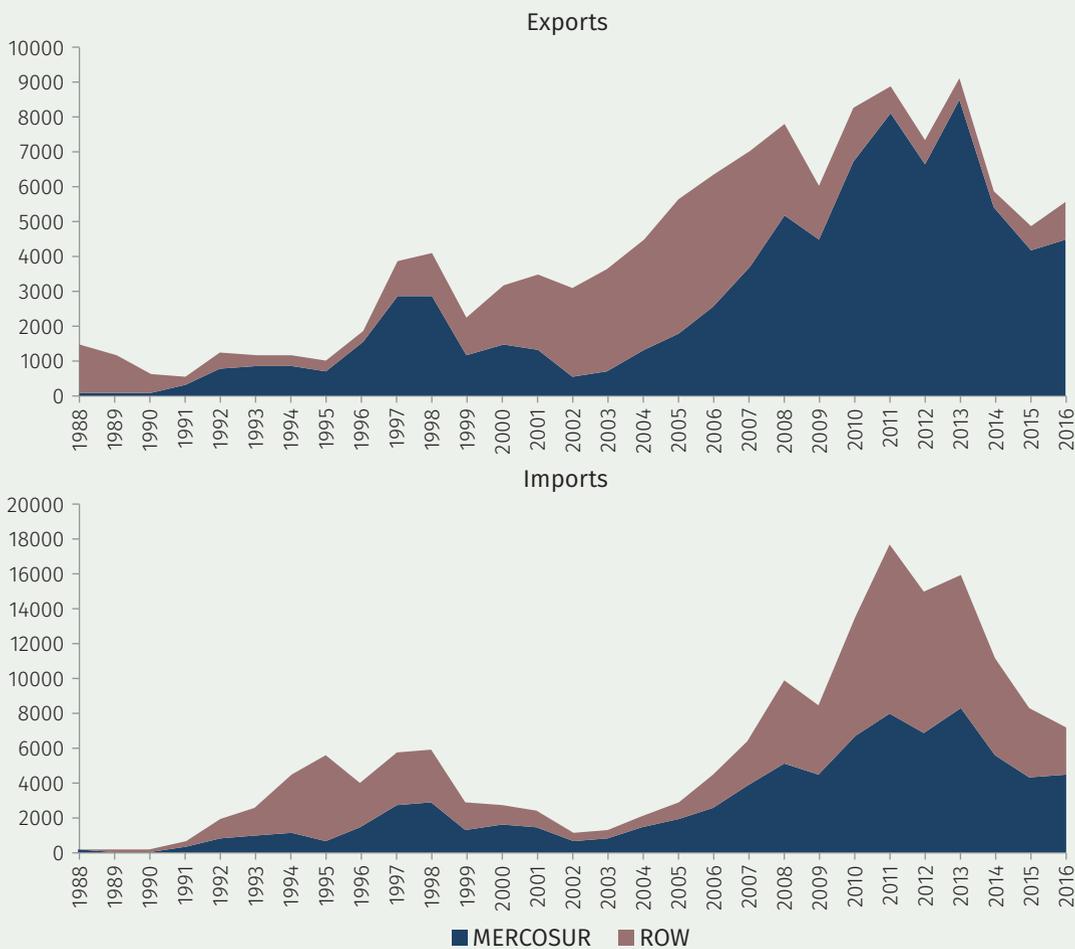
^a See Castaño and Piñero (2016) for details.

^b See IDB (2017).

^c See Braga, Kume, and Ferro (1988).

BOX 3.1 MERCOSUR’S TRADE DIVERSION PUZZLE: THE AUTOMOTIVE INDUSTRY *(continued)*

FIGURE B.3.1 MERCOSUR INTRA- AND EXTRABLOC TRADE IN PASSENGER CARS. 1988–2016, US\$ MILLION, 2009 PRICES

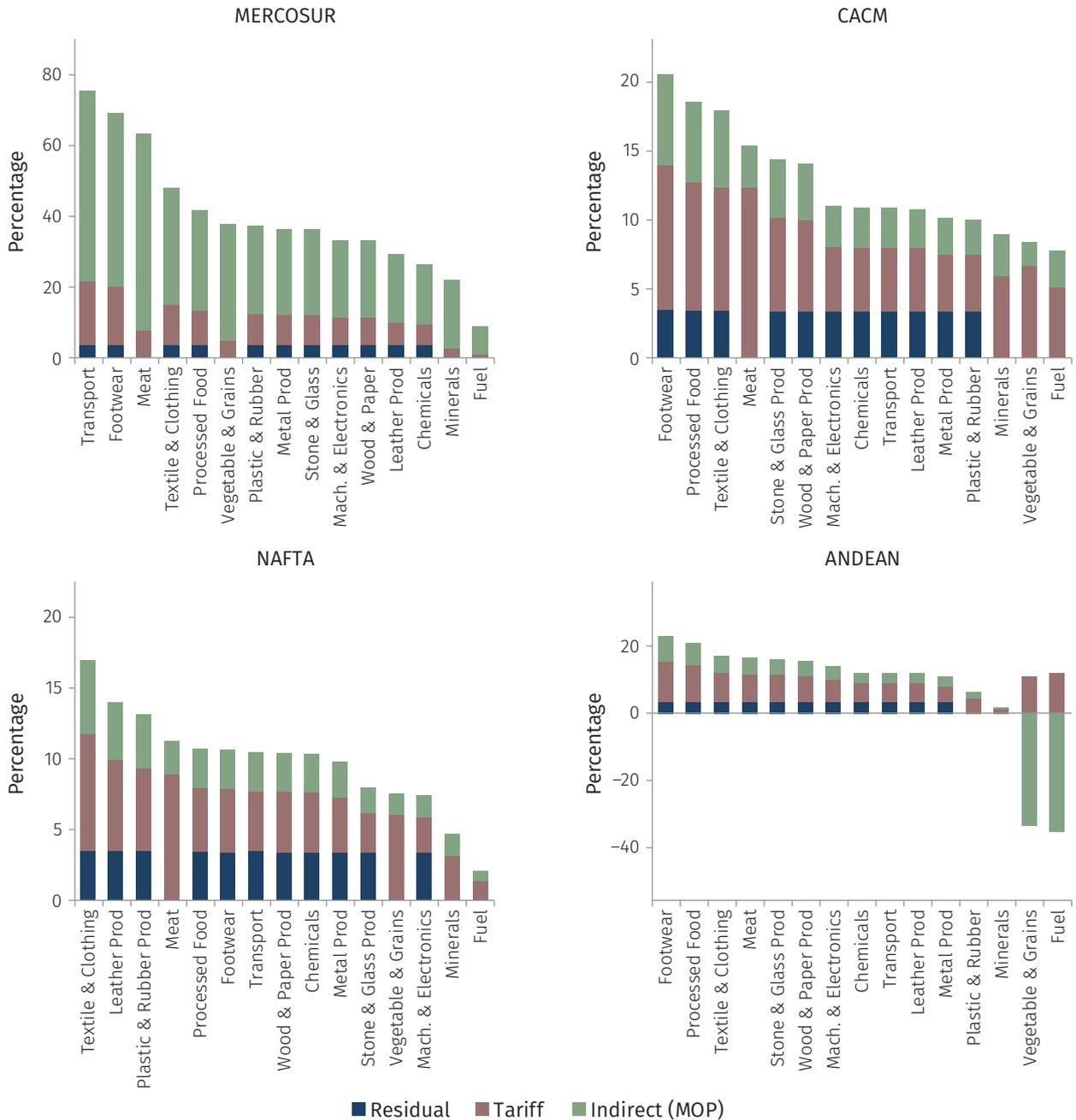


Source: IDB estimates with WITS data.

Note: Passenger car as defined by SITC2, 781. ROW is exports (imports) to the rest of the world.

CAFTA-DR market, namely food and labor-intensive goods, although it is hard to disentangle the effects of these two blocs from one another, as mentioned earlier. In the Andean Community, the negative impact on extrabloc exports are concentrated in meat, vegetables, and grains, whereas in MERCOSUR, the losses are led by a mix of highly competitive sectors (probably driven by a shift

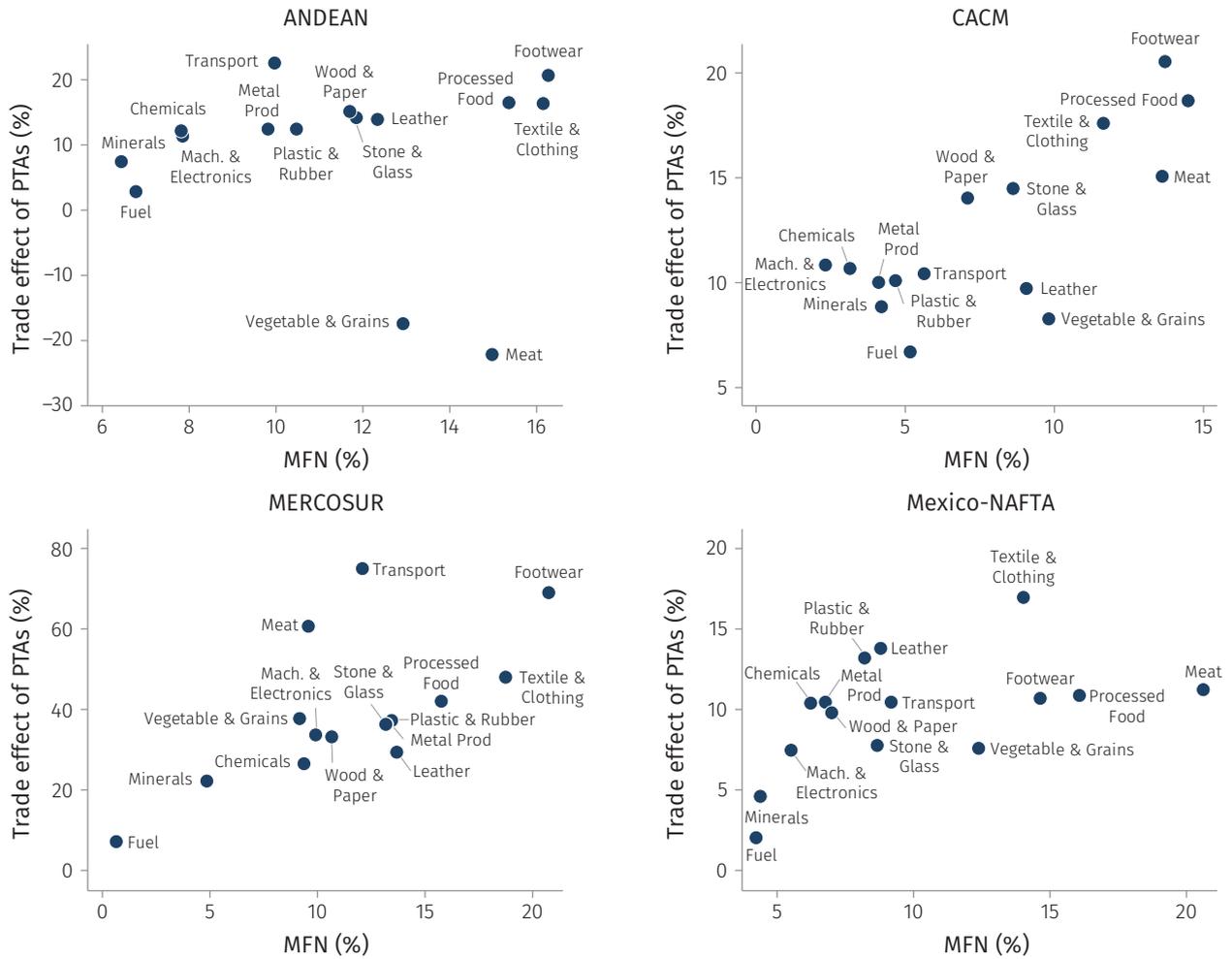
FIGURE 3.11 INTRABLOC TRADE EFFECTS FOR SELECTED LAC PTAs BY SUBSECTOR (%)



Source: IDB estimates.

Note: Simulation based on the sum of the effects on main economic activities using the estimated coefficients presented in table A.3.3, columns 4, 6, and 8 of technical appendix 3.2. The tariff, indirect, and residual effect come from the tariff reduction, MOPs, and a catch-all PTA residual, respectively. Sectoral classification based on HS 1988/92. NAFTA includes only Mexico's relationship with its two partners.

FIGURE 3.12 CORRELATION BETWEEN INTRABLOC LAC-PTA GAINS AND MFN TARIFFS BY SUBSECTOR (%)

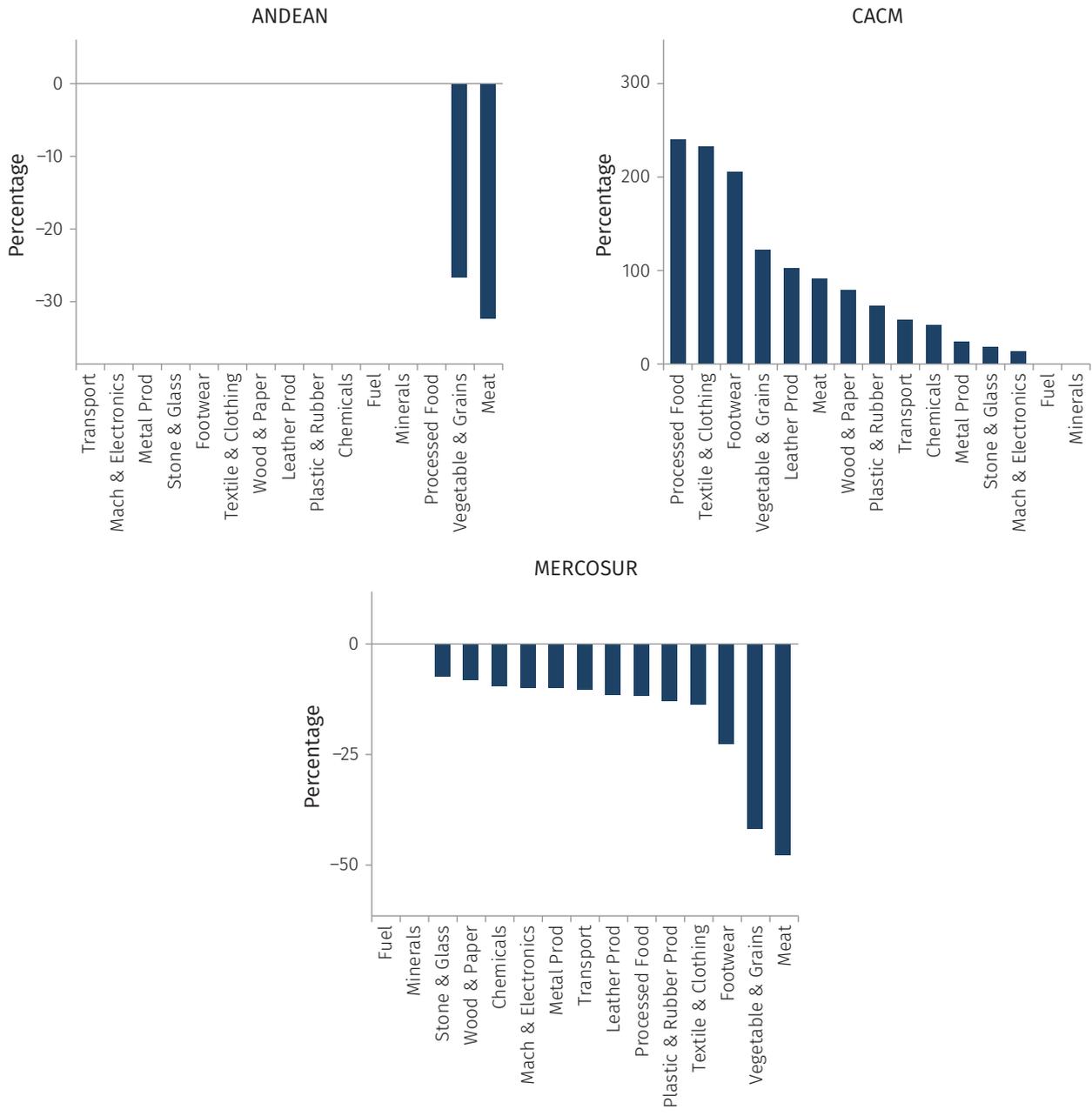


Source: IDB estimates.

Note: This figure shows the correlation between PTA intrabloc trade gains and the average subsector MFN for the period of analysis. The gains were calculated using a simulation based on the sum of the effects on main economic activities using the estimated coefficients presented in table A.3.3, columns 4, 6, and 8 of technical appendix 3.2. Sectoral classification based on HS 1988/92. NAFTA includes only Mexico's relationship with its two partners.

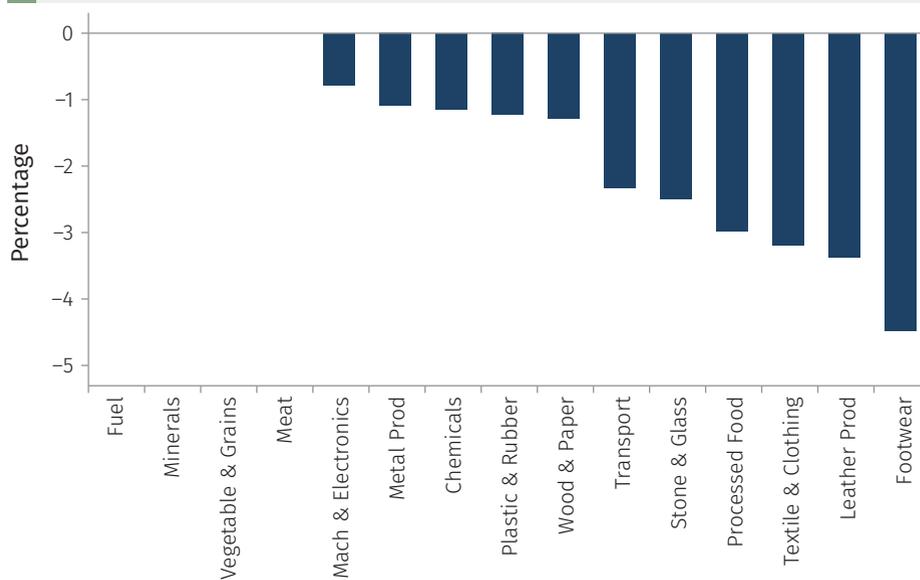
toward more lucrative markets) and less competitive and highly protected ones, such as textiles, clothing, footwear, and transportation equipment, none of which seemed to have leveraged the common market to boost exports. Finally, figure 3.14 presents the results for the only bloc where trade diversion was sta-

FIGURE 3.13 EXTRABLOC EXPORT EFFECTS FOR SELECTED LAC PTAs BY SUBSECTOR (%)



Source: IDB estimates.

Note: Simulation based on the sum of the effects on main economic activities using the estimated coefficients presented in table A.3.3, columns 4, 6, and 8 of technical appendix 3.2. Sectoral classification based on HS 1988/92.

FIGURE 3.14 CACM EXTRABLOC IMPORT EFFECTS BY SUBSECTOR (%)

Source: IDB estimates. See Technical Appendix 3.2.

tistically significant—CACM. Here, too, as expected, there seems to be a high correlation with subsector MFN levels.

In conclusion, these wide-ranging statistical results send at least three clear, robust messages. First, intra-LAC PTAs had a significant impact on intrabloc trade, one that closely follows MOPs at the sector level. Second, there is no evidence of significant trade diversion, even though there are grounds to be skeptical of this result, particularly in the case of MERCOSUR. And third, despite being a leitmotif of the region's integration initiatives, there seems to be little evidence that intra-LAC trade functioned as an export platform for extraregional markets. The CACM is the exception, but its effects seem to be entwined with those of the CAFTA-DR.

