



March 2017

## CLUSTER REPORT - TRADE INTEGRATION IN LATIN AMERICA AND THE CARIBBEAN

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- The **Staff Report** prepared by IMF staff and completed on February 16, 2017.

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February 16, 2017

## TRADE INTEGRATION IN LATIN AMERICA AND THE CARIBBEAN—CLUSTER REPORT

### EXECUTIVE SUMMARY

**This cluster report takes stock of and explores opportunities for trade integration in Latin America and the Caribbean (LAC).** Drawing on a set of 12 analytical studies that will be issued as working papers, the report examines the determinants of trade, explores the potential to enhance LAC's trade integration, and assesses the associated economic and social effects. To deepen understanding of the region's policy options and trade strategies, the report also incorporates the views of LAC country authorities based on responses to a survey. This provides an opportunity to examine the alignment of recommendations based on the analytical findings with the region's current trade policy priorities, *with the caveat that the survey was conducted between late 2015 and mid-2016, prior to the most recent developments in the global trade landscape.*

**The report finds that LAC can reap important growth benefits from further trade integration.** With trade integration below that of other regions, there is scope for LAC to increase trade as an engine of growth and help offset the weaker economic outlook without adversely affecting overall income inequality. While there is potential to enhance both inter- and intra-regional trade integration, renewed political momentum within LAC in support of greater trade openness could provide an important impetus to further intra-regional trade integration in particular. In this context, regional trade integration could be promoted through a regional trade agreement, convergence of trade rules and regulatory standards, and measures to support trade facilitation. Strategies to bolster the region's inter-regional integration could be centered on unilateral liberalization as a complement to existing efforts to expand LAC's network of trade agreements.

**This report also emphasizes the importance of complementary policies.** Continued regional efforts to strengthen infrastructure and human capital would be useful as part of a broad growth strategy. But they can also enhance trade integration, including by facilitating participation in global value chains which may offer new opportunities for technology transfer, and are critical to diversifying and upgrading the complexity of LAC's exports. Finally, strengthened social safety nets can help lessen adjustment costs linked to further integration and promote an equitable distribution of gains from trade.

Approved By  
**Western  
 Hemisphere  
 Department**

Prepared by Valerie Cerra (head), Kimberly Beaton, Metodij Hadzi-Vaskov, and Rosalind Mowatt (all WHD), drawing on contributions by Suprabha Baniya, Aliona Cebotari, Diego Cerdeiro, Xiaodan Ding, Daniela Estrella Morgan, Swarnali Ahmed Hannan, Andras Komaromi, Jose Daniel Rodríguez Delgado, Gonzalo Salinas, and Martha Woldemichael.

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## INTRODUCTION

**1. Amid slowing growth and a weaker outlook for Latin America and the Caribbean (LAC), a renewed focus on trade integration presents an opportunity to leverage trade for growth.** The downturn in commodity prices and weaker external demand, particularly from emerging markets, have dampened growth prospects in the region and raised the urgency to explore new drivers of growth. LAC's trade integration lags behind other emerging markets, while its export composition has been dominated by primary commodities, suggesting that there may be prospects to diversify exports and enhance trade integration to raise economic growth. At the same time, protectionist sentiments have been rising, particularly in advanced economies, as international trade and, more broadly, globalization, have been blamed for a rise in income inequality. As income inequality in LAC is already among the highest across regions, can LAC enhance growth by pursuing stronger trade integration without adversely affecting the income distribution?

**2. This cluster report explores the unexploited opportunities for LAC's trade integration – both intra- and inter-regionally.** It draws on a series of analytical studies conducted for this project and results from a survey of LAC countries on trade policy to assess potential for the region to enhance its integration into world trade. The report first takes stock of recent developments in trade, both globally and regionally, and the extent of LAC's integration into world markets. To draw lessons for the design of LAC's export policy, the report then analyzes the determinants of export growth and the composition of exports. Building on this analysis, the report explores whether there is potential for LAC to pursue trade integration as a growth strategy by assessing the broader effect of trade and its characteristics on economic performance and social outcomes. Results from the country survey are then examined to understand the region's existing trade strategies and the extent to which they align with the recommendations distilled in the former sections. Finally, the report concludes with concrete recommendations for LAC's trade policy.

**3. The report concludes that LAC can pursue further trade integration to promote economic growth.** The analysis in this paper provides consistent evidence across a variety of empirical approaches that enhanced trade integration can yield growth dividends without adversely affecting LAC's elevated aggregate income inequality. In this context, incipient signs of renewed political momentum within LAC in support of integration provide an opportunity to foster both intra- and inter-regional trade integration. However, in the context of rising protectionist sentiment in advanced economies, intra-regional integration may offer LAC the greatest potential to reap the growth dividends from trade integration. An important long-run objective for the region should be to pursue a regional free trade agreement that goes beyond liberalizing trade tariffs, to cover frontier areas in trade policy that will help to lower the region's non-tariff barriers and enhance its competitiveness on global markets. Strategies to bolster the region's inter-regional integration could be centered on unilateral liberalization as a complement to existing efforts to expand LAC's network of trade agreements given the challenges to the latter at the current juncture. The current downturn in commodity prices has also brought to the forefront the need for LAC to diversify its export portfolios in support of trade integration.

**4. Beyond direct efforts to enhance trade integration, the analysis in this report emphasizes the importance of continued regional efforts to strengthen infrastructure and human capital in support of a broader growth strategy.** These policies can also pay dividends in terms of enhancing trade integration including by facilitating participation in global value chains and are critical to diversifying and upgrading the complexity of LAC's exports. Finally, while the findings in this report suggest that trade can promote economic growth without adversely affecting overall income inequality, trade integration may lead to adjustment costs in particular segments of society. Thus, LAC will need to support the adjustment process with social safety nets to ensure a more equal distribution of the gains from trade across all groups in society.

## TRADE DEVELOPMENTS

*This section sets the discussion of LAC trade against the backdrop of sluggish global GDP and trade growth and a rise in protectionism. Then, drawing on analytical studies conducted for this report, the section summarizes the state of play of LAC trade integration and its composition of trade.*

### A. Latin America and the Caribbean in the Global Context

**5. The slowdown in global trade following the global financial crisis has been significant (Figure 1, Estrella Morgan, forthcoming).** The value of global trade collapsed in 2015 with the sharp correction in the price of oil and the strength of the U.S. dollar. Even in volume terms, world trade has decelerated sharply in recent years. On average, the volume of world trade in goods and services has grown by just over 3 percent since 2012, less than half the average rate observed historically. The concurrent slowdown in global economic activity, particularly in investment, accounts for up to three-fourths of the trade slowdown (IMF 2016b). The slowdown in trade has been accompanied by a rise in protectionist sentiment, particularly in advanced economies, as trade and globalization more broadly, have been blamed for sluggish economic activity and a rise in inequality. Consequently, the pace of trade liberalization has tapered off and there has been an uptick in protectionist measures (paragraphs 7 and 8) that have contributed to less buoyant trade, although, as of yet, the quantitative impact has been limited (IMF 2016a).

**6. The sharp deceleration in global trade and decline in global commodity prices has affected LAC.** LAC countries significantly increased their share in total world exports over the past 25 years, whether measured in terms of gross goods exports or in value-added terms (IMF 2015b). The region benefited in particular from the secular boom in commodity prices from the early 2000s to 2014, which contributed to strong growth in export values and fueled a greater concentration of the region's exports. More recently, the slowdown in world trade coincided with the end of the long-lasting commodity super cycle. Consequently, many commodity-exporting countries in the region have faced sizeable terms of trade shocks. The slowdown in world trade and the correction in commodity prices have resulted in a sharp drop in the value of LAC's exports. In volume terms, the region's exports have also slowed, consistent with weak external demand and persistently low commodity prices. Cumulative GDP growth over 2013 to 2016 was nil, in contrast to 10 percent in the world.

**7. LAC's intraregional trade has declined.** Weaker external demand and the sizeable slump experienced by LAC's commodity exporters, combined with idiosyncratic challenges faced by several LAC economies, have in turn contributed to a reduction in LAC's demand for imports. The region's large commodity exporters in particular have faced the difficult process of adjusting to persistently low commodity prices. While LAC is less regionally integrated compared to other regions (see paragraph 11), the slowdown in the region's commodity exporters, which are important export destinations for some economies in the region, has spilled over to the broader region. As a result, the share of LA's intra-regional trade fell to 14.7 percent in 2014, down from 16.7 percent in 2013.

## B. Trade Integration in Latin America and the Caribbean

### De Jure Trade Integration in LAC

**8. Global trade integration, partly driven by trade agreements, may be facing new headwinds of rising protectionism.** Trade agreements have proliferated in recent years, but rising non-tariff barriers suggest that trade protectionism is rising (Figure 3). The number of trade agreements, as measured by the notifications submitted to the WTO, has grown exponentially since the early 1990s (Figure 3), following a much more moderate increase over the previous four decades. Besides the shift toward market economies by the formerly centrally-planned economies, this development also reflects a more general change of trade policy orientation toward export-led growth. In parallel, trade liberalization lowered the cost of trade: average import tariffs declined markedly from their early 1990s levels. However, the progress made in liberalizing trade and reducing global trade costs appears to have stalled since the global financial crisis. Weighted average tariffs have been broadly stable since 2008 and the use of non-tariff barriers (NTBs) has risen, including in LAC. NTBs include any measures that restrict trade flows, including sanitary and phytosanitary standards, technical barriers to trade, and quantitative restrictions. Data from the WTO suggests that these measures have been increasing globally, especially since the global financial crisis.