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Technical Appendix 3.1

A Macro Gravity View of the PTA Effect

Methodology

To address the impact that regional trade agreements have on trade flows, the following gravity equation was estimated:

$$\ln X_{ijt} = \alpha RTA_{ijt}^B + \gamma_{ij} + \delta_{it} + \lambda_{jt} + \varepsilon_{ijt}, \quad (1)$$

where X_{ijt} are exports from country i to country j during year t , RTA_{ijt}^B is a binary indicator variable equal to 1 if countries i and j have a regional trade agreement in year t , and γ_{ij} , δ_{it} , and λ_{jt} are, respectively, pair, exporter-year, and importer-year fixed effects. The pair fixed effect, γ_{ij} , controls for factors that influence trade costs like the distance between the pair of countries and whether they have a common language or share a border. The importer-year and exporter-year fixed effects control for the size of each country and for what Anderson and Van Wincoop (2003) have termed “multilateral resistances.” Multilateral resistances are essentially the price indices of each country and are a measure of how competitive a market is: the more sellers that are competing in a market, the lower the price index. Size variables could be proxied by the GDP of each country but price indices are more complex since they depend not only on the trade costs between i and j but also on the trade costs between all the pairs, including those that do not involve country i .

In the second step, the following equation, which recovers the trade diversion effects of agreements, was estimated:⁴⁸

$$\ln X_{ijt} = \alpha^B RTA_{ijt}^B + \alpha^M RTA_{ijt}^M + \alpha^X RTA_{ijt}^X + \gamma_{ij} + \delta_{it} + \lambda_{jt} + \varepsilon_{ijt}, \quad (2)$$

where RTA_{ijt}^M is a binary indicator variable equal to 1 if the importing country, j , is a member of a trade agreement with a country other than i and RTA_{ijt}^X is a binary indicator variable equal to 1 if the exporting country, i , is a member of a trade agreement with a country other than j . If the coefficient α^M (α^X) is negative, then RTAs are generating trade diversion, since imports from (exports to)

⁴⁸ Dai et al. (2014) also estimate the trade diversion effects of PTAs.

third countries are being substituted by imports from countries belonging to the RTA.

In the third step, RTAs were classified into agreements between Latin American countries (LAC–LAC); agreements between Latin American countries and the rest of the world (LAC–ROW), and agreements between the rest of the world that do not include LAC countries (ROW–ROW).⁴⁹ The following equation was estimated:

$$\begin{aligned} \ln X_{ijt} = & \beta_1^B LAC_LAC_{ijt}^B + \beta_1^M LAC_LAC_{ijt}^M + \beta_1^X LAC_LAC_{ijt}^X \\ & + \beta_2^B LAC_ROW_{ijt}^B + \beta_2^M LAC_ROW_{ijt}^M + \beta_2^X LAC_ROW_{ijt}^X \\ & + \beta_3^B ROW_ROW_{ijt}^B + \beta_3^M ROW_ROW_{ijt}^M + \beta_3^X ROW_ROW_{ijt}^X \\ & + \gamma_{ij} + \delta_{it} + \lambda_{jt} + \varepsilon_{ijt}, \end{aligned} \quad (3)$$

Ideally, one would like to have estimated the trade diversion effects of individual agreements, such as MERCOSUR or NAFTA. However, this was not possible because the inclusion of trade diversion binary indicators causes collinearity. For example, if indicators for MERCOSUR are included, the sum of the bilateral MERCOSUR indicator and the export diversion MERCOSUR indicator would be equal to the sum of the exporter-year fixed effects of MERCOSUR countries. Not including exporter-year and importer-year fixed effects could generate a bias in the estimated coefficients. As explained above, the importer-year and exporter-year fixed effects control for unobservable changes in country size and multilateral resistances that could be correlated with countries' belonging to an RTA. By grouping agreements as in equation (3), the fixed effects are not collinear with the trade diversion binary indicators since some countries in each group belong to more than one agreement.

Equations (1) to (3) were estimated using the Poisson Maximum Likelihood (PPML) approach. This was developed by Santos Silva and Tenreyro (2006), who point out that estimating the gravity equation in logarithmic form by Ordinary Least Squares can lead to inconsistent estimates if the error term is heteroskedastic. OLS estimates are also reported for comparison.⁵⁰

⁴⁹ The LAC group includes Latin American countries belonging to the six main RTAs in the region (AC, CACM, CAFTA-DR, CARICOM, MERCOSUR, and NAFTA): Antigua, Argentina, Barbados, Belize, Bolivia, Brazil, Colombia, Costa Rica, Dominica, Dominican Republic, Ecuador, El Salvador, Guatemala, Guyana, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Saint Lucia, Trinidad and Tobago, Uruguay, and Venezuela. The agreements between these countries, besides the main six are: AC-MERCOSUR, CACM-Mexico, MERCOSUR-Bolivia, MERCOSUR-Chile, CARICOM-Colombia, CARICOM-Costa Rica, CARICOM-Cuba, CARICOM-Dominican Republic, and CARICOM-Venezuela.

⁵⁰ The Stata command `ppml_panel_sg` developed by Thomas Zylkin was used (<http://www.tomzylkin.com/research.html>).

Sample of countries

Main sample (146 countries): AGO, ALB, ARE, ARG, ARM, ATG, AUS, AUT, AZE, BEL, BEN, BFA, BGD, BGR, BHR, BIH, BLR, BOL, BRA, BRB, BRN, CAN, CHE, CHL, CHN, CIV, CMR, COG, COL, CRI, CUB, CYP, CZE, DEU, DMA, DNK, DOM, DZA, ECU, EGY, ESP, EST, ETH, FIN, FJI, FRA, FRO, GAB, GBR, GEO, GHA, GIN, GMB, GRC, GRL, GTM, GUY, HKG, HND, HRV, HUN, IDN, IND, IRL, IRN, ISL, ISR, ITA, JAM, JOR, JPN, KAZ, KEN, KGZ, KOR, KWT, LBN, LBR, LBY, LCA, LKA, LTU, LUX, LVA, MAC, MAR, MDA, MDG, MEX, MKD, MLI, MLT, MOZ, MRT, MUS, MWI, MYS, NCL, NER, NGA, NIC, NLD, NOR, NPL, NZL, OMN, PAK, PAN, PER, PHL, PNG, POL, PRT, PRY, PYF, QAT, ROM, ROW, RUS, RWA, SAU, SEN, SGP, SLV, SUD, SVK, SVN, SWE, SYC, SYR, TGO, THA, TTO, TUN, TUR, TZA, UGA, UKR, URY, USA, VEN, VNM, YEM, ZAF, ZMB, ZWE.

Rest of the world (59 countries): AIA, ANT, ASM, ATA, ATF, BAT, BES, BLM, BMU, BVT, CCK, COK, CSK, CUW, CXR, DDR, ESH, GIB, GLP, GUF, GUM, HMD, IMN, IOT, KN1, MCO, MID, MNG, MNP, MNT, MTQ, MYT, NFK, NIU, PCE, PCN, PCZ, PLW, PRI, PRK, PSE, REU, SER, SGS, SOM, SSD, SXM, TCA, TKL, TMP, UMI, USP, VAT, VGB, VIR, WLF, YDR, YUG, ZAR.

Member Countries and Start Date of Agreements under Study

Agreement	Member Countries	Year
Andean Community (AC)	Bolivia, Colombia, Ecuador, Peru, Venezuela (left in 2001)	1996
Central American Common Market (CACM)	Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Panama	1991
CAFTA-DR	Costa Rica, Dominican Republic, El Salvador, Guatemala, Honduras, Nicaragua, USA	2006
CARICOM	Antigua, Barbados, Dominica, Guyana, Jamaica, Saint Lucia, Belize and Trinidad and Tobago	1989
MERCOSUR	Argentina, Brazil, Paraguay, Uruguay	1991
NAFTA	Canada, Mexico, USA	1990

Notes: (i) The start dates used for all agreements except MERCOSUR and NAFTA were their relaunches in the late 1980s and early 1990s (see figure 2.1 and boxes 2 to 5), since they had barely been enforced until then. NAFTA's start date was set as the year negotiations were announced (1990), with the aim of identifying anticipation effects and out of concern for the pre-existing maquilas program. The alternative use of the enforcement date (1994) as the start date did not affect significantly the results.

(ii) Bahamas, Belize, Grenada, Haiti, Monserrat, Saint Kitts and Nevis, Saint Vincent and the Grenadines, and Surinam were not included in the CARICOM group since the proportion of zeroes in the data was higher than 60% for these countries.

Data

Annual bilateral trade flows for more than two hundred countries for 1976–2013 were taken from the United Nations Comtrade Database, SITC Revision 1. We followed Feenstra et al. (2005) by using imports that originated in country i as reported by country j , whenever they were available, since they tend to be more accurately reported than exports. This information was complemented by the reverse export flow as reported by country j , whenever imports were missing.

The variable indicating whether a pair of countries has a trade agreement was constructed using the data from Kohl et al. (2016). This data included 296 agreements for 201 countries for the period 1948–2013.

If a pair of countries that appeared in Comtrade data did not appear in the agreements data, it was assumed that there was no agreement between them. Countries that did not have an agreement with any other country were then aggregated into a category called “rest of the world” (RoW), following Anderson and Yotov (2016). Countries for which the percentage of zeroes in the trade data was higher than 60% were also discarded. This procedure yielded a sample of 146 countries plus the RoW aggregate.

Results

TABLE A.3.1 THE IMPACT OF REGIONAL TRADE AGREEMENTS ON BILATERAL TRADE FLOWS

	Panel A: OLS				Panel B: PPML			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<i>RTA^B</i>	0.307*** [0.0248]	0.309*** [0.0247]			0.00642 [0.0484]	0.0960*** [0.0236]		
<i>RTA^M</i>		0.49 [0.402]				1.104*** [0.111]		
<i>RTA^X</i>		0.248 [0.290]				0.861** [0.385]		
<i>RTA_LAC_LAC^B</i>			0.332*** [0.0763]	0.333*** [0.0764]			0.518*** [0.0959]	0.494*** [0.0973]
<i>RTA_LAC_LAC^M</i>				0.661*** [0.144]				0.364 [0.695]
<i>RTA_LAC_LAC^X</i>				0.382*** [0.135]				-0.511*** [0.150]
<i>RTA_LAC_ROW^B</i>			-0.032 [0.0592]	-0.0374 [0.0614]			0.0834 [0.0547]	-0.0216 [0.0576]
<i>RTA_LAC_ROW^M</i>				0.0136 [0.137]				0.00293 [0.0520]
<i>RTA_LAC_ROW^X</i>				-0.0761 [0.119]				-0.250*** [0.0720]
<i>RTA_ROW_ROW^B</i>			0.360*** [0.0285]	0.363*** [0.0285]			-0.0146 [0.0525]	0.0536* [0.0284]
<i>RTA_ROW_ROW^M</i>				0.457 [0.361]				0.732*** [0.178]
<i>RTA_ROW_ROW^X</i>				0.277 [0.257]				0.401** [0.202]
Observations	516,501	516,501	516,501	516,501	693,144	693,144	693,144	693,144
R-squared	0.867	0.867	0.867	0.867	0.990	0.993	0.991	0.992

Notes: the table contains the gravity equation estimates where the dependent variable is the natural logarithm of bilateral imports for 1976–2013. All regressions include importer-year, exporter-year, and pair fixed effects. Superscript B indicates that both countries belong to the RTA, M indicates that only the importing country belongs to the RTA, and X that only the exporting country belongs to the RTA. Panel A was estimated by OLS and Panel B was estimated by PPML. Standard errors clustered by pair. ***significant at 1%, ** significant at 5%, * significant at 10%.

Technical Appendix 3.2

A Sectoral Gravity View of the PTA Effect

Building on the literature on US and EU unilateral preferences, such as Cipollina et al. (2013) and Cirera et al. (2016), this exercise extended the standard gravity model to better identify the heterogeneity of trade effects between and within LAC PTAs, as well as the channels through which these effects travel. To do so, we used sectoral bilateral flows (at HS 4-digit level) and incorporated two extra terms in the model to capture the impact of tariffs and MOPs. The tariff term captures the PTA direct impact of lower applied tariffs and the MOP term is a proxy for the indirect effects of PTAs, including less trade policy uncertainty, improvements in trade facilitation, removal of nontariff barriers, and greater incentives for trade-inducing foreign direct investment. The main assumption is that the larger the MOP, the higher these indirect benefits are likely to be.

To make sure the exercise captured all indirect effects, the standard, general PTA dummy was still included in the model in case these effects did not all correlate with the MOP. As in the first exercise, discussed in technical appendix 3.1, these trade effects were broken down into intra- and extrabloc imports and extrabloc exports to address the issues of trade diversion and export promotion.

The Model

The preferred specification is:

$$\begin{aligned}
 \ln(M_{ijt}^s) = & \beta \ln(1 + TF_{ijt}^s) + \rho \ln(1 + MOP_{ijt}^s) + \sum_k \delta_k \ln(1 + MOP_{ijt}^s) \times (P_{ki} \times P_{kj}) \\
 & + \sum_k \varphi_k \ln(1 + MOP_{ikt}^s) \times [P_{ki} - (P_{ki} \times P_{kj})] \\
 & + \sum_k \sigma_k \ln(1 + MOP_{kjt}^s) \times [P_{kj} - (P_{ki} \times P_{kj})] + \omega PTA_{ijt} \\
 & + \gamma_{ij}^s + \delta_{it}^s + \lambda_{jt}^s + \varepsilon_{ijt}^s,
 \end{aligned} \tag{A1}$$

where

i is the reporting (importer) country,

j is the partner (exporter) country,

t denotes the sample period,

s is the HS 4-digit product code, and

k is an individual PTA.

The results displayed are limited to the four LAC PTAs of interests:⁵¹ the Andean Community (AC), the Central American Common Market (CACM), MERCOSUR (MSUR), and NAFTA. To isolate the effects on Mexico, bilateral trade between United States and Canada was excluded in NAFTA.

M_{ijt}^s denotes country i 's imports from partner country j of product s in year t .

TF_{ijt}^s denotes the applied tariff rate country i imposes on imports from country j of product s in year t . The applied tariff $TF_{ijt}^s = TFPRF_{ijt}^s$ if there is a PTA (or unilateral preferential program), and $TF_{ijt}^s = TFMFN_{ijt}^s$ otherwise. Note, all the available preferential tariff data between country i and j is included in the model, no matter whether country i and j are members of the four LAC PTAs defined above.

MOP is defined as $MOP_{ijt}^s = TFMFN_{ijt}^s - TFPRF_{ijt}^s$ if there is a PTA between importer i and exporter j at year t , and $MOP_{ijt}^s = 0$ otherwise. Note, all the MOPs between country i and j are included in the model, no matter whether country i and j are members of the four LAC PTAs defined above.

P_{ki} is a dummy variable that is equal to 1 if country i is a member of PTA k and 0 otherwise.

P_{kj} is a dummy variable that is equal to 1 if country j is a member of PTA k and 0 otherwise.

MOP_{ikt}^s is the MOP that importer i gives to member countries of PTA k . When MOP_{ijt}^s is different for different member country j , MOP_{ikt}^s is the simple average of MOP_{ijt}^s for all countries j ($j \neq i$) of PTA k .

MOP_{kjt}^s is the MOP that exporter j receives from members of PTA k . When MOP_{ijt}^s is different for different country i , MOP_{kjt}^s is the simple average of MOP_{ijt}^s for all countries i ($i \neq j$) of PTA k .

PTA_{ijt} is a dummy variable that is equal to 1 if there is a PTA between country i and j in year t and 0 otherwise.

When both i and j are in PTA k , both P_{ki} and P_{kj} are equal to 1. The fourth and fifth terms in equation (A1) disappear because $P_{ki} - (P_{ki} \times P_{kj}) = 0$ and $P_{kj} - (P_{ki} \times P_{kj}) = 0$. β captures the effect of tariff change. The direct effect of PTA k on trade between member countries can be inferred from this value. The indirect effect of PTA k on trade is captured by $\rho + \delta_k$.

⁵¹ CARICOM could not be included in the analysis because preferential tariff data is missing for most of the observations.

When i is a member of PTA k and j is not, $P_{ki} = 1$ and $P_{kj} = 0$. The third and fifth terms disappear because $P_{ki} \times P_{kj} = 0$ and $P_{kj} - (P_{ki} \times P_{kj}) = 0$. The coefficient of the fourth term φ_k captures the effect of PTA k on members' imports from non-member countries.

When j is a member of PTA k and i is not, $P_{ki} = 0$ and $P_{kj} = 1$. The third and fourth terms disappear because $P_{ki} \times P_{kj} = 0$ and $P_{kj} - (P_{ki} \times P_{kj}) = 0$. The coefficient of the fifth term σ_k captures the effect of PTA k on nonmembers' imports from member countries, that is, member countries' exports to nonmembers.

γ_{ij}^s , δ_{it}^s and λ_{jt}^s are, respectively, pair-sector, importer-year-sector, and exporter-year-sector fixed effects.

ε_{ijt}^s is the error term.

This specification follows the so-called gold standard of gravity equations (Anderson and Yotov 2012) as closely as possible, using fixed effects to control for size, product, and geographical characteristics. The full implementation of the gold standard would require the use of all the sector fixed effects at the 4-digit level. That is, importer-year-hs4digit, exporter-year-hs4digit, and importer-exporter-hs4digit. However, as the MFN tariff is one component of the MOP and is highly collinear with the import-year-hs4digit fixed effect, the coefficient of the MOP could not be estimated.⁵² The solution was to use what is arguably the second-most-demanding specification, replacing import-year-hs4digit with importer-year-hs2digit fixed effects in the regression. Another less demanding specification with importer-year fixed effects was also run as a robustness check. Computational constraints imposed another limitation on the estimation. The sheer volume of data and the high-dimension fixed effects made it impossible to go beyond an ordinary-least-square-with-fixed-effects estimation strategy, which, as is well known, has heteroskedasticity and selection bias issues, the latter produced by the substantial number of zero-trade relationships. The PPML strategy (Santos Silva and Tenreyro, 2006) that is widely used to address these issues would not converge to results even when using high-dimension fixed effects procedures such as those proposed by Larch et al. (2017). Another restriction of their procedure is that it requires the inclusion of the most demanding fixed effects, namely importer-year-hs4digit, exporter-year-hs4digit, and importer-exporter-hs4digit, which could not be applied here because of the limitations in the data explained above.

⁵² In the dataset, the MFN tariff of an importer for a specific HS 6-digit product and year is the same for all exporters. At HS 4-digit level, the only variation comes from the composition of HS 6-digit items that two countries trade.

Data

Bilateral import data at HS 6-digit level was obtained from UN Comtrade. The sample covers 157 reporting countries for 1995–2013. For the regressions, import data was aggregated to HS 4-digit level. The PTAs included are obtained from Kohl et al. (2016), which included 296 agreements for 201 countries for the period 1948–2013. We made an effort to collect the MFN tariff and the preferential tariff for as many PTAs as possible. Data on tariffs was obtained from UNCTAD-TRAINS, supplemented by data from IDB INTrade and LAIA Preferential Tariff data. When there were multiple preferential tariff rates, the lowest one was applied. The HS 6-digit tariff is the simple average of tariffs at tariff line value. The HS 4-digit tariff is the simple average of tariffs at HS 6-digit level. The sectoral classification was derived from the HS system: manufacturing (Mnf) includes processed food, chemicals, plastics and rubber, leather products, wood and paper, textiles and clothing, footwear, stone glass, metal products, machinery and electronics, and transport; agriculture (Agr) includes meat and vegetable and grains; and mining (Min) includes minerals and fuel. These 15 disaggregated sub-sectors were created based on HS 2-digits (as shown in table A.3.2).

Results

Table A.3.3 presents the regression results. The results in column 1 and 2 used the whole sample, whereas those in column 3 to 8 used only the corresponding sector. The odd-numbered columns contain results with importer-year, exporter-year-hs-4digit, and importer-exporter-hs4digit fixed effects. The even-numbered columns contain those with importer-year-hs2digit, exporter-year-hs4digit, and import-export-hs4digit fixed effects.

Simulation

The regression results in table A.3.3 only revealed if a partial effect was positive or negative, but the size of the total PTA effect could not be read directly from the coefficients. Counterfactual simulations were therefore carried out to reveal the size of the PTA effect.