**9. Developments in LAC's trade policy have largely mirrored global trends (Figure 3).** The number of trade agreements increased significantly since the 1990s, marked by the region's participation in new bilateral and regional agreements, such as Mercosur and NAFTA in the 1990s, and CAFTA-DR and the Pacific Alliance more recently (see Annex I). However, there are still some missing links in the region's network of trade agreements. In particular, Mercosur countries are not as well-linked via FTAs to the rest of LAC, and Argentina and Brazil do not have FTAs with Mexico, for example (IDB, 2016). In contrast, the Pacific Alliance has been especially active in pursuing trade integration and market openness. Consistent with the region's efforts to liberalize trade, its weighted average tariffs declined markedly over the last two decades, though they still remain higher than in other regions, suggesting that there is scope for further liberalization. Mercosur countries in particular appear to have scope for further reduction in import tariffs. Indeed, LAC's progress in trade liberalization appears to have stalled since the global financial crisis: average tariffs

have stabilized and the region has increasingly used NTBs (Figure 3).<sup>1</sup> Levels of protection are particularly high on intermediate and capital goods, which could impact the ability of firms to participate in global value chains. For example, average MFN tariffs on machinery are relatively high in Brazil and Argentina, while Bolivia and Ecuador have high tariffs on intermediate goods such as wood, non-metal minerals, and paper (IDB 2016). Furthermore, rules of origin in LAC are often restrictive (Perry, 2014) and are not harmonized across the agreements. To address this issue, an initiative to promote convergence of trade rules among FTA-linked countries, with the priority being harmonization of rules of origin, could be a good starting point for enhancing regional trade integration, as opposed to a sole focus on expanding the FTA network (Estavadeordal & Talvi, 2016).

**10. LAC's participation in future trade agreements may encompass frontier trade policy issues in addition to traditional ones.** For example, the Pacific Alliance is pursuing a broader range of policy issues for economic integration, including cross-border investment, financial integration, and environmental, social, and technological exchanges. Three LAC countries, Chile, Mexico, and Peru, had also signed the Trans-Pacific Partnership (TPP) in 2016, which covered non-tariff areas in trade policy such as services, electronic commerce, investment, government procurement, SOEs, SMEs, intellectual property, labor and environment standards, and competition policy. While the fate of the TPP remains unclear, the participation of LAC countries in the agreement is reflective of the region's commitment to trade integration beyond tariffs, and may signal a willingness to include frontier areas in trade policy in future agreements. In the country survey, several countries also signaled an interest in issues such as rules governing the digital economy and trade in services.

**11. Only a few of the FTAs and bilateral investment treaties signed among Latin American countries incorporate a chapter on financial services.** A recent study by the IMF on financial integration in Latin America (IMF 2016a) found that even where these chapters exist, they tend to contain only standard provisions such as national treatment, and the "prudential carve-out", which allows countries to make exceptions to market access for prudential reasons. As discussed in IMF (2016a), international agreements which cover financial services can support regional financial integration. Such agreements create scope for financial institutions to operate regionally, increasing the availability of finance through the pooling of larger amounts of savings, among other benefits.

**12. The model of regional integration followed by LAC has contrasted with that of Asia, which did not have a network of regional trade agreements until the 2000s.** Regional trade in emerging Asia has largely been driven by private sector interests and unilateral tariff liberalization. Starting in the 1990s, lower wage locations in Asia competed to attract investment from Japanese multinationals looking to outsource some of their manufacturing processes. This process resulted in the formation of regional value chains and the emergence of de facto regional integration in Asia (Baldwin, 2006). From LAC's perspective, the lack of an obvious hub and of economic diversity within the region are two important differences which may limit the applicability of the Asian experience to LAC. However, some lessons can be drawn from Asia. These include the importance of private sector interests in fostering regional integration, active policies to promote trade and investment, and the

<sup>1</sup> Estimates of ad-valorem tariff equivalents by Fontagné et al (2011) suggest that construction is an especially protected sector for many countries in LAC.

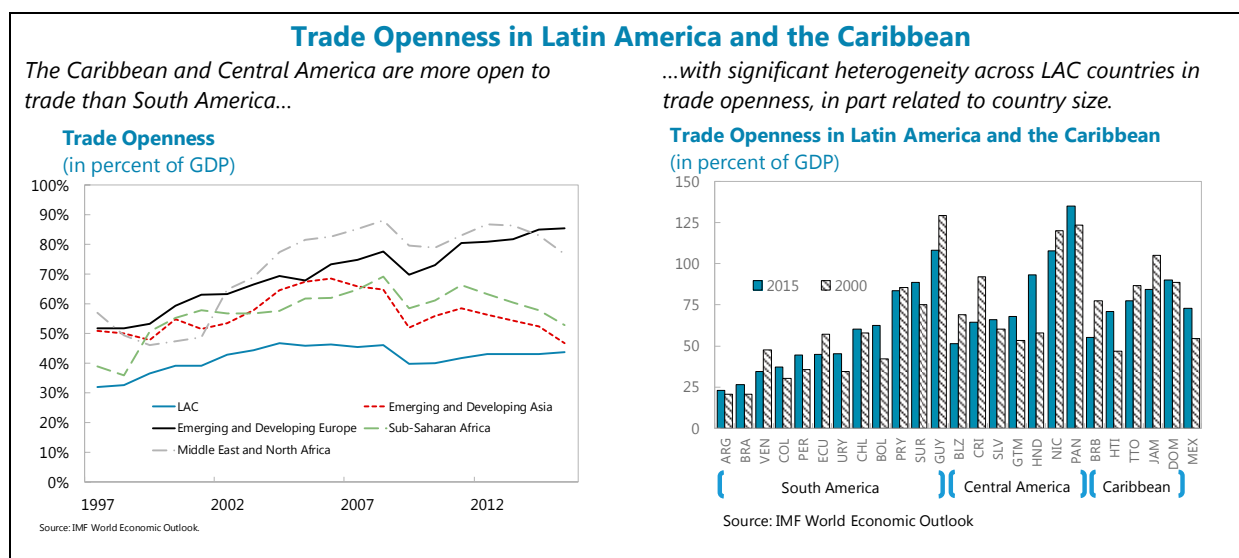


still important role that unilateral liberalization of tariffs and NTBs can play in promoting integration (Annex II).

### De Facto Trade Integration in LAC

**13. Traditional measures suggest that LAC is weakly integrated into the world trade network.** The region accounts for 8.2 percent of global economic activity, but only about 5.1 percent of global exports of goods and services. LAC’s trade openness, the most widely used measure of trade integration, remains lower than in other regions. In 2015, LAC’s trade (exports and imports) represented only 44 percent of regional GDP, well below that of other emerging market economies in all regions of the world. LAC’s weak trade openness relative to other regions appears to be related to the region under-trading relative to its fundamentals (paragraph 25). While the region liberalized trade and benefited from increased trade openness in the late 1980s and early 1990s, its openness has remained relatively stable since the beginning of the 2000s.

**14. The large economies of South America drive LAC’s low average trade openness.** There are significant cross-country differences in the region’s openness to trade, with openness ranging from 25 to 125 percent of GDP. The large economies of South America are the least open to trade, while Central American and Caribbean economies are much more open to trade. To some extent, the enhanced openness of the Central American and Caribbean sub-regions reflects the relatively small size of these economies and related limited domestic production, which increases their reliance on imported goods and services. Mexico is also relatively more open compared to South America.



**15. LAC’s weaker trade integration relative to other regions reflects the lower volume of its trade flows rather than an inability to penetrate markets.** LAC has bilateral trading relationships in goods with about 70 percent of all countries (Beaton, Cebotari, Ding, and Komaromi,

forthcoming).<sup>2</sup> Only Europe and the MENA region have higher median numbers of trading partners. South American countries in particular have the most diversified trading partners, while Mexico is less diversified, reflecting the concentration of its trade with the United States.<sup>3</sup> The Caribbean region has the weakest market diversification among the region. This reflects the small size of economies in the sub-region and their weak connectivity with the rest of the world despite strong trade integration within the Caribbean region. It also reflects the importance of tourism, as trade in this sector is naturally more concentrated with regions of close geographical proximity (North America and Europe). While there is scope for some LAC countries to further integrate by expanding their trading partners, integration with trading partners has been fast across all regions of the world and many countries have established trading relationships with most other countries. In this context, a further deepening of trade integration will need to be driven by enhancing trade with existing partners.