As argued earlier, the model breaks down the trade effect of PTA k into multiple components. The direct effect from lower tariffs is captured by β . The MOP-

related indirect effects are captured by $\rho + \delta_k$. The residual PTA effects are captured by ω . The coefficient φ_k captures PTA k 's effect on member imports from nonmembers and σ_k captures PTA k 's effect on member exports to nonmembers.

Using the estimated coefficients at the sectoral level with the most demanding specification (importer-year-hs2digit, exporter-year-hs4digit, and importer-exporter-hs4digit) in columns 4, 6, and 8 of table A.3.3, and the average value of tariff ($TFMFN_{ijavg}^s$ and $TFPRE_{ijavg}^s$) and MOP (MOP_{ijavg}^s , MOP_{ikavg}^s , and MOP_{kjavg}^s) between 1995 and 2013, seven import values were simulated. First, the imports of country i from country j (i and j can be any country in the sample) at HS 4-digit level if there were no PTAs. These would be equivalent to

$$MnoPTA_{ij}^s = \exp(\beta(\ln(1 + TFMFN_{ijavg}^s)) + FE_{ijavg}^s), \quad (A2)$$

where, FE_{ijavg}^s is the estimation of fixed effects. Note, three sets of fixed effects are estimated in each regression, importer-year-hs2digit (FE_{it}^{HS2}), exporter-year-hs4digit (FE_{jt}^{HS4}), and importer-exporter-hs4digit (FE_{ijt}^{HS4}). For product s , the total fixed effects is: $FE_{ijt}^s = FE_{it}^s + FE_{jt}^s + FE_{ijt}^s$. As FE_{it}^s and FE_{jt}^s vary over year t , FE_{ijt}^s varies too. Therefore, we use the average value of FE_{ijt}^s between 1995 and 2013, i.e. FE_{ijavg}^s to do the simulation.

Second, the imports of country p from country q (both p and q are members of a PTA) at HS 4-digit level if the PTA only reduces tariffs from the MFN rate to the preferential rate. That is,

$$Mtf_{pq}^s = \exp(\beta(\ln(1 + TFPRE_{pqavg}^s)) + FE_{pqavg}^s). \quad (A3)$$

Third, the imports of country p from country q at HS 4-digit level if the PTA only brings in the MOP. That is,

$$Mmop_{pq}^s = \exp(\beta(\ln(1 + TFMFN_{pqavg}^s)) + (p + \delta_k)(\ln(1 + MOP_{pqavg}^s)) + FE_{pqavg}^s). \quad (A4)$$

Fourth, the imports of country p from country q at HS 4-digit level if the PTA only affects imports through the dummy variable. That is,

$$Mdummy_{pq}^s = \exp(\beta(\ln(1 + TFMFN_{pqavg}^s)) + \omega + FE_{pqavg}^s). \quad (A5)$$

Fifth, the imports of country p from country q at HS 4-digit level if the PTA effect includes all three components. That is,

$$Mfull_{pq}^s = \exp(\beta(\ln(1 + TFPRE_{pqavg}^s))) + (\rho + \delta_k)(\ln(1 + MOP_{pqavg}^s)) + \omega + FE_{pqavg}^s. \quad (A6)$$

Sixth, the imports of country p from nonmember country n with PTA k is simulated as

$$MfNM_{pn}^s = \exp(\beta(\ln(1 + TFMFN_{pnavg}^s))) + \varphi_k \ln(1 + MOP_{pkavg}^s) + FE_{pnavg}^s. \quad (A7)$$

Last, the exports of country q to nonmember country n with PTA k is simulated as

$$EtNM_{nq}^s = \exp(\beta(\ln(1 + TFMFN_{nqavg}^s))) + \sigma_k \ln(1 + MOP_{kqavg}^s) + FE_{nqavg}^s. \quad (A8)$$

For all member countries p and q in PTA k , the direct, tariff effect of PTA k on within bloc trade is calculated as

$$TFeffect_k = \frac{\sum_p \sum_q \sum_s Mtf_{pq}^s}{\sum_p \sum_q \sum_s MnoPTA_{pq}^s} - 1. \quad (A9)$$

The indirect (MOP) effect is

$$MOPeffect_k = \frac{\sum_p \sum_q \sum_s Mmop_{pq}^s}{\sum_p \sum_q \sum_s MnoPTA_{pq}^s} - 1. \quad (A10)$$

The residual PTA dummy effect is

$$DMYeffect_k = \frac{\sum_p \sum_q \sum_s Mdummy_{pq}^s}{\sum_p \sum_q \sum_s MnoPTA_{pq}^s} - 1. \quad (A11)$$

The total PTA effect including all three components at the same time is

$$Fulleffect_k = \frac{\sum_p \sum_q \sum_s Mfull_{pq}^s}{\sum_p \sum_q \sum_s MnoPTA_{pq}^s} - 1. \quad (A12)$$

As the exponential function is nonlinear, the sum of $TFeffect_k$, $MOPeffect_k$, and $DMYeffect_k$ is not exactly equal to $Fulleffect_k$. To be consistent, $Fulleffect_k$ was distributed among the three components proportionally to their estimated size. In other words, the adjusted effects are calculated as

$$TFeffect_k^{AD} = \frac{TFeffect_k}{TFeffect_k + MOPeffect_k + DMYeffect_k} Fulleffect_k. \quad (A13)$$

$$MOPeffect_k^{AD} = \frac{MOPeffect_k}{TFeffect_k + MOPeffect_k + DMYeffect_k} Fulleffect_k. \quad (A14)$$

$$DMYeffect_k^{AD} = \frac{DMYeffect_k}{TFeffect_k + MOPeffect_k + DMYeffect_k} Fulleffect_k. \quad (A15)$$

The effect of PTA k on members' imports from nonmembers is

$$MfnMeffect_k = \frac{\sum_p \sum_n \sum_s MfnNM_{pn}^s}{\sum_p \sum_n \sum_s MnoPTA_{pn}^s} - 1. \quad (A16)$$

The effect of PTA k on members' exports to nonmembers is,

$$EtNMeffect_k = \frac{\sum_n \sum_q \sum_s EtNM_{nq}^s}{\sum_n \sum_q \sum_s MnoPTA_{nq}^s} - 1. \quad (A17)$$

TABLE A.3.2 SECTORAL GRAVITY. HS CHAPTERS BY SUBSECTORS

Sector	Subsector	HS
Agriculture (Agr)	Meat	01 02 03 04 05
	Vegetable & Grains	06 07 08 09 10 11 12 13 14 15
Mining (Min)	Minerals	25 26 6801 6802 6803 6804 6805 6806
	Fuel	27
Manufacturing (Mnf)	Processed Food	16 17 18 19 20 21 22 23 24
	Chemicals	29 30 31 32 33 34 35 36 37 38
	Plastics & Rubber	39 40
	Leather Products	41 42 43
	Wood & Paper	44 45 46 47 48 49
	Textiles & Clothing	50 51 52 53 54 55 56 57 58 59 60 61 62 63
	Footwear	64 65 66 67
	Stone & Glass	68 (exclude 6801 6802 6803 6804 6805 6806) 69 70 71
	Metal Products	72 73 74 75 76 78 79 80 81 82 83
	Machinery & Electronics	84 85
	Transport	86 87 88 89

TABLE A.3.3 SECTORAL GRAVITY. ESTIMATION RESULTS

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Whole Sample		Agr		Mnf		Min	
	(S1)	(S2)	(S1)	(S2)	(S1)	(S2)	(S1)	(S2)
Intariff	-0.817*** (0.015)	-0.629*** (0.018)	-0.699*** (0.036)	-0.607*** (0.045)	-0.820*** (0.016)	-0.626*** (0.020)	-0.693*** (0.132)	-0.864*** (0.153)
lnMOP	0.281*** (0.023)	0.339*** (0.026)	0.127** (0.050)	0.156*** (0.057)	0.302*** (0.026)	0.393*** (0.029)	0.729*** (0.240)	0.508** (0.251)
lnMOP_AC_intra	-0.569** (0.248)	-0.195 (0.254)	-2.876** (1.222)	-2.557** (1.256)	-0.401 (0.255)	-0.062 (0.261)	-2.826 (2.301)	-2.530 (2.252)
lnMOP_CACM_intra	-0.279 (0.341)	-0.090 (0.361)	-1.714 (1.062)	-0.452 (1.120)	-0.136 (0.360)	-0.124 (0.381)	2.726 (2.869)	2.046 (2.953)
lnMOP_MSUR_intra	1.345*** (0.348)	1.731*** (0.350)	3.074* (1.706)	3.288** (1.676)	1.086*** (0.354)	1.321*** (0.356)	4.597 (3.529)	6.916** (3.442)
lnMOP_NAFTA_intra	0.501 (0.918)	0.285 (0.890)	-0.581 (1.593)	-0.509 (1.515)	0.836 (1.022)	0.390 (0.995)	-2.807 (17.781)	3.903 (18.360)
lnMOP_AC_imp	-0.191*** (0.056)	0.012 (0.063)	0.038 (0.235)	-0.197 (0.249)	-0.159*** (0.058)	0.028 (0.066)	-0.185 (0.518)	0.305 (0.556)
lnMOP_CACM_imp	-0.737*** (0.101)	-0.234** (0.110)	-0.357 (0.358)	0.019 (0.343)	-0.831*** (0.105)	-0.297** (0.117)	1.214 (0.921)	0.818 (0.947)
lnMOP_MSUR_imp	-0.106 (0.070)	0.129 (0.079)	0.107 (0.460)	0.189 (0.482)	-0.123* (0.071)	0.114 (0.080)	1.231 (0.979)	0.500 (1.081)
lnMOP_NAFTA_imp	0.028 (0.079)	0.046 (0.096)	-0.250 (0.276)	-0.130 (0.296)	0.091 (0.082)	0.020 (0.103)	0.929 (1.422)	2.438* (1.472)
lnMOP_AC_exp	-0.608* (0.314)	-0.261 (0.315)	-3.445*** (1.265)	-3.229** (1.296)	-0.402 (0.326)	-0.061 (0.327)	-3.109 (2.835)	-3.047 (2.830)
lnMOP_CACM_exp	10.228*** (0.623)	7.216*** (0.624)	7.890*** (1.888)	5.771*** (1.886)	10.455*** (0.663)	7.428*** (0.663)	6.649 (6.758)	4.612 (6.895)
lnMOP_MSUR_exp	-1.289*** (0.344)	-1.305*** (0.344)	-7.262*** (2.170)	-6.551*** (2.213)	-1.119*** (0.348)	-1.301*** (0.348)	-2.224 (4.074)	2.379 (4.115)
lnMOP_NAFTA_exp	0.760 (0.943)	0.501 (0.912)	-1.196 (1.582)	-1.204 (1.502)	0.960 (1.063)	0.724 (1.030)	2.451 (17.835)	9.925 (18.425)
PTA	0.026*** (0.003)	0.029*** (0.003)	-0.018 (0.011)	-0.018 (0.011)	0.029*** (0.003)	0.032*** (0.003)	0.024 (0.020)	0.030 (0.019)
Observations	41,415,939	41,412,904	2,938,738	2,938,218	37,383,961	37,381,652	1,093,240	1,093,023
R-squared	0.818	0.821	0.826	0.830	0.817	0.820	0.819	0.822
imp#exp#hs4	Yes							
exp#year#hs4	Yes							
imp#year	Yes	No	Yes	No	Yes	No	Yes	No
imp#year#hs2	No	Yes	No	Yes	No	Yes	No	Yes

Standard errors cluster by imp#exp#hs4 in parentheses.

*** p<0.01, ** p<0.05, * p<0.1

THE ROAD TO THE PROMISED LAND

SECTION 4

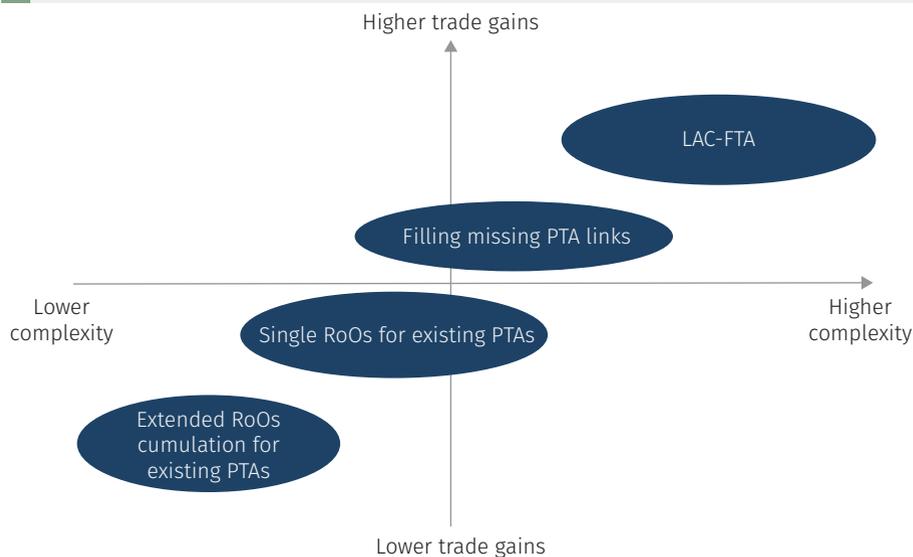
As argued earlier, LAC's regional integration initiatives suffer from an original sin: fragmentation. There are just too many small PTAs. This setup has been working against the main economic motivation behind these agreements, namely productivity gains capable of making the region more competitive. The way to rescue these initiatives and make them more economically relevant was also hinted at in the previous sections: the region needs to move toward a regionwide FTA or LAC-FTA, which would constitute a market worth about US\$5 trillion or approximately 7% of global GDP. This would constitute a critical mass large enough to allow efficient firms to grow and develop value chains that could significantly boost productivity. But how should the region go about getting to this promised land?

To anyone with any knowledge of the historical tribulations that have plagued LAC PTAs, this proposal might appear to be yet another of the overly ambitious visions that litter the region's history. In fact, no more than ten years ago, LAIA put forward a similar proposal on which progress has yet to be made.⁵³ Why would this time be any different?

First, as noted earlier, LAC is facing a different and more challenging trade environment, one that promises to be merciless to small agreements. Either they acquire a critical economic mass or they face a slow death or, worse yet, irrelevancy. Second, the network of agreements built over the last 25 years provides the region with a powerful platform to build upon. As was shown in section 2, the region is much closer to free intraregional trade than conventional wisdom might suggest. Third, LAC has built up more than half a century of integration

⁵³ ALADI (2007).

FIGURE 4.1 TRADE GAINS AND COMPLEXITY OF LAC'S ROAD MAP TO INTEGRATION



Source: IDB.

experience that will help guide policy decisions. And finally, LAC's political pendulum seems to be swinging back toward a more pragmatic and less ideological view of integration. As ever, though, the devil may be in the details.

THERE IS MORE THAN ONE ROUTE TO REACH A FREE TRADE AREA AND THE REGION STANDS TO BENEFIT EVEN IF IT ONLY TRAVELS PART OF THE WAY

To be sure, there is more than one route to reach a free trade area. The region stands to benefit even if it only travels part of the way, as it awaits the right political conditions to finish the journey. This process could be described as consisting of different “stops,” the complexity of which correlates to the distance traveled (see figure 4.1), as do the potential rewards. Governments can pick the itinerary that best suits their motivations and political constraints. They could take a more cautious, step-by-step approach, beginning by extending the cumulation of RoOs among existing agreements, or they could travel nonstop toward establishing a LAC-FTA. They could even opt for something in between these two approaches.⁵⁴ However, it is important for them to fully understand what is required to reach each “stop” along the way and the gains and limitations of the different options.

⁵⁴ Similar options have been discussed before in the context of initiatives to “multilateralize regionalism” in the Americas. See Estevadeordal, Shearer, and Suominen (2009) and Estevadeordal and Suominen (2009). The discussion in this section draws on but also departs from Cornejo (forthcoming).

Extended Cumulation

The first and most modest stop on the route to a LAC-FTA would be to incorporate so-called diagonal or extended cumulation (see box 4.1) into the RoO regimes for existing LAC PTAs. That is, the possibility of inputs that are sourced from third countries and used in production in one of the member countries

BOX 4.1 CAN RoO CUMULATION BE EXTENDED TO COMMON THIRD PARTIES?

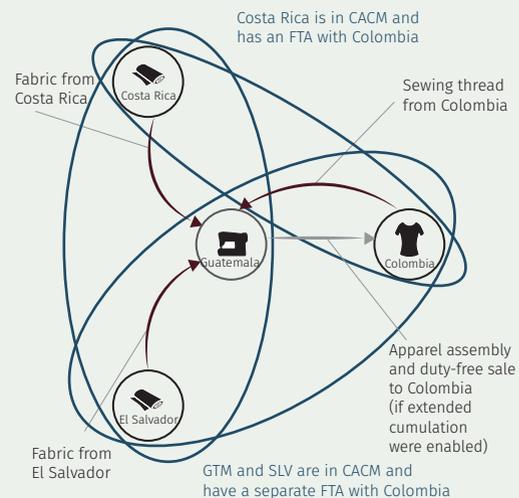
PTAs do not generally provide for any cumulation of inputs from nonmember countries (so-called extended or diagonal cumulation), even if all members also have PTAs with a common third party. This is beginning to change, however, as mechanisms of this type have been introduced in different forms in some 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.

In principle, then, one option to advance LAC integration would be to promote the adoption of extended cumulation provisions in existing PTAs, thus enabling materials that would enter a given destination market duty-free if exported directly (under a PTA between the producer of the materials and that destination market) to be treated as originating in that destination market

if used in further production in another of that country's PTA partners. The figure above shows the case of Colombia and Central America. Colombia has a PTA with Costa Rica and another with Guatemala and El Salvador. As it stands today, inputs sold by Costa Rica to Guatemala, say textiles, which are then used in the production of other goods, say apparel, to be exported to Colombia, are not considered to have originated in Guatemala so the country's exporters cannot benefit from the preferences of the Colombia–Guatemala–El Salvador PTA. That would be possible if the PTA were amended to include the possibility of extended cumulation.

The disadvantage of this approach is that it requires exporters to understand and document compliance with the RoOs from many different PTAs, even ones to which their home country is not a party, and it requires customs organizations to be able to administer this complex system as well. An alternative approach is to bring all countries interested in deepening productive integration together and negotiate a single new set of RoOs under which all countries can cumulate from all others.

PTAs BETWEEN COLOMBIA AND CENTRAL AMERICA AND THE OPTION OF EXTENDED CUMULATION



being treated as “originating” there, therefore making these inputs eligible for preferential treatment in intrabloc trade. What this boils down to is that inputs sourced, say, by a Brazilian firm from a member country of the Pacific Alliance and later incorporated into a product exported to Argentina would be treated as MERCOSUR inputs and, therefore, would not stop the exported product from enjoying full MERCOSUR preferences.

To reach this point on the route to a full FTA, governments could work with existing intra-LAC PTAs, including the so-called Economic Complementarity Agreements (ECAs) within the LAIA framework, and would not need to harmonize their RoOs (i.e., all PTAs would not need to have the same set of RoOs).⁵⁵ Several examples of this practice already exist in the region, even though not all of them are operational. For instance, the MERCOSUR’s ECAs with members of the Andean Community include the possibility of extended cumulation, even though their RoOs were not harmonized, even within a single agreement. That is the case of MERCOSUR’s agreement with Colombia, Venezuela, and Ecuador (ECA 59), where RoOs are defined bilaterally between members.⁵⁶ In this case, a Colombian firm, for instance, can use inputs from Peru in its exports to Uruguay if they meet the Colombia–Uruguay RoOs. If the same firm wants to use the same input in a product it then exports to Brazil, it will have to meet the requirements of the Brazil–Colombia rules. Mexico’s ECA with Uruguay, Chile’s ECA with Ecuador and CAFTA’s relationship with Mexico share similar arrangements, although they each have their own peculiarities.

**EXTENDED CUMULATION
CAN BE IMPLEMENTED
USING THE EXISTING INTRA-
LAC PTAs**

The move toward extended cumulation could continue to follow this spontaneous pattern, relying on individual initiatives among existing PTAs, or countries could go a step further and build on existing commonalities to standardize implementation across the region. The latter option could, for instance, take the form of an ad-hoc document, negotiated at regional fora such as LAIA, which would regulate the mechanism and facilitate its adoption. Whatever the instrument used, this document would have to be flexible enough to accommodate idiosyncrasies, but without compromising its ability to consolidate a set of common guidelines that would help negotiations and reduce the cost of enforcement and compliance.⁵⁷

⁵⁵ Economic complementarity agreements (ECAs) are bilateral trade agreements signed between LAIA members under the framework established by article 4 of the 1980 Treaty of Montevideo. They usually do not cover all products and services. There are currently 112 ECAs in force. See <http://www.aladi.org/nsfaladi/textacdos.nsf/vacewebR>.

⁵⁶ The other two ECAs are with Peru (ECA 58) and Bolivia (ECA 36).

⁵⁷ See Cornejo (forthcoming).

These guidelines should cover issues such as:

- i. The inclusion of a clause in the text of the agreement allowing for extended cumulation, with details regarding the circumstances of its implementation;
- ii. The requirement that all members have PTAs with a common third party from which inputs will be accumulated. This is important to avoid trade “deflections” or triangulations. For instance, let’s say that country A and B are part of a PTA that allows cumulation of inputs from a third party, C. B and C have a PTA between them, but A and C do not. In this case, if C exports, say, an auto part directly to A, it would be subject to an MFN tariff, but if C exports the same part to B, which uses it in a car exported to A, it would not have to pay any tariff on the part. Trade flows and value chains would clearly be distorted, regardless of comparative advantages;
- iii. A definition of the sectoral scope of the cumulation, which could cover all products or be restricted to a single sector, say, textiles;
- iv. The requirement that cumulation should be restricted to duty-free trade between all the parties involved in the relevant sector or product, again to avoid triangulations. To use the same example as above, if A and B now have agreements with C, but B offers higher preferences than A for auto parts exported by C, exporters might channel their parts through the C-B-A route, even if this not the most efficient pattern of specialization;
- v. A definition of which RoOs the third-party input will have to comply with, which could be those applied between the third party and the member country using the input or those applied between member countries trading the final product (i.e. the A-C rules or the B-C rules);
- vi. A definition of customs procedures to issue and validate third-party certificates of origin.

A Unified RoO Regime

Extending cumulation will bring improvements to the status quo while only incurring small political costs, but the gains are likely to be marginal, if anything, because exporters and customs agents will still be dealing with 47 sets of product-specific rules among the 33 intra-LAC PTAs. The costs of enforcing and ensuring compliance with these rules—whose tariff-equivalent estimates range

UNIFYING RoOs, THOUGH DESIRABLE, IS FAR FROM A TRIVIAL TASK, PARTICULARLY IN A REGION WHICH LACKS EUROPE'S HUB-AND-SPOKE MODEL

from 2% to 15% ad valorem—are likely to be made even steeper by adding the cumulation mechanism.⁵⁸ Moreover, this wide variation in RoOs leaves the door open to trade deflection, creating incentives for traders to shift toward countries with less stringent rules. To add more substance to these gains, governments will have to consider traveling further down the road to a LAC-FTA, at least to a stop where agreements could unify or harmonize their RoO regimes.

The best precedent to illustrate this option is the Pan-European Cumulation System (PECS) which started to operate in 1997. In the mid-1990s, Europe was in similar situation as LAC is today, with approximately 60 bilateral PTAs, each with its own complex set of RoOs. As expected, this complexity imposed costly barriers to the development of efficient regional value chains and eventually prompted governments (EU15, EFTA, CEFTA, and the Baltic states) to amend their various PTAs to adopt a common RoO regime.⁵⁹ The unification of RoOs was not seen as an end in itself but rather as a precondition for allowing extended cumulation across all the existing PTAs. This is suggestive of how difficult the previous option of extending cumulation without unifying RoO regimes is likely to be.

Unifying RoOs, though desirable, is a far from trivial task, particularly in a region which lacks Europe's hub-and-spoke model, where the center has enough economic and political gravitational pull to lead the process. The best that LAC can hope for is for the Pacific Alliance and MERCOSUR to lead the initiative, with two of their largest economies—Mexico and Brazil—willing to put their economic and political weight behind it. But even if the political will is eventually there, what would be the best way to go about it?

The idea of RoO convergence, just like the broader regional integration goal, is not new. It was already present in the 1980 Montevideo Treaty that created LAIA, leading to the development of the General Regime of Origin (*Régimen de Origen General*, ROG), which was supposed to be applied to all PTAs under the LAIA framework.⁶⁰ The regime never really took off and was soon overwhelmed by bilateral and regional initiatives that developed their own regimes. Most analysts attribute these difficulties to governance issues (e.g., consensus voting) and member countries' divergent trade policies.⁶¹ Although these diffi-

⁵⁸ See, for instance, De Melo and Carrère (2006) and Cadestin et al. (2016) for the ad-valorem equivalents.

⁵⁹ Turkey joined in 1999 and the so-called “Barcelona countries” (Jordan, Israel, Egypt, Tunisia, and Morocco) did so in 2002. See Augier et al. (2005) and Augier et al. (2007).

⁶⁰ See ALADI (2007). The General Origin Regime was established in 1987 by LAIA's Resolution 78 and later updated by Resolution 252 in 1999.

⁶¹ The FTAA negotiations also included a chapter on harmonizing rules of origin, but on a hemispheric scale. See Estevadeordal et al. (2004). More recently (July 2016), LAIA's negotiating committee made a renewed attempt to modernize the ROG, but the results have yet to be seen. See, for instance, Cornejo (forthcoming).

culties may not bode well for a regional institutional route toward RoO convergence, it seems clear that governments' stances toward trade policy have since evolved dramatically, with MERCOSUR joining the Pacific Alliance in a consensus toward more liberal and pragmatic trade and integration policies. This could open up a window of opportunity for reforming LAIA's governance and procedures, including expanding its membership to include Central America and the Caribbean.

Whether the route is institutional or through the sole initiative of selected countries or PTAs, it is important to think through the specifics of what it is that countries are trying to achieve since these factors can play a significant role in the success of negotiations. For instance, should governments aim for a total replacement of RoOs, as in the agreement signed by Mexico in 2011 with Costa Rica, Nicaragua, El Salvador, Guatemala, and Honduras, which replaced previous bilateral agreements?⁶² Or should they follow the Pacific Alliance or CAFTA-DR models, where a unified RoO regime coexists alongside those of the previous regimes? As a concrete example of this latter case, a Peruvian firm, for instance, can choose between the RoOs of the Andean Community or the Pacific Alliance when planning to export to Colombia.

Given the complexities of the current PTA network and the difficulties of a regionwide negotiation, the second option is likely to be the most effective strategy. This might sound contradictory at first since it implies adding another layer of rules to a "spaghetti bowl" that is already full to the brim. However, this strategy spares countries from having to renegotiate previous existing agreements and also has an attractive Darwinian dimension to it, in that firms can pick the regimes that make the most sense to them and eventually the "good," least costly sets of rules will drive the "bad," more costly ones into disuse.⁶³

Whether they decide to replace old rules or add extra new ones, countries first have to first to agree on guidelines on product and country participation, like those discussed earlier for extended cumulation. In fact, since the sole purpose of a common RoO regime is to facilitate the very mechanism of extended cumulation, it must incorporate most of the same guidelines. The difference between the two approaches lies in the effort to create a common standard for treating

⁶² See (<https://intradebid.org/acuerdo/view?id=151188>).

⁶³ In order to keep things tidy and transparent, data should be collected on which regimes are used in practice so that this "revealed preference" can help remove unused regimes from the books, and inform amendments to the "living" agreements.

UNLESS GOVERNMENTS ARE PREPARED TO GO FURTHER DOWN THE ROAD AND START FILLING IN KEY GAPS IN THEIR RELATIONSHIPS, THE GOAL OF CONVERGING RoOs WILL BE MOST LIKELY LIMITED

third-country, nonpreferential inputs to cut enforcement and compliance costs and give countries and firms a wider choice of suppliers within the region.

As before, these guidelines must ensure that there are no incentives for trade deflection. This means that both the RoOs and preferences for any product traded between all three countries involved must be the same. Since these preferences vary significantly across LAC's 33 intraregional agreements, it would be imperative to restrict negotiations toward a common RoO regime to those products that already benefit or that will eventually benefit from duty-free status, assuming that a new regionwide FTA will not be negotiated. This immediately implies that each participating country must have an agreement with all the others involved in the negotiation, otherwise there would be no way of finding a common preference denominator. Failing that, the applicability of the new regime will necessarily vary by subset of countries in the supply chain.

These requirements also imply that unless LAC governments are prepared to go further down the road and start filling in key gaps in their relationships, the goal of converging to a common RoO regime will be most likely limited to subgroups where countries are already connected through PTAs and most products are already traded duty-free. The strongest candidates would be the Pacific Alliance and Central America countries, on the one hand, and the MERCOSUR and Andean countries (Chile, Peru, Colombia, Bolivia, and Ecuador) on the other. However, this apparent limitation can be seen in a more favorable light if thought of as a "convergence in stages," where the number of RoO rules in the region is progressively brought down by successive negotiations at the subregional level.

Apart from the geographical and product scope of the convergence, there is also a need to agree on the methods and modalities of the negotiation. The challenge here is to balance flexibility with the need to ensure meaningful gains. Too little flexibility would be inimical to a timely and successful outcome, particularly in an environment of tight political constraints and strong sensitivities. Too much flexibility, though, would undermine the goal of unifying the rules. This report leans toward using flexibility sparingly and prioritizing convergence gains, particularly because excessive flexibility has been one of the root causes of the region's current state of fragmentation. An approach to methods and modalities that allows for adjustments according to governments' preferences would be a reasonable compromise. This would require the following guidelines being taken into account:

- i. The new RoO regime should be based on the least restrictive rules among all existing bilateral rules. The principle should be "do no harm" to existing trade.

- ii. These bilateral rules should remain in effect, offering not only an alternative but also a way of supplementing the new regime in areas not covered by the negotiations. For instance, if there is no agreement on issues such as the “*de minimis*” rule or forms of origin certification, these details could be left up to bilateral rules.⁶⁴
- iii. All the general normative outcomes related to RoO enforcement should be accepted and adopted by all countries involved: the so-called single undertaking approach to ensure uniformity in implementation.
- iv. In contrast, the negotiation and adoption of product-specific rules could follow a “variable geometry,” where countries could pick and choose which products they want to negotiate and enforce. The option of extended cumulation for a particular product would only be available for those countries that negotiated and accepted the common rule.
- v. The common product-specific rule could be based on alternative criteria for qualification (e.g., changes in tariff classification, the bloc’s value-added, or special processing rules) if there is a need to give countries more flexibility in applying these rules.
- vi. Countries can join the common rule after negotiations are concluded, but they will have to accept it as is.

Filling in Missing Links

The above two stops on the route to a full regional FTA—extended cumulation and a unified RoO regime with extended cumulation—are attractive options for moving toward a free regional market for intermediate goods if governments want to avoid the political costs of negotiating new PTAs. The downside, though, is also evident. To avoid the risks of trade deflection, this market can only be fully developed if missing links in the region’s network of agreements are filled in. Subregional markets alone are unlikely to have the critical mass that would allow for the full development of regional value chains. In addition, these two options do not address the fragmentation of the final product market (for consumer and capital goods), which would remain constrained by missing agreements and heterogeneous preferences.

⁶⁴ *De minimis* rules allow for a certain percentage of the final price of the good to be of nonoriginating inputs; that is, inputs that do not qualify under the relevant rules of origin.

THE TIME IS RIPE FOR ARGENTINA, BRAZIL AND MEXICO TO CONCLUDE THIS PARADOX LAC'S INTEGRATION HISTORY

In other words, if governments are really committed to leveraging regional integration into a tool to move the productivity needle and gain markets abroad, they can hardly avoid investing political capital in filling the gaps in PTAs. Here, too, there are at least two options: relying on the prospect that these gaps would be filled in voluntarily or investing in a coordinated, regionwide solution. The former, “hands-off,” solution would clearly require less political capital, but the incentives are less obvious, particularly for those missing links involving smaller economies. For instance, the incentives for expanding the network of agreements between Central America and the Caribbean, given the limited size of their markets, will be significantly lower if the initiative does not become part of a coordinated effort to create a regional market.

The best hope for the “hands-off” solution is that the largest economies in the region finally see the obvious benefits of signing comprehensive PTAs. This is the case for the missing links between Argentina, Brazil, and Mexico, which together account for 70% of LAC's GDP and for 58% of its intraregional trade. Action on this front could create momentum for other new PTAs in the region.⁶⁵

These three countries are already linked by partial agreements under the umbrella of LAIA's ECA 54 (2002), which provides a legal and normative framework for bilateral trade negotiations between Mexico and each of the MERCOSUR members. Within this framework, Mexico has signed bilateral agreements with Brazil (ECA 53, 2002), Argentina (ECA 6, 2002), and Uruguay (ECA 60, 2003). All four countries also signed a separate agreement for vehicles and auto parts (ECA 55, 2002), with specific bilateral commitments.⁶⁶ Of these ECAs, only the one with Uruguay went on to become a full trade agreement, under the WTO “substantially all trade” definition. The agreement with Brazil covers approximately only 14% of tradable products, of which only 45% were granted duty-free status. The agreement with Argentina, in turn, is somewhat more comprehensive but does not go beyond 30% of tradable goods. The auto agreements are also far from comprehensive, with quotas for duty-free goods.⁶⁷

As mentioned earlier, there are good reasons to believe that the odds of these missing links being filled have never been so high thanks to swings in the po-

⁶⁵ Data for 2016 from WDI (GDP) and INTrade (trade).

⁶⁶ For the text of the agreements see http://www.sice.oas.org/agreements_e.asp. The countries involved also benefit from LAIA Regional Tariff Preference Agreement (AR.PAR 4), whereby countries grant across-the-board tariff preferences to other members according to their level of development, subject to a list of exceptions. For Brazil and Mexico, for instance, preferences are set at 20%. See <https://bit.ly/2pHiybc>.

⁶⁷ See CNI (2016) for a detailed analysis of ECA 53. For ECA 6, see <https://intradebid.org/acuerdo/210>. For the details of the auto agreement see <https://intradebid.org/acuerdo/view?id=137>.

litical cycle both at home and abroad. Recent administrations in Brazil and Argentina already signaled their willingness to resume their trade liberalization agenda of the early 1990s, creating opportunities for more ambitious integration initiatives.

Mexico, in turn, after investing most of its political capital in deepening its trade relationship with the US, is in the process of renegotiating NAFTA. With nearly 80% of its trade concentrated in the US, Mexico has never had a greater incentive to look for alternatives and to invest into a deeper trade relationship with Brazil and Argentina despite past setbacks.⁶⁸

What is at stake is a valuable opportunity to (a) diversify its trade and reduce its exposure to political and economic risks in the world's largest economy; (b) mitigate the costs of trade diversion from its PTAs, particularly from NAFTA (Mexico's average MFN rate was 7% in 2017); and (c) take advantage of potentially high preferences associated with MERCOSUR's relative high MFN tariffs (a 14% simple average in 2017).⁶⁹

A commitment by Brazil and Argentina to initiate a process of unilateral liberalization alongside their preferential initiatives could help convince Mexico that this time things will be different and that they are now fully committed to integration. In any event, ongoing bilateral negotiations between Mexico and its two MERCOSUR partners with a view to increasing the scope of ECAs 6 and 53 suggest that these optimistic expectations about filling in this historic gap are well founded.⁷⁰

The LAC-FTA Option

The final and most ambitious destination on this road—a regionwide free trade area—is the coordinated alternative to the hands-off approach discussed in the previous sections. It carries the highest political risks and is up against a cred-

⁶⁸ The most recent setback came in 2011, when Brazil, after accumulating significant trade deficits in vehicles with Mexico, threatened to renounce ECA 55, which eventually led to a renegotiation of the agreement which included quotas. Argentina followed suit with a similar threat to its ECA 55, which was also settled through renegotiation and quotas. See, for instance, <http://www.livingstonintl.com/trade-agreement-for-automotive-sector-between-mercosur-and-mexico-economic-complementation-agreement-no-55/>.

⁶⁹ Tariff data from WTO's tariff analysis on line. Simple averages at subheading level.

⁷⁰ See CNI (2016) and <https://www.gob.mx/se/prensa/finaliza-la-tercera-ronda-de-negociaciones-para-la-ampliacion-y-profundizacion-del-acuerdo-de-complementacion-economica-no-6-entre-mexico-y-argentina> (in Spanish).

ibility gap made formidable by a long history of failed attempts. However, as it simultaneously unifies RoOs and addresses the relationship and product gaps in the PTA network, it is the initiative that is most likely to deliver the productivity gains that have historically motivated integration in the region, and to do so in a timely fashion. Moreover, as noted earlier, there are good reasons to believe that this time things could be different, and failure might be averted, if the region learns from its past mistakes.

Top among the lessons learned is that complex architectures like a customs union with supranational institutions and intricate disciplines should be avoided. Instead, the objective should be a “plain vanilla” free trade zone, with a focus on goods and services as a first step. Other chapters on intellectual property, labor, or the environment, which have become popular in some PTAs, should not be ruled out, but they are not the main goal. Borrowing from the recently negotiated Pacific Alliance, these areas may be considered once the foundations for a regional free trade area for goods and services is firmly in place. Likewise, the institutional architecture should be intergovernmental rather than supranational in nature, with a commission made up of ministers or senior-level officials overseeing the implementation and operation of the agreement and guiding its future evolution.

The first step for this type of initiative would be for the interested parties to call for a summit of heads of state and presidents, whose main objective would be to outline the goals, mechanisms, and timetable for the negotiation process. There would be no need for all the region’s governments to be involved during these early stages. All that would be required is a critical mass of countries with enough gravitational pull to get the momentum going. However, taking a page from the Pacific Alliance’s playbook, all aspiring members should be required to already be party to bilateral or subregional PTAs to facilitate and signal a strong commitment to these new negotiations—a must in the face of the region’s credibility gap.

AS LAC-FTA
SIMULTANEOUSLY UNIFIES
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PRODUCTIVITY GAINS

In this regard, Argentina, Brazil, and Mexico are again in a unique position to make this happen. As was noted earlier, these three countries account for LAC’s most significant missing economic links, and their willingness to make a solid “down payment” in the form of bilateral PTAs would be a strong statement about the viability of a potential LAC-FTA. This move could eventually bring together the region’s largest subregional blocs—the Pacific Alliance and MERCOSUR—whose combined US\$4.3-trillion market accounts for 81% of LAC’s GDP. There are already concrete, promising signs that this convergence is more than wish-

ful thinking. In 2017, the two blocs launched an initiative that points in this direction, setting up a formal dialogue forum and agreeing on a convergence road map, which includes initiatives on extended cumulation, trade facilitation, NTBs, and trade in services.⁷¹

Negotiations toward the agreement should follow similar guidelines to those discussed for the intermediate stops on the route to the full LAC-FTA: that is, guidelines that strive to strike the right balance between flexibility and meaningful results. The first guiding principle should be for the LAC-FTA to be a “living agreement,” one whose text should allow for the addition of new members and new issues. It should create conditions for negotiations to move ahead with a hard core of participants and issues, without precluding the possibility of future expansion in both these areas when political and economic conditions allow. There should be incentives for “early birds” though, since size matters for the success of the take-off. Latecomers would have to accept the original rules as given, except when issues are incorporated after their accession.

Another page this LAC-FTA should take from the Pacific Alliance book is that it does not necessarily have to replace existing PTAs. Instead, it could offer a more comprehensive and rational solution for trading goods and services, while allowing members to opt to maintain their existing intraregional schemes. PTAs can be particularly relevant for deeper and more complex integration objectives such as the free movement of labor or shared institutions, which require a political consensus that is more likely to be achieved among a smaller group of countries.