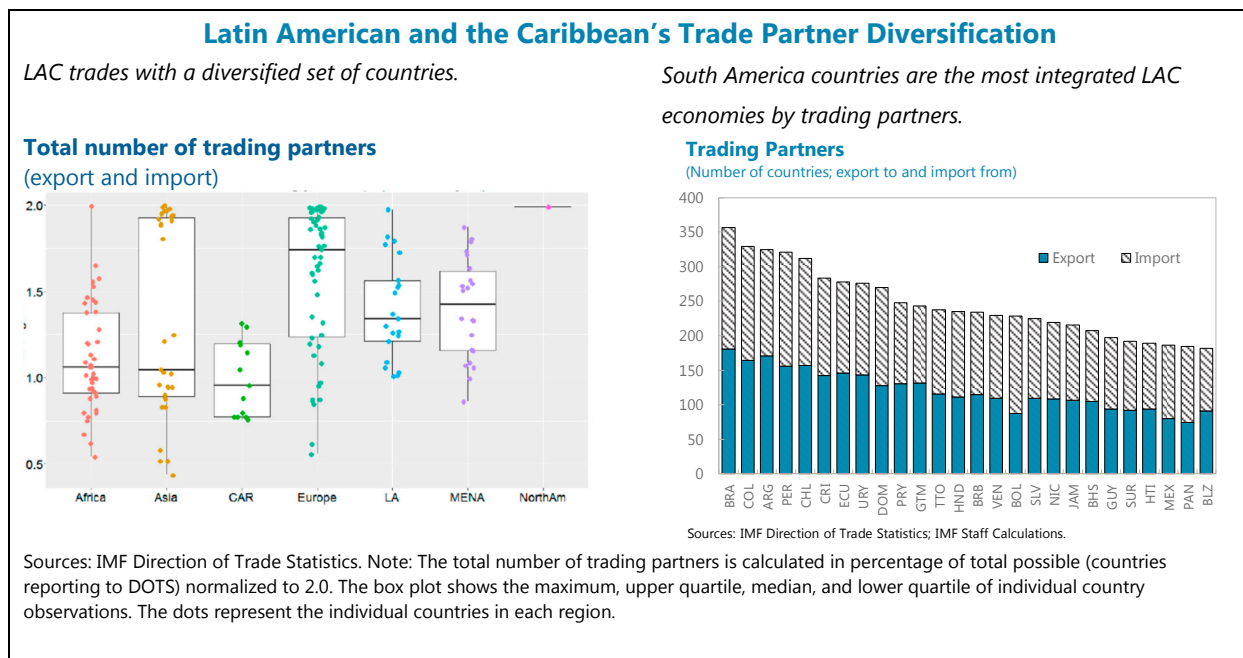
**16. Weaker integration may also reflect market structure in the export sector in LAC.** The top five percent of exporters in LAC generate 80 percent of the region's exports (Gordon and Suominen, 2014), which is comparable to other regions. However, relative to Eastern Europe and East Asia, participation of smaller firms in the export sector is low. A recent study by the IDB found that fewer than 15 percent of small firms' export, compared with 47 percent in Thailand and 55 percent in Malaysia (Gordon and Suominen, 2014).<sup>4</sup> Smaller firms are less able to meet entry costs to exporting, such as the costs of finding new markets, getting goods to market, or complying with technical standards; these barriers may be higher in LAC than in other regions. To some extent, this may reflect LAC's concentration in commodity exports, which are typically produced by relatively larger firms. Cross-regional differences in labor cost levels and dynamics may be important determinants of the development of new industries. In this context, cross-sectoral re-allocation of labor in LAC has been less dynamic than in Asia (Üngör, 2017), which may act as an impediment to the development of new industries and GVCs (Farole, 2016).

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<sup>2</sup> That are included in the IMF's Direction of Trade Statistics (DOTS) database.

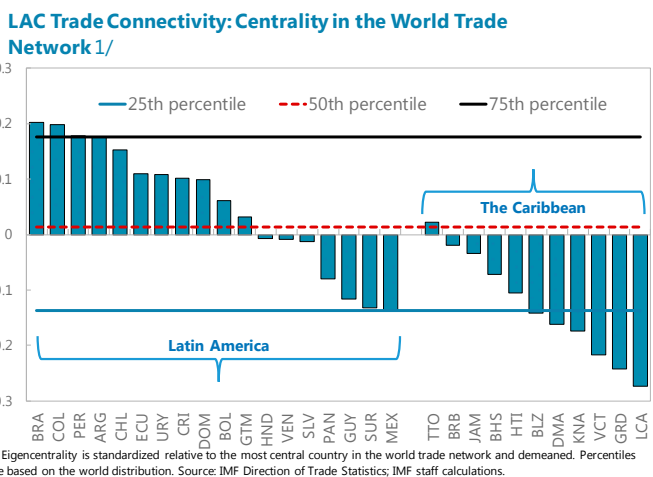
<sup>3</sup> The bilateral trade data from DOTS used to assess the number of trading partners includes only trade in goods. For some countries, particularly where services trade is important, the data may understate the number of trading partners of a given country. For example, the bilateral trade data on goods suggests that Panama is relatively less integrated compared to other LA countries; however, to a large extent this likely reflects the concentration of Panama's trade in services.