Negotiations toward the common RoO regime and the harmonization of preferences (which should eventually converge to 100% or duty-free) should look for a common denominator and require a single undertaking for all normative aspects of enforcement (i.e., acceptance of all rules as a package, with no “cherry picking”). Convergence to the common rule and preferences, though, should take a “variable geometry” approach to accommodate sensitivities. Members’ phase-in schedules may be partner- and product-specific (for instance, Argentina’s convergence to the common rule/preferences in trading auto parts with Mexico could differ from Colombia’s or even its own preferences in trading wheat with Mexico), possibly taking advantage of what has already been negotiated under bilateral or subregional PTAs. Exceptions, however, should be kept to a minimum and the median product–partner timeframe should be no

⁷¹ See IDB (2017).

longer than five years, with a maximum of seven years; a requirement consistent with the urgency that the current global trading environment demands and with the fact that most adjustment costs have already been paid off in this last quarter century of integration.

In line with the need for a light institutional architecture, all members should still be able to resort to the WTO to resolve general trade disputes, as well as to use trade remedy tools compatible with the WTO framework, such as anti-dumping, countervailing duties, and safeguards. Disputes specific to the implementation or violation of the agreement should be dealt with by ad hoc panels appointed by LAC-FTA members and whose decisions are binding, consistent with the “quasi-judicial” model used by most PTAs worldwide, including those in LAC.⁷² To keep the architecture simple and to avoid political quagmires, the dispute settlement provisions should be based exclusively on a state-to-state mechanism, without allowing for investor-to-state claims.

The agreement should also include a broad chapter on trade facilitation, covering not just customs-related measures but also mechanisms capable of minimizing transportation and transaction costs, such as technical standards, phytosanitary measures, and logistics. While efforts to rationalize and promote the harmonization of these measures do not necessarily depend on a formal trade agreement, this platform represents a major opportunity to facilitate coordination and enforce the commitments already contained in a series of subregional initiatives relating to both infrastructure (e.g., the Initiative for the Integration of the Regional Infrastructure of South America [IIRSA] and the Mesoamerica Integration and Development Project) and trade facilitation (interoperability of single-window systems and authorized economic operator programs, mostly carried out within existing PTAs). As shown in IDB (2014), the region still has a long way to go to meet recently negotiated multilateral standards and a region-wide agreement could be an important platform for promoting and coordinating reforms.⁷³

As argued elsewhere, given LAC’s historical gaps in these areas, solutions for which have long proved elusive, trade gains several orders of magnitude higher than pure tariff elimination initiatives could be generated by coordinating and financing transnational investments in transport infrastructure. That will be the case, for instance, for improving all border crossings in Latin America or de-

THE AGREEMENT SHOULD ALSO INCLUDE A BROAD CHAPTER ON TRADE FACILITATION, COVERING NOT JUST CUSTOMS-RELATED MEASURES BUT ALSO TECHNICAL STANDARDS, PHYTOSANITARY MEASURES, AND LOGISTICS.

⁷² See Chase et al. (2013).

⁷³ See Volpe (2016) for an evaluation of existing trade facilitation initiatives. For details of the infrastructure initiatives mentioned here, see <http://www.iirsa.org/> and <http://www.proyectomesoamerica.org/>.

veloping a harmonized and pro-competition regulatory framework (such as a nationwide open sky agreement to increase competition in air cargo services).⁷⁴

Likewise, trade stands to benefit significantly from the regional interoperability of single-window systems, which enable trade and customs authorities to exchange and process information quickly, or the mutual recognition of authorized economic operator programs, whereby customs administrations work with large-scale traders to secure the supply chain while simplifying customs processes. This potential impact is particularly significant for the development of regional value chains.⁷⁵ These are issues that include both “hard” (e.g., physical infrastructure) and “soft” (e.g., rules and regulations) components. The latter are particularly attractive because they usually require limited financial resources—a key advantage in times of fiscal strain.

⁷⁴ See Mesquita Moreira, Volpe, and Blyde (2008) and Mesquita Moreira, Blyde, Molina, and Volpe (2013). For details on the Agua Negra project see <http://www19.iadb.org/intal/conexionintal/2016/09/27/tunel-binacional-agua-negra-un-programa-estrategico/?lang=en>.

⁷⁵ See Volpe (2016) (There are already concrete, promising signs that this convergence is more than wishful thinking. In 2017, the two blocs launched an initiative that points in this direction, setting up a formal dialogue forum and agreeing on a convergence road map, which includes initiatives on extended cumulation, trade facilitation, NTBs, and trade in services.) and Blyde (2014).

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ESTIMATING THE GAINS

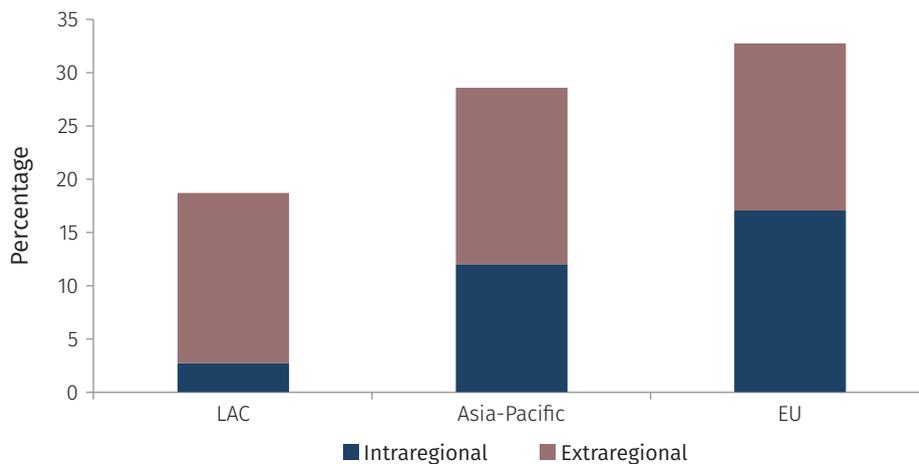
SECTION 5

How much can LAC expect to gain by promoting PTA convergence and moving toward a regionwide agreement? As in the analysis of the legacy of these PTAs in section 2, the focus here is on trade outcomes and not on more complex issues such as welfare and growth, which, despite their relevance, are beyond the scope of this study. Whatever the impacts on these dimensions are—and mainstream economic theory suggests that they are likely to be positive—the main channel through which they are expected to “travel” is trade flows. An accurate estimate of trade impacts therefore goes a long way toward painting the whole picture.

To get a better grasp of what is at stake, a combination of partial and general approaches will be used to measure immediate and general equilibrium (economy-wide) impacts, respectively. The analysis of potential gains moves from the simplest to the most complex of the “destinations” discussed in the previous section. As will become clear, these gains are no panacea, yet they are far from negligible, and the region can hardly afford to leave them on the table in today’s challenging trade environment. Moreover, addressing the current fragmentation is the best way to strengthen the economic fundamentals of what is essentially a long-professed political goal.

Extended Cumulation, Convergence of Rules of Origin, and Regional Value Chains

As argued elsewhere (Blyde, 2014), LAC has not been able to capitalize on the recent surge in global value chains (GVCs) through which goods that were previously produced in one country are sliced up and coproduced in many parts

FIGURE 5.1 FOREIGN VALUE-ADDED IN GROSS EXPORTS, 2011

Source: INT/IDB with data from OECD/WTO (TiVA).

Note: LAC includes Argentina, Brazil, Chile, Colombia, Costa Rica, and Mexico.

PTA FRAGMENTATION DOES NOT FAVOR THE EMERGENCE OF REGIONAL SUPPLY CHAINS

of the world.⁷⁶ As shown in figure 5.1, the share of foreign value-added in total exports (a typical measure of GVC participation) of the average country in LAC is significantly lower than in Asia and Europe. What is even more striking is how few intraregional linkages there are in LAC (that is, intraregional value chains or RVCs). It seems reasonable to assume that the current fragmentation into PTAs may be playing an important role in driving these results, alongside other structural issues such as the relatively small size of the region's economies, similar comparative advantages, and high transportation costs.⁷⁷

To put it simply, the co-existence of several different trade agreements with limited membership scope and which function as unconnected silos is not very conducive to the emergence of regionwide supply chains. In principle, this “spaghetti bowl” of

⁷⁶ There is growing evidence that when firms participate in international supply chains they can benefit from technical and managerial knowledge that flows across these production networks and which can ultimately translate into productivity gains. See Blyde (2014).

⁷⁷ Behind the average numbers in figure 5.1 there is significant heterogeneity across Latin American countries in terms of how much and how countries participate in GVCs. For instance, Mexico and countries in Central America are more engaged in production networks, particularly with North America, and tend to participate in the final stages of the production process. For their part, countries in South America typically enter supply chains in the early stages. Some of these differences are explained by natural factors. For instance, proximity to the US makes Mexico an ideal recipient of offshoring activities. Likewise, the sheer abundance of natural resources in South America biases these countries to participate in more upstream stages of GVCs supplying raw materials.

agreements might encourage production linkages between members, but it limits the emergence of supply chains between countries and across agreements by making it too costly to use foreign inputs from outside the blocs due to the combination of tariff rates and rules of origin. A couple of examples reveal this more clearly.

The first case is an exporter from Mexico. While NAFTA may have created incentives for the development of supply chains between Mexico and the US, it imposed hurdles for suppliers elsewhere, particularly in the rest of LAC. To shed light on this, it is worth reviewing the choices that a Mexican exporter had up to the current renegotiation of the agreement.⁷⁸ One choice was to comply with the NAFTA RoOs, which granted free market access to Canada and the US. In this case, a Mexican export firm had to source most of its inputs from within the agreement, even though there were more efficient or cost-effective suppliers elsewhere. The second choice was not to comply with the RoOs, pick the most competitive supplier regardless of its origin, and thus potentially face MFN tariffs in the US and Canada. As was to be expected, the evidence available suggests that the first option was the dominant choice: Mexican imports of intermediate goods from third countries fell by around 30% after NAFTA was signed (Conconi et al., 2018).⁷⁹

The second example comes from Chile and is explained in more detail in box 5.1. It is a quantitative exercise that uses customs data and compares exporters' choices of inputs when they sell goods to the US and other destinations. The results show that after the US–Chile PTA came into force, the firms that entered the US market reduced their sourcing of imports from MERCOSUR by around 22% on average relative to their counterparts that did not export to the US.

These examples from Mexico and Chile illustrate a common pattern found around the world: PTAs bias incentives toward member countries' suppliers at the expense of third parties (Blyde and Faggioni, 2016). The burning question, then, is how far the average LAC country's PTA network has hindered the development of RVCs. Figures 5.2 and 5.3 present a couple of regional comparisons based on very simple indicators that provide some insights into this question. They are an attempt to measure the disincentive for the average LAC country to source inputs from the region when the sourcing partner is not fully integrated into the importing country's trade network.

HOW FAR HAS THE REGION'S FRAGMENTED PTA NETWORK HINDERED THE DEVELOPMENT OF RVCs?

⁷⁸ The new US administration that took office in January 2017 called for a renegotiation of the agreement, which is still ongoing. See <https://ustr.gov/sites/default/files/files/Press/Releases/NAFTAObjectives.pdf>.

⁷⁹ Cadestin et al., (2016) applies a methodology similar to that used by Conconi et al. (2018) to a number of Latin American countries. The study finds that, on average, RoOs reduce the imports of intermediates from non-PTA members by 23.5%.

BOX 5.1 CHILE–US PTA AND SOURCING FROM THIRD COUNTRIES

To what extent do RoOs affect sourcing patterns from PTA members? An econometric exercise focusing on the 2004 Chile–US PTA helps to shed some light on this issue. The exercise employs customs data from Chile to examine whether the agreement’s RoOs induced changes in Chilean exporters’ sourcing patterns. It is reasonable to expect that the PTA might have led Chilean firms to reduce imports of inputs from countries other than the US when these are used to produce goods targeted for the US market. The main question here is about the size of this impact.

The exercise is based on a simple but robust strategy that involves a comparison of changes in sourcing patterns after the agreement. It looks at two groups of Chilean exporters: one group that entered the US market after the PTA and one that did not. More precisely, the variable of interest measures how the share of intermediate imports from third countries changed after the agreement, controlling for changes in sourcing patterns that might have arisen for reasons that are unrelated to RoOs (such as changes in tariff preferences with third countries or innovations in production techniques).

In principle this analysis could have been carried out for any partner, but to make the exercise more robust, the focus was on Chile’s imports from MERCOSUR.^a The data covers all imports and exports for 2002 and 2006 at the transaction level (two years before and after the PTA went into force). As suggested above, only imports of intermediate inputs that are assumed to have been used in the production of exports by a particular firm are considered. Those imports are those that have a positive coefficient in the direct inputs requirements of the input–output (I–O) table. Chile’s I–O tables are not very disaggregated, so a US I–O table was used on the assumption that technical production requirements do not vary greatly from one country to the next, a standard procedure in the GVC literature.^b

In general, the results confirm that Chilean exporters that entered the US market after the Chile–US PTA reduced their intermediate imports from MERCOSUR countries because of RoOs. The share of intermediate imports from these countries dropped by about 5 percentage points. A back-of-the-envelope calculation that considers the initial average share of intermediate imports from MERCOSUR indicates that there was an average decline of about 22% in the level of imports from these countries.

TECHNICAL DESCRIPTION

The following equation was estimated:

$$\Delta \left(\frac{M_{ijk}}{M_{ij}} \right) = \text{Entry}_{ij} + D_i + D_{jk} + \varepsilon_{ijk}$$

where M_{ijk} represents the imports from firm i of intermediate good j from country k (any country except the US); M_{ij} is the total imports from firm i of intermediate good j . Entry_{ij} is a variable that

(continued on next page)

BOX 5.1 CHILE-US PTA AND SOURCING FROM THIRD COUNTRIES (continued)**TABLE B.5.1-1**

	(1)	(2)	(3)	(4)
Entry	-0.0338* (0.0182)	-0.0340* (0.0183)	-0.0466** (0.0198)	-0.0468** (0.0200)
Firm fixed effect	Yes	Yes	Yes	Yes
Country of origin fixed effect	No	Yes	Yes	No
Product fixed effect	No	No	Yes	No
Country of origin-product fixed effect	No	No	No	Yes
R ²	0.153	0.154	0.177	0.211
Number of observations	8193	8193	8172	8040

Source: IDB estimates.

***, **, * significant at the 1%, 5% and 10% level respectively.

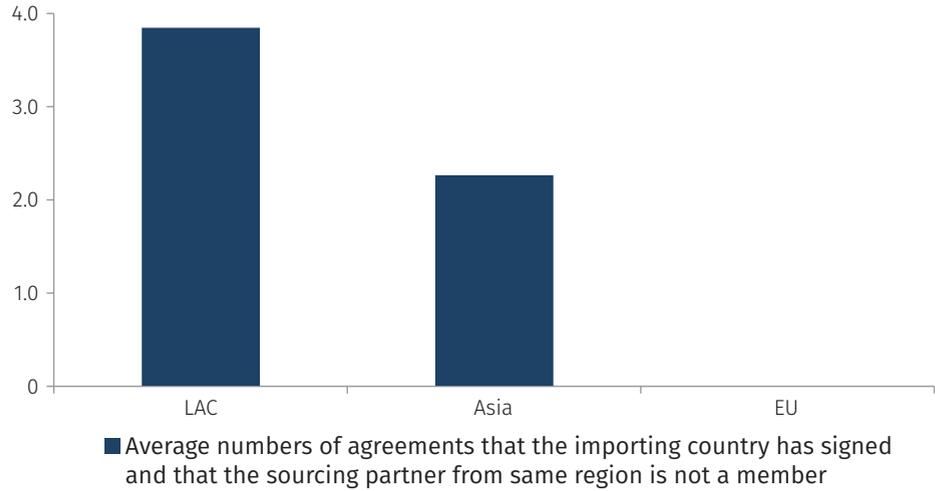
takes the value of 1 if firm i exported a good that used input j to any country except the US in 2002 (before the Chile-US PTA entered into force) and then exported the same good to the US in 2006 (after the Chile-US PTA entered into force). Conversely, $Entry_{ij}$ takes the value of 0 if firm i exported a good that used input j to any country except the US in both 2002 and 2006. Finally, D_i is a variable that controls for differences in firm characteristics and D_{jr} is a variable that controls for differences in product-country factors, like tariff preferences or transportation costs, which may differ at the product-country level.

The estimation, shown in table B.5.1-1, indicates that the results are robust to alternative combinations of fixed effects, including the most demanding specification in column 4. The coefficient on the *Entry* variable in this column implies that the share of imports from firm i of intermediate good j from MERCOSUR countries decreases by 4.7 percentage points for those firms that entered the US market after the Chile-US PTA came into force. This implies an average decline in the level of imports from these countries of about 22%.

^a The rationale for the decision to focus on MERCOSUR is that between 2002 and 2006 (the period of analysis), additional PTAs came into force between Chile and other countries, such as its agreements with the EU (2003), EFTA (2004), and the Republic of Korea (2004). Accordingly, Chilean firms' imports from these countries might have been affected by these agreements. While the product-country variable might control for such factors, a more robust strategy is to consider the change in imports from a narrower set of countries whose trade status with Chile did not change during the period of analysis. It is worth mentioning that Chile and MERCOSUR countries signed an economic complementarity agreement in 1996.

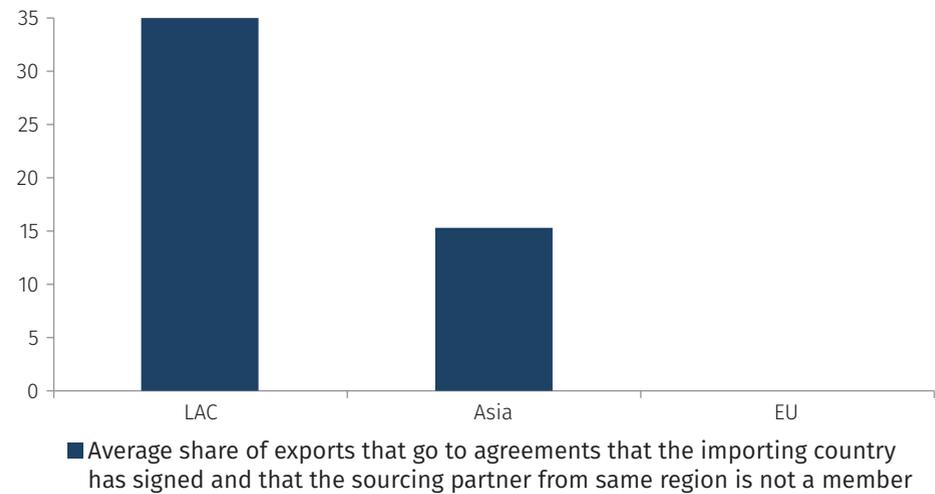
^b More precisely, the table used was the 2002 direct requirements I-O table provided by the US Bureau of Economic Analysis (BEA), which includes 320 products at NAICS 6-digit level. The trade data was converted from HS to NAICS using concordance tables provided by the BEA.

FIGURE 5.2 THE AVERAGE NUMBER OF SIGNED PTAs WHICH REGIONAL PARTNERS ARE NOT MEMBERS OF



Source: IDB estimates.

FIGURE 5.3 THE AVERAGE SHARE OF EXPORTS GOING TO PTAs WHICH REGIONAL PARTNERS ARE NOT MEMBERS OF (%)



Source: IDB estimates.