<sup>4</sup> Defined as firms with fewer than 250 employees.



**17. LAC is integrated into the complex web of the world trade network.** Geographical depictions of the world trade network suggest that LAC is integrated, but that its integration remains constrained by its distance (Beaton, Cebotari, Ding, and Komaromi, forthcoming). Inter-regional trade has traditionally been concentrated with the United States. More recently, inter-regional trade flows with Asia have risen as commodity exports to Asia have increased and as the cost of trade has declined. China has gained particular prominence as an important export market for LAC's commodity exporters. Network indicators suggest that, given the extent of LAC's trading partners, despite relatively low trade openness, LA countries are of central importance in the world trade network that is centered on the United States and China.

The larger LA countries of Argentina, Brazil, Chile, Colombia, and Peru in particular occupy relatively central roles, while Mexico and Panama stand out as the relatively less central LA countries.<sup>5</sup> Similarly, the Caribbean remains on the periphery of the world trade network,

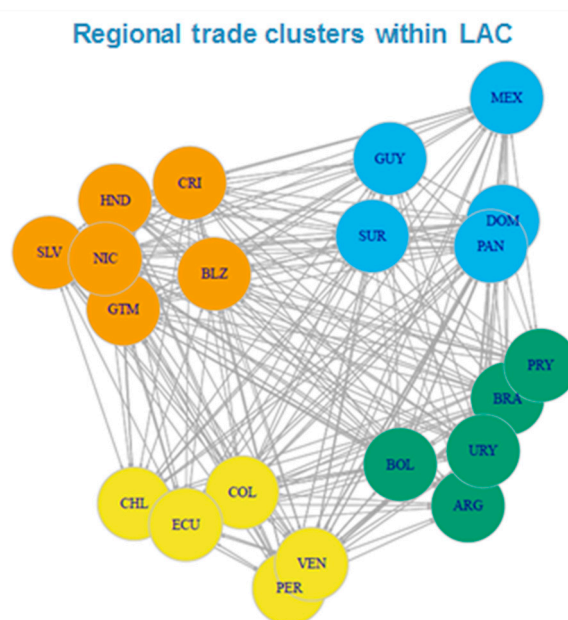


<sup>5</sup> For Mexico, this likely reflects the dominance of its trade with the United States, while for Panama it may reflect the concentration of its trade in services. Centrality is calculated using bilateral trade in goods data from the IMF's Direction of Trade Statistics.

but given the small size of many of these economies, the prospects to occupy a more central role in the global network are likely limited.

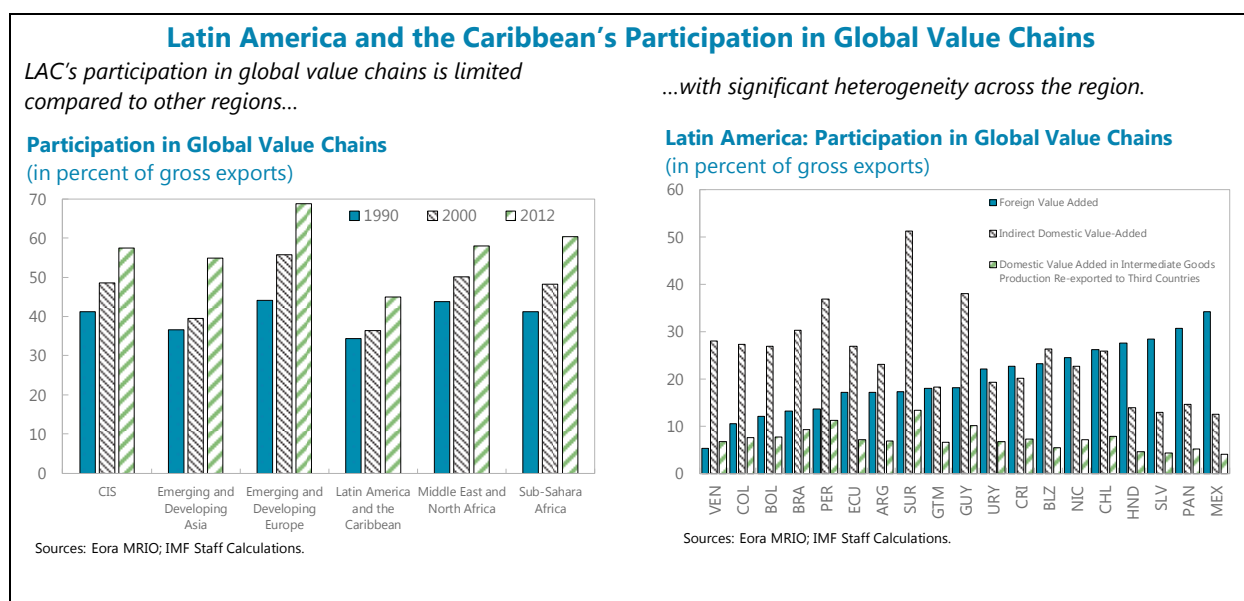
**18. Latin America's trade is less intra-regionally integrated compared to the rest of the world (Figure 2).** With about 15 percent of total exports destined to markets within the region, LAC lags behind developed economies in Asia and Europe, where intra-regional destinations account for well over 50 percent of exports. This is largely the product of weak connectivity among countries due to geographic factors and low investment in infrastructure, evidenced by a lack of adequate roads and railways, and inefficiencies at ports and airports, although with considerable heterogeneity among countries (Cerra et. al 2016). However, LAC's intra-regional trade as a share of its exports is comparable to other regions of emerging market and developing countries. The key distinction is that intra-regional trade in LAC is more heavily oriented toward final goods whereas intra-regional trade in other developing regions is concentrated in intermediate goods. The concentration of LAC's intra-regional trade in final goods is consistent with the concentration of the region's trade in commodities given the region's natural resource endowments, which to some extent limits the LAC's immediate scope to increase intra-regional trade (IMF 2015b). Moreover, while other regions have become increasingly integrated, the pattern of intra-regional trade in LAC has remained relatively stable since 1990. The larger LA economies dominate intra-regional trade flows given the size of their economies. The only notable change in the dynamics of intra-regional trade has been the significant decline in the importance of Venezuela and, to a lesser extent Argentina, given the economic challenges faced by these economies in recent times.

**19. LAC lacks a dominant trading hub, as regional trade is clustered around trade partnerships and neighboring countries.** Trade within LAC is segmented and clustered broadly in line with the main sub-regional trade agreements (Mercosur, Andean Community, Central America). There is no clear trading hub comparable to China in Asia or Germany in Europe where these countries form the center of a regional value chain: importing from within the region and exporting to global markets (IMF 2015b). No LAC country is systematically a top-three export destination for the region, likely due to the concentration of the region's trade in commodities. Brazil has grown in importance as a regional trade destination for its immediate neighbors and Mercosur partners, but has not established itself as a hub for the remainder of the countries of the region, which are considerably further from Brazil's south-eastern economic core. Geographical barriers have also impeded more active trade between Brazil and LAC countries located on the Pacific coast. The U.S. is a much more pronounced hub for regional trade than are any of the large countries in the region.



Trade, as a result, is more strongly concentrated outside the region than within, with the U.S. and China the region’s two largest markets.

**20. LAC’s participation in global value chains (GVCs) remains limited compared to other regions.<sup>6</sup>** Over the past few decades, global production has become increasingly fragmented across countries. This has led to the development of GVCs or networks of the production stages of manufactured goods and services across borders. Insertion into GVCs offers an enhanced opportunity for countries, relative to broad trade openness, to benefit from learning and technology spillovers and enhance productivity. In particular, the intra-industry trade that characterizes participation in GVCs encourages producers to upgrade product quality, including by building on the foreign technologies to which they are exposed through trade (e.g. Baldwin and Yan 2014, de la Torre, Lederman and Pienknagura 2015). For Asian economies in particular, participation in GVCs has been linked to positive growth spillovers. However, LAC has largely missed out on the recent wave of fragmentation of production and participation of LAC countries in GVCs remains low relative to other regions, particularly Asia (see also IMF 2015b).



**21. There is considerable heterogeneity in LAC’s participation in GVCs across countries and by stage of the production process.** While LAC’s participation in GVCs remains limited compared to other regions, some countries do participate in GVCs. Due in part to their geographic location, Mexico and Central America, for example, are engaged in production networks with North American firms and tend to participate at the final stages. This is captured by the higher share of foreign value added in the gross exports of Mexico and Central American countries, which reflects their more

<sup>6</sup> Participation in global value chains is measured as the sum of foreign value added in gross exports and indirect domestic value added (the value of exported goods that are used as imported inputs by other countries to produce their exports) calculated using the Eora Multi Region Input Output (MRIO) Table (Lenzen, Kanemoto, Moran and Geschke 2012 and Lenzen, Moran, Kanemoto and Geschke 2013) based on Koopman, Wang, and Wei (2014)’s decomposition of gross exports.

downstream role in the GVC as they import intermediate goods to assemble and export final production. On the other hand, South American countries tend to be involved in the earlier or upstream stages, given their strong natural resource endowments (Blyde et al, 2014). This is captured by the higher share of indirect domestic value added in their gross exports as it represents the portion of domestic value added pertaining to their intermediate inputs in the value added produced by other countries (Koopman, Power, Wang and Wei 2010; UN 2015; and IMF 2015b).<sup>7</sup> Thus, by all measures, LAC has not maximized its participation in GVCs and enhanced participation may offer LAC new opportunities for technology transfer.