In figure 5.2, LAC is benchmarked against Asia and the EU in terms of the number of agreements that the average country in each region has signed with other countries in the world which a partner country from the same region is not also a member of. An example may help to clarify this comparison. In this exercise, LAC includes 17 countries, so any given country within it—say Argentina—thus has 16 bilateral relationships within the region. For each of these 16 countries, the first step in the exercise is to compute the number of PTAs that Argentina has signed with the world that the country in question is not also a member of (say, the number of Argentina’s PTAs in which Colombia is not a member of) and then do the same for every other LAC country. The second step is to average the number of these PTAs across the 16 relationships to reach a final, aggregate result for Argentina. To obtain the result for each region, the procedure described above is followed for every country within it and the aggregate country results are then averaged across all the countries. As the figure shows, the average LAC country has signed 3.9 agreements which a partner from the region is not also a member of. In Asia, this same number is 2.2, while in Europe it is 0.^{80,81}

Along similar lines, figure 5.3 presents the average share of exports that go to members of trade agreements which a given partner country from the region is not also a member of. For the average LAC country, 34.6% of its exports go to members of trade agreements which its LAC partner countries are not party to. This percentage is substantially higher than those of Asia (15.2%) and the EU (0%).⁸² That is, when it comes to sourcing inputs from its own region, a country in Europe or in Asia has lower value-chain limitations than a country in LAC because they sell larger shares of their exports to countries that are party to trade agreements which a potential sourcing country from within the same region is also a member of.

These figures suggest that the steps discussed earlier—which range from extending cumulation between existing agreements and filling in gaps in relationships

WHEN IT COMES TO SOURCING INPUTS FROM ITS OWN REGION, A COUNTRY IN EUROPE OR IN ASIA HAS LOWER VALUE-CHAIN LIMITATIONS THAN A COUNTRY IN LAC

⁸⁰ The exercise can be repeated counting only the PTAs signed in the country’s own region. In this case, the average LAC country has signed 2.6 agreements in LAC which a partner from the region is not also a member of. In Asia, this same number is 1.2, while in Europe it is 0.

⁸¹ Asia consists of East Asian and ASEAN countries: Cambodia, China, Hong Kong, Indonesia, Japan, Korea, Laos, Malaysia, Mongolia, Myanmar, Philippines, Singapore, Taipei, Thailand, and Vietnam. The EU countries are: Austria, Belgium, Luxembourg, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Malta, the Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, and the United Kingdom. LAC is made up of: Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay, and Venezuela.

⁸² If only PTAs signed in the country’s own region are counted, the corresponding figures are 20.9% for LAC, 13.4% for Asia and 0% for Europe.

to negotiating a regionwide FTA—have the potential to make a significant, positive impact on LAC’s RVCs. But is it possible to specify the magnitude and directions of these trade gains? The Pan-European Cumulation System, discussed in section 4, may prove useful when mapping the direction of these effects. It is estimated that extended cumulation within a common RoO regime has increased the probability of spoke countries (that is, countries that do not belong to the EU core or hub) exporting intermediate goods to other spoke countries and to the EU, while simultaneously decreasing the probability of the EU exporting intermediate inputs to the spoke countries (Bombarda and Gamberoni, 2013). To put it simply, a convergence along the lines discussed earlier is likely to create value chain opportunities beyond the relationship with the large countries in the region, opening the door for a denser, less geographically concentrated network.

Although the European experience is instructive in terms of direction, it does not go very far in suggesting the magnitude of the impact. There are obvious differences between LAC and the EU in terms of country size, income levels, endowments, and geographical factors. Fortunately, LAC has its own localized experiences with this type of convergence, which might not be on the same scale as those in Europe but are relevant enough to provide some useful insights.

One such example is the cumulation system between Central America and Mexico. Between 1995 and 2001, Mexico signed separate agreements with Costa Rica (1995), Nicaragua (1998), and the “Northern Triangle” of El Salvador, Guatemala, and Honduras (2001). These agreements did not provide for cumulation among all six countries and thus, in a sense, they resemble the old European trade architecture of one hub (Mexico) and three separate spokes (each PTA). For example, chocolate from Costa Rica would not pay import tariffs in Mexico if it was produced entirely in Costa Rica, but this would not be the case if a substantial part of the inputs, say the chocolate liquor, came from Honduras. In 2011, however, these six countries signed a new agreement that enables full cumulation between them under a single set of RoOs, giving firms much more flexibility as to where they can source their inputs and sell their final products.

Preliminary evidence using data from Costa Rica suggests that this greater flexibility when sourcing inputs might have triggered more production sharing across Central America. For instance, a simple comparison using trade data at the transaction level shows that the number of Costa Rican firms exporting to Mexico that used inputs from other Central American countries increased by 20% between 2010 and 2013, whereas the number of other exporters remained flat. These findings were reinforced by a more robust exercise, explained in more detail in box 5.2, which examines the change in the sourcing patterns of

**MEXICO’S 2011 SINGLE PTA
WITH CENTRAL AMERICA
HAD A SIGNIFICANT IMPACT
ON REGIONAL VALUE CHAINS**

BOX 5.2 CUMULATION OF RULES OF ORIGIN ACROSS MEXICO AND CENTRAL AMERICA

In 2011, Mexico signed a new PTA with Central America that replaced three separate bilateral agreements with Costa Rica, Nicaragua, and the so-called Northern Triangle (El Salvador, Guatemala, and Honduras). The new agreement unified the rules of origin and, unlike its predecessors, allowed for full cumulation of inputs among member countries. Until then, Costa Rica, for instance, could not use inputs from El Salvador in exports to Mexico without losing its preferences there. What was the actual impact of this PTA on value chains?

An initial response to this question can be found in an econometric exercise that looks at Costa Rican firms and compares their sourcing patterns when exporting to Mexico (the treatment) and to other countries (the control), comparing results from before and after the new agreement. This is a difference-in-difference analysis.

The results indicate that inputs that are sourced from El Salvador, Guatemala, Honduras, or Nicaragua and that can be used in the production of goods that are exported to Mexico increased by around 3 percentage points. Since only 3% of the inputs that can be used in exports to Mexico are originally sourced from El Salvador, Guatemala, Honduras, or Nicaragua,^a the effect implies a doubling of the percentage of inputs sourced from any of these countries.

TECHNICAL DESCRIPTION

First, the exercise identifies all the Costa Rican firms i that exported products k to Mexico in both 2010 (before the agreement) and 2013 (after the agreement). This is the treatment group. Second, it identifies all the firms i that exported products k only to countries other than Mexico in 2010 and 2013. This is the control group. This forms the basis for the treatment variable, $Treatment_{ik}$, which takes the value of 1 if firm i exported good k to Mexico in both years. On the other hand, $Treatment_{ik}$ takes the value of 0 if firm i exported good k only to non-Mexican destinations in both years.

The dependent variable describes the sourcing of the inputs that could be used in exports of good k . So, with the help of an input-output table, all the goods j that could be used as an input for each export k (i.e., all those that exhibit a direct technical coefficient that is greater than zero) were identified in both the treatment and control groups. This information was used to create a dummy variable, D_{ijkmt} , which is equal to 1 if firm i imports an input j from country m (El Salvador, Guatemala, Honduras, and Nicaragua) that can be used to produce export k in year t (2010 or 2013).

To eliminate the time dimension, the change in D_{ijkmt} between 2013 and 2010 was considered. Accordingly, ΔD_{ijkmt} is equal to 1 if D_{ijkmt} is equal to 1 in 2013 and 0 in 2010. Conversely, ΔD_{ijkmt} is equal to -1 if D_{ijkmt} is equal to 0 in 2013 and 1 in 2010. Finally, ΔD_{ijkmt} is equal to 0 if D_{ijkmt} is equal to 0 or 1 in both years. The regression to be estimated takes the following form:

$$\Delta D_{ijkmt} = \beta \cdot Treatment_{ik} + D_i + D_{jm} + D_{jk} + \varepsilon_{ijkmt}$$

where D_i is a variable that controls for differences in firm characteristics; D_{jm} is a variable that controls for differences in importing-country factors, like tariff preferences or transportation costs

(continued on next page)

BOX 5.2 CUMULATION OF RULES OF ORIGIN ACROSS MEXICO AND CENTRAL AMERICA (continued)

TABLE B.5.2-1

	(1)	(2)	(3)
Treatment	0.0467*** (0.0173)	0.0361** (0.0173)	0.0318* (0.0171)
Country of origin-input fixed effect	Yes	Yes	Yes
Firm fixed effect	No	Yes	Yes
Input-output fixed effect	No	No	Yes
R ²	0.146	0.177	0.206
Number of observations	575,754	575,754	575,657

Source: IDB estimates.

***; **; * significant at the 1%, 5% and 10% level respectively.

that may differ at the product–country level, and D_{jk} is a variable that controls for differences in production characteristics, such as the proportion of input j used in the production of output k . Finally, ε_{ijkm} is the error term that is clustered at the level of variation of the treatment variable.

The exercise uses transaction-level data from Costa Rica for exports and imports for the years 2010 and 2013. For each record, there is information on the value of exports (imports), the type of good at the HS 10-digit level, the destination (origin) country, and the exporter (importer) identification number. The trade data is converted from HS to NAICS using concordance tables provided by the US Bureau of Economic Analysis (BEA). Inputs are identified using the 2002 direct requirements I–O table provided by the BEA.

Table B.5.2-1 shows the results with the progressive inclusion of fixed effects. Column 1 shows the results with the country of origin and input fixed effect. It is particularly important to control for these factors because the incentives of sourcing a particular good from a particular country might depend not only on the RoO agreement but also on the tariff preferences that Costa Rica grants to Central American countries. The coefficient on the *treatment* variable in this column implies that the agreement induced an increase of 4.7 percentage points in the sourcing of inputs from El Salvador, Guatemala, Honduras, or Nicaragua. Column 2 presents the results when differences in firm characteristics are controlled for—the coefficient decreases (in absolute value) but it is still statistically significant. In column 3, there are controls for differences in production characteristics such as input–output proportions. The estimated coefficient is slightly smaller than in column 2 but is still significant at the 10% level. According to this result, the agreement induced an increase of 3.2 percentage points in the sourcing of inputs from the full-cumulation countries. Note that initially only 3.8% of the inputs that could potentially be used in exports to Mexico were sourced from El Salvador, Guatemala, Honduras, or Nicaragua. The agreement therefore raises this percentage to 7%, an increase of 184%.

^a The rest of the inputs come from other countries and from Costa Rica itself.

Costa Rican exporters targeting the Mexican market, comparing the situation before and after the agreement. The findings reveal that the agreement almost doubled the percentage of inputs that these exporters sourced from Guatemala, Honduras, Nicaragua, or El Salvador.

While these sorts of cumulation gains are informative, they are not general enough to be used as proxy of what would happen if a cumulation system were

BOX 5.3 GRAVITY MODEL WITH TRADE IN VALUE-ADDED

The impact of PTAs and the mechanism of extended cumulation on value chains can be illustrated through an econometric exercise that looks not only at the benefits of sharing an agreement, but also of having a similar network of agreements as the other member countries in this agreement. In plain English, it considers not only the impact of, say, MERCOSUR on production sharing between Brazil and Argentina, but also the gains from Brazil and Argentina sharing a similar network of PTAs with the rest of the world. Such networks can open the door for accumulating inputs from third parties, without foregoing MERCOSUR preferences in their bilateral trade.

The exercise uses the following gravity equation:

$$FVA_{ijst} = \beta_1 PTA_{ijt} + \beta_2 S_{ijst} + D_{ij} + D_{it} + D_{jt} + D_s + \varepsilon_{ijst} \quad (1)$$

where FVA_{ijst} is the (log of) foreign value-added from country j embodied in the exports of country i in sector s at time t (which consists of three years, 2001, 2004, and 2007); PTA_{ijt} is a dummy variable that is equal to 1 if countries i and j share a trade agreement at time t and zero otherwise; S_{ijst} is the number of agreements that country i has signed at time t with third partners but which country j is not party to; D_{ij} is a dummy variable that captures all the time-invariant variables that are normally included in gravity equations, like the distance between countries, whether they share a common border, common language, common colonizer, or a common currency, among others. The variables D_{it} and D_{jt} capture time-variant characteristics of countries i and j respectively, like economic size or population; D_s is a sector fixed effect that captures sector characteristics; and ε_{ijst} is the error term. The standard errors of the regressions are clustered at the ijt level.

FVA_{ijst} are built upon information from versions 6, 7, and 8 of the GTAP databases, which correspond to the years 2001, 2004, and 2007, respectively. The calculation closely follows the methodology in Koopman et al. (2014). The source data for S_{ijst} is UN Comtrade, and PTA information came from IDB INTrade.

Note that the use of the number of agreements which country j is not party to might not completely capture the disincentives faced by country i to source from j because even though this number might be small, country i might still sell a large share of its exports to those destinations. We could have used the share of exports of country i in sector s that go to members of trade agreements which country i is party to but country j is not, but this variable is highly correlated with PTA_{ijt} creating a

(continued on next page)

BOX 5.3 GRAVITY MODEL WITH TRADE IN VALUE-ADDED (continued)**TABLE B.5.3-1**

	(1)	(2)
Trade agreement between country <i>i</i> and country <i>j</i>	0.0708*** (0.0153)	0.0506*** (0.0172)
Number of trade agreements signed by country <i>i</i> in which country <i>j</i> does not participate	-0.0164*** (0.0012)	
Market potential associated with the trade agreements signed by <i>i</i> in which <i>j</i> does not participate		-0.0116*** (0.0013)
Number of Obs.	1,071,588	1,071,588
R ²	0.752	0.752

Source: IDB estimates.

***, **, * significant at the 1%, 5% and 10% levels respectively. All standard errors clustered at the *i,j,t* level.

multicollinearity problem. An alternative to S_{ijt} is the total market potential that country *i* has access to through the agreements that it has signed with third countries and in which country *j* is not a member of. As such, this proxy intends to incorporate more information about the importance of the agreements that country *i* has signed. The total market potential is calculated as

$$MP_{ijt} = \sum_k \frac{GDP_{kt}}{D_{ik}},$$

where MP_{ijt} is the total market potential of country *i* for all the agreements that it has signed and which country *j* is not party to; GDP_{kt} is the GDP of country *k* that belongs to any of those agreements, and D_{ik} is the bilateral distance between country *i* and *k*.

Table B.5.3-1 shows the results of the estimations. The first column includes the trade agreements dummy, the number of agreements signed by country *i* which country *j* is not a member of and all the fixed effects in equation (1). The results support the idea that the flow of intermediate inputs between two countries is positively related with the existence of trade agreements between them and negatively associated with the number of trade agreements signed by the importing country which the sourcing country is not party to. The first coefficient in column (1) implies that the value-added from country *j* embodied in the exports of country *i* would increase by 7.3% ($e^{(0.0708)}-1$) if countries *i* and *j* share a trade agreement. The second coefficient implies that the value-added from country *j* embodied in the exports of country *i* would decrease by 1.6% for any additional trade agreement signed by country *i* which country *j* is not party to. Column 2 presents the results when market potential is used instead of the number of agreements. The result shows again that trade in value-added between countries *i* and *j* is spurred on if the countries share a trade agreement and it is negatively affected by the market potential associated with the trade agreements signed by country *i* which country *j* is not a member of. Columns 1 and 2 repeat the exercise, but with lagged values for the covariates to address potential reverse causality issues. The results (not shown) indicate that the point estimates decline slightly but the coefficients remain significant at conventional levels.

established for the whole region. For that, a more general exercise is needed using the same type of gravity model used in section 3, but with data on bilateral flows of value-added rather than the full value of traded goods. More precisely, the variable of interest in the model (which is explained in more detail in box 5.3) is the value-added from, say, Colombia, that is embodied in exports from Chile. This variable is particularly useful for analyzing the effects of trade agreements on the formation of supply chains for two reasons. First, it captures the flows of value-added from one country that are used in the production of goods in another. It therefore provides a realistic measure of supply chains between two nations. Second, the input imported from abroad is used in the production of a good that is subsequently exported. Accordingly, this variable is likely to be influenced by any PTAs that the importing country may have with its sourcing partner (an effect arising on the import side). It may also be affected by PTAs that the importing country may have with countries to which the good embodying this foreign input will be exported (an effect arising on the export side). This, in fact, underlines the essence of the estimation: the development of supply chains between two countries is likely to be influenced not only by their integration, but also by the extent to which the country using the partner's inputs is preferentially integrated with third markets.

**TO DEVELOP REGIONAL
SUPPLY CHAINS, COUNTRIES
NOT ONLY NEED ACCESS TO
EACH OTHER'S MARKET, BUT
ALSO SHARED ACCESS TO
THIRD MARKETS**

To illustrate the idea further, consider the following example: Costa Rica and Peru have shared a PTA since 2013. This implies that, other things being equal, when Costa Rica imports inputs to be used in goods for domestic final consumption, it has more incentives to import from Peru than from, say, Argentina, a country with which it does not have a trade agreement. This is the typical PTA effect that is analyzed in the empirical literature on trade agreements.

Now, when it comes to importing goods that will be subsequently used as inputs in Costa Rica's exports to Mexico (which it has a PTA with), the use of many inputs from Peru (which is not party to this PTA) will be constrained by the agreement's RoOs. Accordingly, Costa Rica does not have more incentives to import those inputs from Peru rather than from Argentina, even though it has an agreement with Peru.⁸³ This is because the agreement with Mexico does not allow cumulation from Peru (or, for that matter, from Argentina). In more general terms, Costa Rica's exports to other members of its PTA network will need to pay MFN tariffs if it uses inputs from countries which do not have an

⁸³ Strictly speaking, not all inputs from Peru are constrained by the RoOs of the Costa Rica-Mexico PTA. Moreover, some inputs that are constrained could be used as long as they undergo the necessary transformation. The general point here is that most inputs from Peru are bound by the agreement's RoOs; therefore, they cannot be used freely unless certain conditions are met.

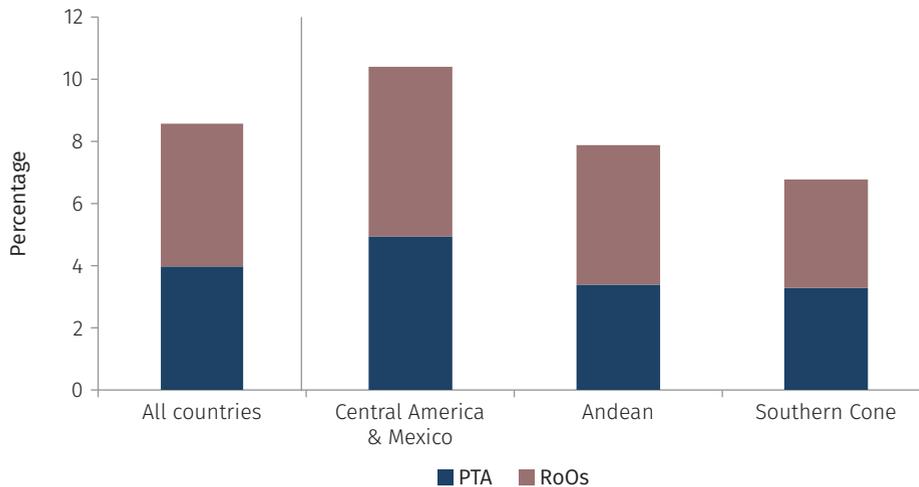
agreement with the importing partner (so-called nonoriginating inputs), even if Costa Rica has a PTA with the country where the input comes from.

The story, though, can only be fully understood with the introduction of another country, say Nicaragua. As mentioned above, Nicaragua has an agreement with Costa Rica that allows for extended cumulation with Mexico. This situation implies the following: other things being equal, when Costa Rica imports inputs to be used in goods for domestic final consumption, it has more incentives to trade with Nicaragua than with Argentina because it has a trade agreement with the former but not with the latter. This is similar to the situation between Peru and Argentina. Again, this is the bilateral trade impact that is typically captured in the literature. But the second effect now implies that when it comes to importing inputs that will subsequently be used in exports to a country like Mexico, Costa Rica has an additional incentive to import from Nicaragua at the expense of Peru (or Argentina) because it can cumulate materials from Nicaragua into exports to Mexico without losing its preferences there. The extended cumulation with Mexico gives an additional value chain incentive for sourcing inputs from Nicaragua.

The gravity model is used to estimate these two effects arising from sharing (a) a trade agreement and (b) RoOs that allow for extended cumulation. In the context of the road map discussed earlier, this can be seen as an initial, partial equilibrium, approximation of the RVC gains of a more ambitious move toward a regionwide FTA. More specifically, the estimated impact from the gravity model will be the sum of two impacts. First, an increase in value-added from country j to country i that takes place if they sign a trade agreement. Second, an increase in the value-added from j to i that arises if i is allowed to accumulate origin from j because it is now part of its trade network and thus they all share the same set of rules of origin, making cumulation across them possible.

Before presenting the results, it is important to note that the rules of origin in the gravity equation were modeled based on a very simplified assumption, which is explained below. There are at least two reasons for this. First, the dataset on value-added is available at a very aggregate level, which makes it difficult to match the data on rules of origin, which are normally written at very disaggregated product levels. Second, to obtain robust estimates, the model was run using data not only for LAC but for the whole world, across three different time periods (see box 5.3). Obtaining detailed data on RoOs for all world PTAs at different time periods would be a monumental task, one that goes beyond the scope of

FIGURE 5.4 CHANGE IN EXPORTS OF VALUE-ADDED FROM LAC COUNTRIES THAT ARE SUBSEQUENTLY USED AS INPUTS IN OTHER LAC COUNTRIES' EXPORTS



Source: IDB estimates.

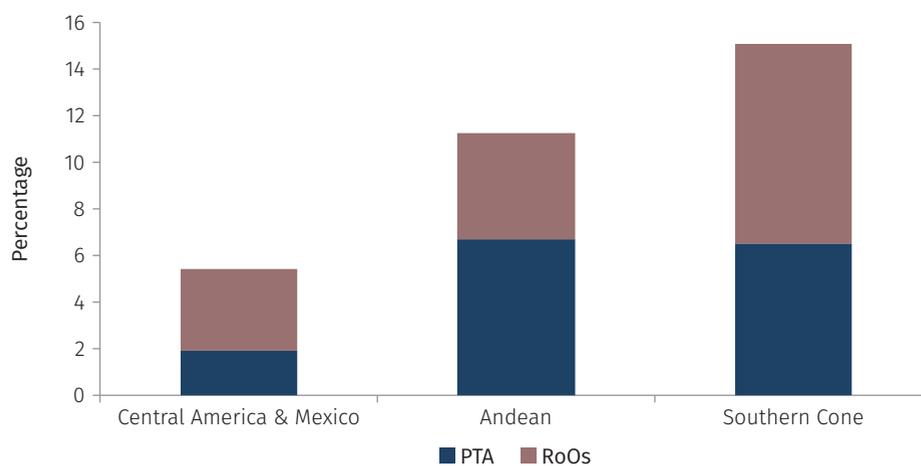
this study. Therefore, a very simple proxy was used to capture the potential disincentives for country i to import from j because the rules of origin in PTAs with third partners prevent i from doing so: the number of agreements that i has signed with third countries and which j is not party to.⁸⁴ This simplification comes at some cost. Because this is a crude proxy of the extent and the level of RoO restrictiveness, the results from the estimations should be viewed with some caution. The attention should focus more on the direction of the effects and the relative magnitudes rather than on the absolute size of the impacts.⁸⁵

Figure 5.4 shows the results for this exercise. In all the cases, the variable of interest is the change in the value-added from country j (the exporting country) that is eventually used by country i (the importing country) in its own exports. The first column shows the average across all source countries and destinations

⁸⁴ An alternative proxy was also used: the total market potential that country i has access to through the agreements that it has signed with third countries and in which country j does not participate. See box 5.3.

⁸⁵ In this type of analysis there are always two econometric challenges: i) the explanatory variable does not pick up the effects of other factors or policies (say, export processing zones) and ii) the causality goes from the explanatory variable to the dependent variable and not the other way around. The estimation presented in Box 5.3 addresses the first challenge by including a full set of fixed effects that control, among other things, for time-variant importer and exporter factors. The estimation of the model using lagged values of the explanatory variable seeks to address the second challenge.

FIGURE 5.5 CHANGE IN EXPORTS OF VALUE-ADDED FROM CENTRAL AMERICA AND MEXICO THAT ARE SUBSEQUENTLY USED AS INPUTS IN SELECTED REGIONS' EXPORTS



Source: IDB estimates.

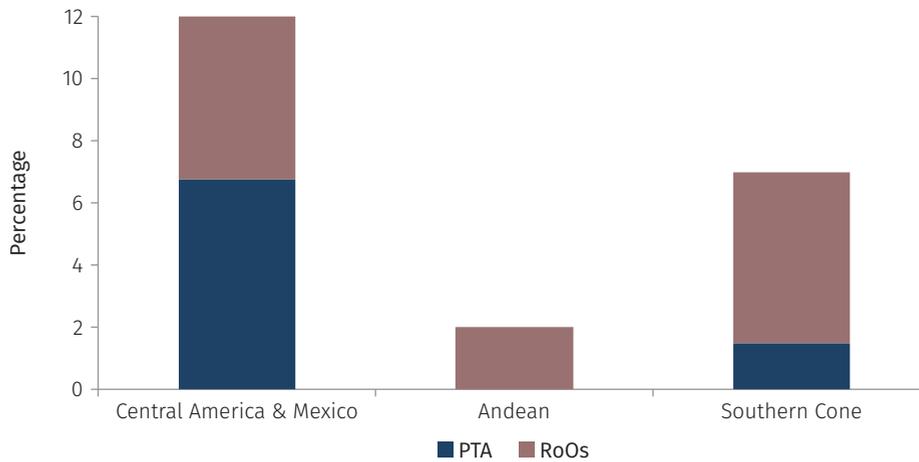
CONVERGENCE OF RoOs IN THE CONTEXT OF A LAC-FTA IS LIKELY TO INCREASE THE USE OF REGIONAL INPUTS IN LAC EXPORTS BY 9%

in LAC. *PTA* measures the increase of value-added that arises from sharing a trade agreement, and *RoO* measures the increase of value-added that arises from sharing the same set of RoOs. The results, shown in the first column, point to an average increase in value-added of around 9%. That is, for the average LAC country, exports of intermediate goods that are subsequently used as inputs in other LAC countries' exports increase by 9%, with equal contributions from the PTA and RoO effects.

The rest of the columns show the results when the sources of value-added (that is, the exporting countries) are grouped by subregion. The second column presents the average for Central America and Mexico when they export intermediate goods that are used as inputs in the exports of other LAC countries. The third and fourth columns do the same for the Andean and the Southern Cone countries, respectively.⁸⁶ The results indicate the existence of some heterogeneity across subregions, with the countries in the Central America/Mexico region exhibiting slightly larger average effects.

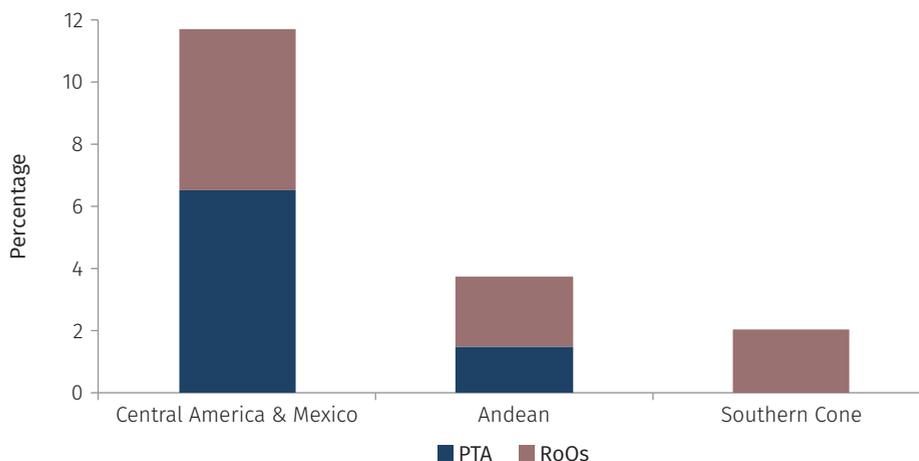
⁸⁶ *Central America/Mexico* includes: Costa Rica, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, and Panama. The *Andean countries* includes Bolivia, Colombia, Ecuador, Peru and Venezuela. The *Southern Cone* includes Argentina, Brazil, Chile, Paraguay, and Uruguay.

FIGURE 5.6 CHANGE IN EXPORTS OF VALUE-ADDED FROM ANDEAN COUNTRIES THAT ARE SUBSEQUENTLY USED AS INPUTS IN SELECTED REGIONS' EXPORTS



Source: IDB estimates.

FIGURE 5.7 CHANGE IN EXPORTS OF VALUE-ADDED FROM SOUTHERN CONE COUNTRIES THAT ARE SUBSEQUENTLY USED AS INPUTS IN SELECTED REGIONS' EXPORTS



Source: IDB estimates.

Figures 5.5 to 5.7 present more disaggregated results by exporting and importing regions, and thus provide more insight on what is going on behind the averages. For instance, figure 5.5 shows the results when the countries of Central America and Mexico export intermediate goods that are used as inputs in each of the other subregions' exports. Note, for example, that the potential increase in exports of value-added to countries in the same region is very modest. This is because most of these countries already have trade agreements and rules of origin that allow cumulation among them; therefore, a regionwide FTA does not add much to what they already have. Note, however, that this is not the case with exports of value-added to the Andean or Southern Cone countries. Since there are currently relatively fewer trade agreements between Central America/Mexico and countries in these other regions, the proposed LAC-FTA has a much larger impact on the potential formation of supply chains across these regions. Figures 5.6 and 5.7 show a similar situation for the Andean and Southern Cone countries.

A LAC-FTA MIGHT HAVE SIGNIFICATIVE AND POSITIVE IMPACTS ON THE FORMATION OF REGIONAL SUPPLY CHAINS

Overall, the results suggest the move toward convergence and, eventually, a regionwide FTA might have significant and positive impacts on the formation of regional supply chains. The largest impacts appear to be in the formation of supply chains across subregions, a result that arises from the fact that there is more room for integration across subregions than within them.

The Big Picture: The Partial and General Equilibrium Trade Effects of a LAC-FTA

The results presented so far reveal the immediate, partial equilibrium gains for a particular type of trade: trade in intermediate inputs, which is key for the development of value chains. They do not, however, shed any light on the impact of a LAC-FTA on overall trade, including the part that arises from the general equilibrium effects throughout the economy.

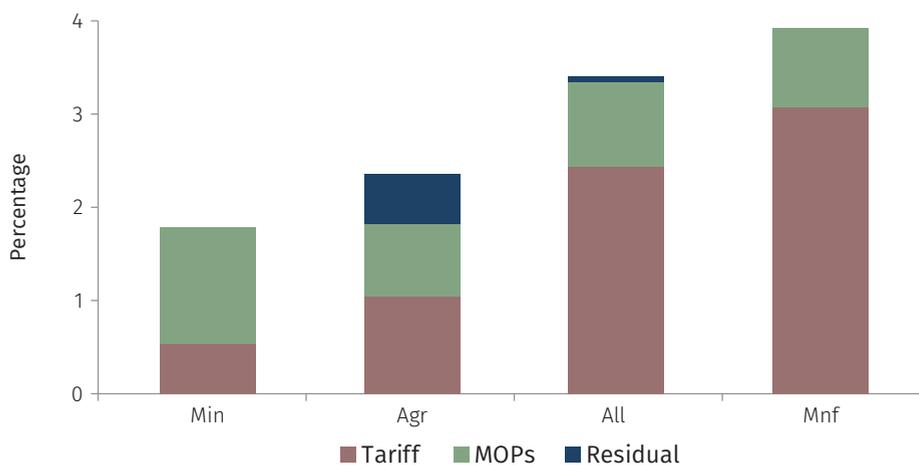
To remedy this, two different methodological strategies were used, both of which have pros and cons. The first—a modified version of the sectoral gravity model used in section 3—still focuses on immediate, partial equilibrium gains, but considers trade in both intermediate and final goods. The bigger, general equilibrium picture is still missing, but this is a methodological option that is less data-intensive (and therefore requires fewer imputations and heroic assumptions) and is very transparent as to the source of the gains. The second

strategy resorts to a more structural model—a general computable equilibrium (CGE) model—which is a standard tool for trying to capture economy-wide general equilibrium gains. It has advantages when it comes to providing a bigger picture, but these come at the expense of the robustness of the assumptions and data used and clarity as to the source of the gains. Neither of these approaches consider services or the dynamic impacts of the FTA, that is, the gains arising from higher investment and productivity, nor do they capture the gains arising from the removal of NTBs properly. All the same, together they offer a good initial approximation of what is at stake in a more ambitious regional agenda.

The Gains of Gravity. As discussed in section 3 and technical appendix 3.2, one convenient feature of sectoral gravity is that it goes beyond the standard “dummy” variable to capture the effect of PTAs. It includes information about applied tariffs and the PTAs’ margins of preferences (MOPs) at a fairly disaggregated sectoral level (4-digit Harmonized System), which provides a good platform for simulating the trade impacts of a regionwide FTA across subregions and sectors. Since the focus of this study is on a LAC-FTA, the model was run to estimate what the average effects of LAC’s intraregional PTAs have been, rather than estimating the effect of each individual PTA, and the results were used to simulate a scenario where all intraregional tariffs are eliminated. The technical details are discussed in technical appendix 5.1.

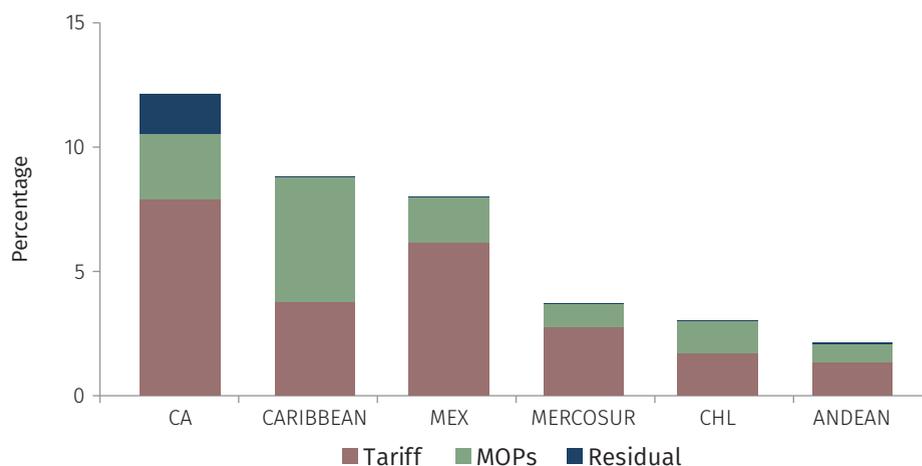
THE MOVE TOWARDS A
LAC-FTA WOULD INCREASE
OVERALL INTRAREGIONAL
TRADE BY 3.5%

FIGURE 5.8 INTRAREGIONAL TRADE GAINS OF A LAC-FTA BY SECTOR. A SECTORAL GRAVITY APPROACH



Note: Simulation of a zero-tariff scenario based on the estimated coefficients presented in table A.5.1, columns 2, 4, 6, and 8 of technical appendix 5.1. The tariff, indirect, and residual effects come from tariff reductions, MOPs, and a catch-all PTA residual, respectively.

FIGURE 5.9 INTRAREGIONAL EXPORT GAINS OF A LAC-FTA BY SUBREGION. A SECTORAL GRAVITY APPROACH



Note: These are gains in exports to other subregions and are the result of a simulation of a zero-tariff scenario based on the estimated coefficients shown in table A.5.1, columns 2, 4, 6, and 8 of technical appendix 5.1. The tariff, indirect, and residual effects come from tariff reduction, MOPs, and a catch-all PTA residual, respectively.

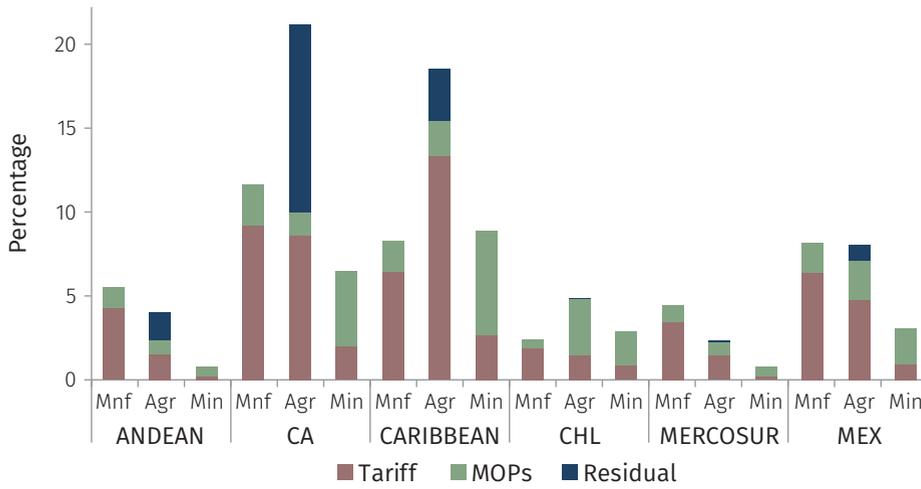
TRADE IN MANUFACTURES STANDS TO GAIN THE MOST, EXPANDING BY 4%

Figure 5.8 presents the results for the region as a whole. The move toward a LAC-FTA would increase overall intraregional trade by 3.5%, mostly driven by tariff elimination. One-third of this gain is explained by the so-called indirect effects captured by MOPs and the general PTA dummy (such as less policy uncertainty, improvements in trade facilitation, removal of NTBs, and greater incentives for trade-inducing foreign direct investment). Trade in manufactures stands to gain the most (4%), followed, as expected, by agriculture (the sector where the indirect gains are the most relevant given the prevalence of NTBs), and mining.

Figure 5.9 breaks down export gains by subregion, and figure 5.10 does so by subregion and sector. As can be seen, Central America would expand its exports more than the other subregions (12%), driven by gains in agriculture, 35% of which are explained by factors other than tariff elimination. These gains are rooted in better access to MERCOSUR, some of the Andean countries, and the Caribbean (see table 2.2, section 2). The Caribbean comes second with an estimated 8.8% gain driven by agriculture and by better access to most of the region, particularly to MERCOSUR and Mexico.⁸⁷ Mexico follows closely be-

⁸⁷ Due to data restrictions, the Caribbean group is restricted to Belize, Bahamas, Barbados, Guyana, Haiti, Jamaica, Suriname and Trinidad and Tobago.

FIGURE 5.10 EXPORT GAINS OF A LAC-FTA BY SECTOR AND SUBREGION. A SECTORAL GRAVITY APPROACH



Note: These are gains in exports to other subregions, the result of a simulation of a zero-tariff scenario based on the estimated coefficients shown in table A.5.1, columns 2, 4, 6, and 8 of technical appendix 5.1. The tariff, indirect, and residual effects come from the tariff reduction, MOPs, and a catch-all PTA residual, respectively.

hind, with gains of 8%, driven by manufacturing, with tariff elimination accounting for most of the results. MERCOSUR is in the middle of the pack, with 4% gains on the back of tariff elimination in manufacturing and agriculture, mostly in Mexico and Central America. The Andean countries and Chile come last with similar gains, a result consistent with their larger networks of intra-regional agreements. Their gains break down differently, however. Whereas the main explanatory factor in the Andean countries is manufacturing, in Chile it is agriculture. The Andean gains are mostly concentrated in Central America and the Caribbean while Chile's are mostly in the Caribbean.

What can be said of these gains? They are certainly open to a glass half-empty, glass half-full interpretation. They seem small in comparison to past results for subregional agreements, which ranged from 8% to 41% (see section 3 for more information). But does that mean governments should not invest political capital in addressing fragmentation? Not necessarily. As suggested earlier, this type of exercise is more likely to arrive at the lower bounds of potential gains, as it focuses only on the immediate, direct effects. Moreover, it is not surprising that these gains tend to be smaller than those of the initial PTAs, which started with much higher levels of protection. But, even if the average 3.5% gain—worth US\$11.3 billion in 2017—is taken at face value (which, as shown, hides signifi-

cant variations across subregions and sectors), this is not something to be left on the table. For instance, intraregional LAC trade fell 26% between 2012 and 2017. In this scenario, even a 3.5%, “once-and-for-all” shift gain in trade flows is not a gain the region can afford to ignore.

A Glimpse of Economy-Wide Impacts. The general equilibrium approach adds to the analysis by providing a better look at the effects of LAC PTAs throughout the economy. As mentioned earlier, the picture remains far from perfect because the model still has major limitations when it comes to capturing all the sources of trade gains, particularly those arising from trade in services and from greater competition, knowledge diffusion, and innovation.⁸⁸ None of these gains are captured in the simulations, which mainly reflect changes in relative prices and improvements in resource allocation. These results, therefore, should be also be considered the lower bounds of potential gains and are more illustrative of the variation in gains across different scenarios than of their absolute value.

The simulations detail how exports of goods would change with the full implementation of a LAC-FTA (including RoO cumulation) in three stylized scenarios. The first scenario—the status quo—assumes that the world will resume its march toward mega-agreements with the full implementation of the TPP and TTIP. The second assumes that China concludes a PTA with partners in the Pacific region—the Regional Comprehensive Economic Partnership (RCEP).⁸⁹ The third and final scenario, labeled “global trade frictions,” mimics an environment of higher trade barriers and simulates the impacts of a 20-percentage-point increase in global bilateral tariffs.

The results for the change in overall (intra- and extraregional) exports are shown in table 5.1 and exclude the Caribbean because of data restrictions. What is immediately evident is that the LAC-FTA “strategy” is dominant in all three scenarios, but its impact is particularly relevant in an environment of heightened trade frictions. A LAC-FTA would not prevent the region’s exports from falling in the event of a trade war but would decrease the drop in exports by nearly 40%. This “cushion” effect is of the same order of magnitude for all countries and subregions, except for Mexico, due to its much higher dependency on the US market. In the case of the two mega-PTA scenarios, a LAC-FTA is also unequivocally the best option. However, the absolute gains are small, mainly because neither of the two scenarios seems consequential for the region, either because

⁸⁸ For details, see technical appendix 5.2.

⁸⁹ The RCEP is being negotiated between the 10 Association of South-East Asian Nations (ASEAN) countries plus Australia, China, India, Japan, New Zealand, and South Korea.

TABLE 5.1 GENERAL EQUILIBRIUM IMPACT OF A LAC-FTA* ON REGIONAL EXPORTS IN DIFFERENT TRADE SCENARIOS (%)

Country/ Subregion	Trade Scenario			LAC's Response		
	Status quo	China-led	Trade frictions	Status quo + LAC-FTA	China-led + LAC-FTA	Trade frictions + LAC-FTA
Latin America	0.00	-0.03	-13.37	0.65	0.62	-8.12
Mexico	0.16	0.05	-15.25	0.25	0.15	-14.05
C. America & DR	-0.36	0.03	-13.65	1.60	1.96	-4.91
Andean	0.00	-0.05	-10.98	1.70	1.67	-2.86
Chile	0.04	0.04	-6.69	0.23	0.22	-2.80
MERCOSUR	-0.07	-0.13	-14.53	0.32	0.25	-7.67

Source: IDB estimates.

* The Caribbean was not Included. See technical appendix 5.2 for details.

the countries involved already have bilateral PTAs or because the markets and preferences in question are not especially relevant to LAC.⁹⁰

Overall, as in the partial equilibrium exercise, this is not a story about path-breaking gains, even allowing for the likely underestimation bias of the methodology. But it is again a story about providing a stronger economic backbone for more than half a century of regional integration aspirations, in which politics have often trumped economics. The estimates suggest that it would be a particularly opportune injection of economic rationality at a moment where the region faces strong protectionist headwinds in the global economy.

⁹⁰ Other computable general equilibrium exercises on the TPP, such as chapter 4 of World Bank (2016), also point to very small impacts on LAC exports.

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Technical Appendix 5.1

The results presented in figures 5.8 to 5.10 are based on an exercise using the same sectoral gravity model as described in technical appendix 3.2. The objective is to estimate how trade flows are impacted by a scenario in which a full LAC-FTA is implemented, meaning that all intraregional tariffs are brought to zero.

The first step adjusts the gravity model to estimate the average impact of intra-regional LAC PTAs. It uses the following specifications:

$$\begin{aligned} \ln(M_{ijt}^s) = & \beta_{intraLAC} \ln(1 + TF_{ijt}^s) * (D_i * D_j) + \beta_{other} \ln(1 + TF_{ijt}^s) * (1 - D_i * D_j) \\ & + \rho_{intraLAC} \ln(1 + MOP_{ijt}^s) * (D_i * D_j) + \rho_{other} \ln(1 + MOP_{ijt}^s) * (1 - D_i * D_j) \\ & + \omega_{intraLAC} PTA_{ijt} * (D_i * D_j) + \omega_{other} PTA_{ijt} * (1 - D_i * D_j) \\ & + \gamma_{ij}^s + \delta_{it}^s + \lambda_{jt}^s + \epsilon_{ijt}^s \end{aligned}$$

where, D_i and D_j are dummy variables that are equal to 1 if the importing country i or the exporting country j are from LAC.

The model was estimated separately for four sectors: meat, vegetables and grains, manufacturing, and minerals. Columns 1, 3, 5, and 7 of table A.5.1 present the regression results. For each sector, the model was re-estimated to include only the variables that have significant coefficients. The results are reported in columns 2, 4, 6, and 8.

The second step simulates the trade effect of a LAC-FTA (zero tariffs among LAC countries) using the coefficients in columns 2, 4, 6, and 8 and equation A.5.1 to predict bilateral trade when tariffs are cut to zero. The base year used was 2013, except for Chile, whose preferential data for that year was not available and was replaced by those of 2015. As explained in technical appendix 3.2, the total effect was decomposed into the direct effect (tariffs), the indirect effect (MOPs), and the PTA residual dummy effect.

In this exercise LAC is made up of 26 countries: Argentina, the Bahamas, Barbados, Belize, Bolivia, Brazil, Chile, Colombia, Costa Rica, the Dominican Republic, Ecuador, El Salvador, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Suriname, Trinidad and Tobago, Uruguay, and Venezuela. These are aggregated into five subregions or countries: MERCOSUR (Argentina, Brazil, Uruguay, and Paraguay); Central America (Costa Rica, the Dominican Republic, El Salvador, Guatemala, Honduras,

Nicaragua, and Panama); Andean countries (Colombia, Ecuador, Peru, and Venezuela); Chile; and Mexico.

The PTAs that were included are the same ones that were used in technical appendix 3.2. The intra-LAC PTAs are: the Andean Community (AC), AC–MERCOSUR, CACM, CACM–Mexico, CAFTA–DR, CARICOM, CARICOM–Colombia, CARICOM–Costa Rica, CARICOM–Cuba, CARICOM–Dominican Republic, CARICOM–Venezuela, MERCOSUR, MERCOSUR–Bolivia, MERCOSUR–Chile, and all LAIA ECAs.

TABLE A.5.1 SECTORAL GRAVITY. ESTIMATION RESULTS

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Meat	Meat	VegGrain	VegGrain	Mnf	Mnf	Min	Min
	(S2)							
ln_tariff_intra-LAC pair	-0.823 (0.652)		-1.220** (0.491)	-1.189 (0.383)	-2.137*** (0.113)	-2.143*** (0.113)	-1.860* (0.969)	-1.792* (0.965)
ln_tariff_other pairs	-0.692*** (0.072)	-0.745*** (0.061)	-0.545*** (0.057)	-0.545*** (0.057)	-0.601*** (0.020)	-0.601*** (0.020)	-0.786*** (0.152)	-0.831*** (0.142)
ln_MOP_intra-LAC pair	1.751*** (0.494)	2.120*** (0.457)	0.138 (0.487)		0.654*** (0.118)	0.659*** (0.118)	3.902*** (1.114)	3.886*** (1.110)
ln_MOP_other pairs	0.128 (0.092)		0.152** (0.073)	0.149** (0.073)	0.298*** (0.029)	0.298*** (0.029)	0.128 (0.253)	
Intra_LAC PTA	0.421** (0.174)	0.457*** (0.174)	-0.138 (0.096)		0.010 (0.018)		-0.048 (0.163)	
Other PTAs	-0.034 (0.023)		-0.014 (0.013)		0.032*** (0.003)	0.032*** (0.003)	0.031 (0.020)	
Observations	805,214	805,214	2,124,774	2,124,774	37,281,238	37,281,238	1,089,801	1,089,801
R-squared	0.831	0.831	0.826	0.826	0.820	0.820	0.822	0.822
imp#exp#hs4	Yes							
exp#hs4#year	Yes							
imp#year	No							
imp#hs2#year	Yes							

Standard errors cluster by imp#exp#hs4 in parentheses.

*** p<0.01, ** p<0.05, * p<0.1

Technical Appendix 5.2

The general equilibrium results presented in table 5.1 are based on computable general equilibrium (CGE) model developed by Giordano, Watanuki, and Gavagnin (2013). This version of the model has been developed to specifically evaluate the payoff of a policy response that would allow the region to widen and deepen regional integration to offset the negative impact of an external environment that becomes progressively more protectionist.

The model belongs to the class of global (multicountry and multisector) CGE models, which feature the following characteristics: static, constant returns to scale and perfect competition, fixed employment levels, and no link between trade and total factor productivity. For this particular application, the following extensions were introduced: i) the separation of imports and domestic inputs (i.e., the Armington composite) in the production function for each demander; ii) the explicit modeling of RoOs; and iii) the inclusion of trade costs.

The model is calibrated to the GTAP 9a database. Specifically, it singles out twenty-nine countries, eleven sectors, two labor categories, one physical capital stock, and the natural resources (i.e., land) used in agriculture and mining. The model assumes perfect mobility across sectors for both labor categories and physical capital, and sector specificity for natural resources used in agriculture and mining. At the macro level, the following macroeconomic closure rules were applied: (a) balance of payments: to ensure that the simulations are neutral in terms of changes in countries' net foreign assets, changes in real exchange rates maintain a current account balance that is fixed in foreign currency; (b) government consumption: to ensure that the simulations are budget-neutral, changes in income tax rates on households clear the government budget (i.e., no domestic and/or foreign financing additional to baseline values); and (c) intertemporal investment: to ensure neutrality across the simulations in terms of investing in future activities, real investment is fixed. As a result of the last two closure rules, changes in real private consumption may be interpreted as being equivalent to changes in aggregate welfare.

The simulations build on a baseline that replicates the world economy in the base year, upon which the following groups of scenarios were designed:

1. **Status quo:** This set of scenarios assumes that the global trade environment follows the course set in the last decade. The United States (US) is at the center of negotiation initiatives (US–global), and megaregional

agreements—which were modeled as a complete phase-out of residual tariffs among the members of the TPP and TTIP—are the main drivers of trade liberalization.

2. **China-led:** An alternative scenario assumes that China takes the lead by concluding a free trade agreement with partners in the Pacific region, which was modeled as complete trade liberalization among the members of the RCEP initiative.
3. **Global trade frictions:** This set of scenarios assumes that global trade frictions increase. It was modeled as the imposition of a hypothetical tariff of 20 percentage points on top of the tariffs that are currently applied to all existing bilateral trade flows.
4. **Latin American and Caribbean response (with integration):** The final set of scenarios was designed as a variant of those discussed above. It compares the option of pursuing a deep free trade area whereby not only are residual tariffs phased out among all economies in the region, RoOs are also harmonized into a single set of provisions (LAC-FTA). Technically, this scenario eliminates the implicit subsidy granted to FTA intermediates and the implicit tax on non-FTA intermediates originating in countries in the region that prevailed prior to deeper integration.

Given the specification of the model and the underlying assumptions, the results should not be interpreted as a prediction of the magnitude of the economy-wide effects of the otherwise hypothetical policy reform experiments but should rather serve as an indication of their ranking to establish policy priorities. Table A.5.2 details the impact of select scenarios on exports and imports by subregion.

TABLE A.5.2 TRADE IMPACT OF SELECTED SIMULATION SCENARIOS*(US\$ and percentage change from base)*

	Country	Base (*)	External Environment			Latin American Response		
			USA-Global	China-Global	Tar20-Global	USA-Global + LAC-FTA	China-Global + LAC-FTA	Tar20-Global + LAC-FTA
Exports	Mexico	352,233	0.157	0.049	-15.245	0.246	0.154	-14.051
	C. America & DR	87,968	-0.360	0.033	-13.654	1.596	1.963	-4.907
	Andean	213,466	-0.003	-0.045	-10.981	1.701	1.669	-2.857
	Chile	94,021	0.044	0.039	-6.691	0.230	0.224	-2.799
	MERCOSUR	390,387	-0.065	-0.132	-14.529	0.320	0.251	-7.665
	Latin America	1,138,075	0.001	-0.033	-13.370	0.647	0.617	-8.124
Imports	Mexico	322,089	-0.149	0.025	-17.936	0.669	0.860	-14.482
	C. America & DR	117,052	-0.387	-0.128	-10.443	1.367	1.609	-3.276
	Andean	180,673	-0.149	-0.142	-14.406	1.582	1.608	-4.840
	Chile	80,891	0.106	-0.241	-12.817	0.548	0.219	-6.763
	MERCOSUR	373,076	-0.194	-0.372	-17.074	0.312	0.128	-8.404
	Latin America	1,073,782	-0.171	-0.178	-15.840	0.765	0.765	-8.945

Source: IDB estimates.

Note: (*) in millions of US\$.

WRAPPING UP

This report set out to answer a few key questions about the results of LAC's quarter-of-a-century experiment with the "new regionalism" and their implications for the region's trade policy agenda. Five sections of analysis later, what are the main findings? The picture in the rearview mirror is a nuanced one. The open regionalism of the early 1990s clearly overcame the paralysis of the postwar period, which was rooted in the conflict between LAC countries' protectionism and their aspirations toward integration. This regionalism thrived as these countries' development strategies shifted to promarket and protrade policies, which not only facilitated the liberalization of intraregional trade but also minimized the costs of trade diversion that are implicit in preferential liberalizations.

The new regionalism was also marked by a move from more ambitious, region-wide goals to more pragmatic, subregional set-ups. This approach was a mixed blessing, however. On the one hand, it simplified and expedited negotiations, while opening the door to more ambitious, Europe-like agreements. On the other, however, it set strict limits to the benefits of regional PTAs by promoting fragmentation. The quantitative exercises in this study show unequivocally that subregional PTAs were powerful tools for promoting regional integration: they boosted intraregional trade by 64%, on average, despite a mixed record of implementation. However, the results also show that PTAs were very ineffective in fulfilling their main economic motivation: boosting competitiveness abroad. The blame for this outcome can be largely laid at the door of fragmentation. LAC's small, subregional PTAs, whose members shared similar comparative advantages, were poorly equipped to generate large enough scale and specialization gains to move the global competitiveness needle. This was especially true

at a time when the emergence of mega-economies and mega-agreements were transforming the world economy.

When the focus of the report shifts toward the future policy agenda, the recommendations may sound disconcerting, as they point to a solution that has already been tried and proved to be elusive: the convergence toward a regionwide FTA. Why would things be different this time around? The recommendations in section 4 build on the lessons learned and the challenges and opportunities of new global and regional policy environments.

In a global economy that is increasingly dominated by mega-economies and mega-agreements but is also facing the challenge of a protectionist backlash, LAC's mosaic of small intraregional PTAs leave the region with little choice: either these PTAs acquire a critical economic mass or they face a slow death or, worse yet, irrelevancy. If LAC governments want to hold on to their regional integration objectives, convergence is the answer. Unlike during previous initiatives, the region has now a favorable policy environment and a strong head-start: nearly 90% of intraregional trade is already duty-free. The burning question, though, is how best to go about creating a regionwide FTA. This is where the ability to learn from past mistakes matters the most.

This report does not underestimate the political constraints of this challenge. It discusses different routes to convergence, giving governments the option of picking the itinerary that is best suited to their circumstances. They could take a more cautious, step-by-step approach, beginning by extending the cumulation of RoOs among existing agreements and then filling in gaps in these relationships. Alternatively, they could plot a nonstop course to a LAC-FTA. Given the region's experiences with customs unions, supranational institutions, and complex disciplines, the recommendations point to a "plain vanilla" free trade zone, based on intergovernmental architecture and with a focus on goods and services as a first step. In the spirit of a "living agreement," other issues such as intellectual property, labor, or the environment may be considered once the foundations for a regional free trade area for goods and services is firmly in place.

The agreement should also include a broad chapter on trade facilitation, covering not just customs-related measures but also mechanisms capable of minimizing transportation and transaction costs, such as technical standards, phytosanitary measures, and logistics. While efforts to rationalize and promote the harmonization of these measures do not necessarily depend on a formal trade agree-

ment, this platform represents a major opportunity to facilitate coordination and enforce the commitments already contained in a series of subregional initiatives relating to both infrastructure and trade facilitation.

Another critical recommendation is to get negotiations started as soon as a critical mass of countries with enough gravitational pull indicate their commitment to reaching a LAC-FTA—there is no need for all the region's governments to be involved at the early stages. Taking a page from the Pacific Alliance's playbook, all aspiring members should be required to already be party to bilateral or subregional PTAs as a way of facilitating negotiations and signaling their commitment, which is indispensable for the region's credibility. During this process, Argentina, Brazil, and Mexico are in a unique position to play a critical role and eventually bring together the region's largest subregional blocs—the Pacific Alliance and MERCOSUR—whose combined US\$4.3-trillion market accounts for 81% of LAC's GDP.

The report concludes with a few estimates of the potential trade gains that convergence could bring. The message is clear: the gains of convergence are not likely to be a panacea or even a major boost for LAC trade but they are a low-hanging fruit, and the region can hardly afford to ignore them. There is a clear opportunity for LAC to build more economic backbone into a commitment that has survived the ebb and flow of politics for at least half a century. In the process, the region stands to collect gains that are far from negligible, which is a rarity in the current global trade environment.

Estimates of the immediate, localized impact of a LAC-FTA point to average gains of 9% for intraregional trade in the intermediate goods used in the region's exports, which would be an important boost for LAC's underdeveloped regional value chains. Likewise, an average 3.5% increase is expected for intraregional trade as a whole (an additional US\$11.3 billion, based on 2017 flows), with a significant variance across subregions and sectors (ranging from 1% in mining in the Andean countries to 8% in manufacturing in Mexico and 21% in agriculture in Central America). Even if these gains are taken at face value—and they are admittedly partial, lower-bound estimates—they cannot be dismissed as irrelevant, particularly in a context where intraregional trade has fallen by 26% between 2012 and 2017. The estimates that seek to capture economy-wide effects tell a similar story of modest yet palpable gains that are particularly useful for illustrating the insurance policy dimension of potential convergence. If frictions in global trade increase, a regionwide FTA would mitigate negative impacts on LAC exports by as much as 40%.

These estimates also send an important message in terms of the advantages of taking an aggressive approach to convergence rather than a cautious one. If the gains of moving all the way toward a regionwide FTA are palpable but limited, a slow, step-by-step approach could render these gains irrelevant despite the eventual political advantages of such strategy, particularly given the pace of the transformations sweeping the world economy. If governments in the region are really committed to strengthening both the political and the economic cases for integration, time, unfortunately, is not on their side.

What can be said of Latin America and the Caribbean's experiment with regional integration? Did it live up to the expectations? What does this experience say about the regional integration agenda moving forward? Do the tectonic changes that the world economy has undergone over the last quarter of a century matter? This report offers answer to these pressing questions. It argues that while the “new regionalism” was generally effective in promoting intraregional trade, it failed to boost the region's competitiveness abroad. This report views fragmentation as being Latin America and the Caribbean's original sin and suggests a path to redemption through convergence. The policy recommendations offer different routes to convergence—from a cautious, cumulation of rules of origin approach to a nonstop sprint to a LAC-FTA—but they come with a warning: in the current challenging trade environment, the benefits of being cautious might result in too little, too late.