## C. Composition of Trade

**22. The commodity price boom interrupted LAC's transition to complex and technologically-advanced exports.** A key indicator for the relative export performance in a specific product is the revealed comparative advantage (RCA), which compares the share of a certain good in a country's total exports with the share of that product's world exports in total world exports of all goods.<sup>8</sup> The LAC region has traditionally had RCA in exports of mineral fuels and other primary commodities, but lagged significantly behind other regions on exports of skill- and technology-intensive manufactured goods (Ding and Hadzi-Vaskov, forthcoming). Over the last half a century, the region slowly diversified into new industries, steadily improved its revealed comparative advantage in skill- and technology-intensive manufactures, and increased the share of more complex products in its export portfolios. However, the commodity price boom in the 2000s interrupted this trend as the region's less complex, primary products accounted for a larger share of exports.<sup>9</sup> This development stands in sharp contrast with Emerging Asia, where the progress continued without major interruption.

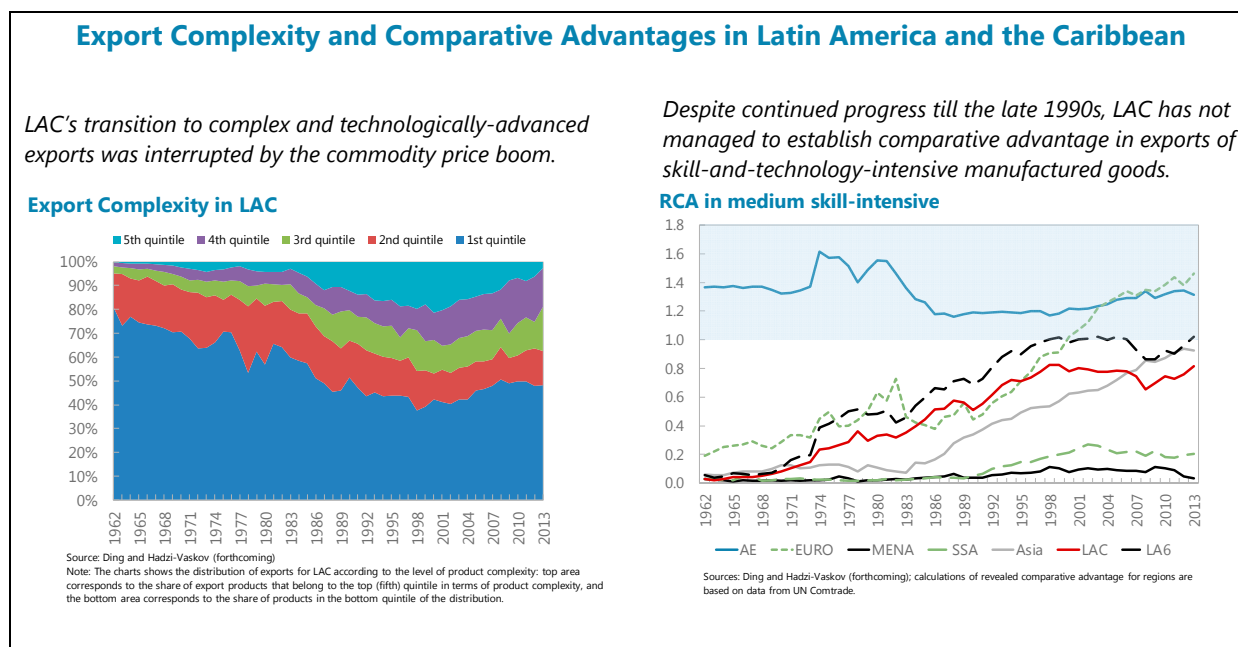
**23. Service exports have expanded less rapidly in South America than globally, but have become more important in Central America and the Caribbean (Figure 4).** Service exports represented about 13 percent of LACs total exports in 2015, less than the 16 percent share from four decades ago. In contrast, service exports have grown in importance for most other country groups, particularly for advanced economies, as goods production shifted to lower-cost emerging market and developing countries and advanced countries became more specialized in services. However,

<sup>7</sup> LAC countries also tend to participate in relatively shorter GVCs. This is seen by decomposing countries' upstream participation as in Koopman et al. (2014) to consider the subcomponent measuring the domestic value added in intermediate goods production re-exported to third countries. This interpretation was used in IMF (2015).

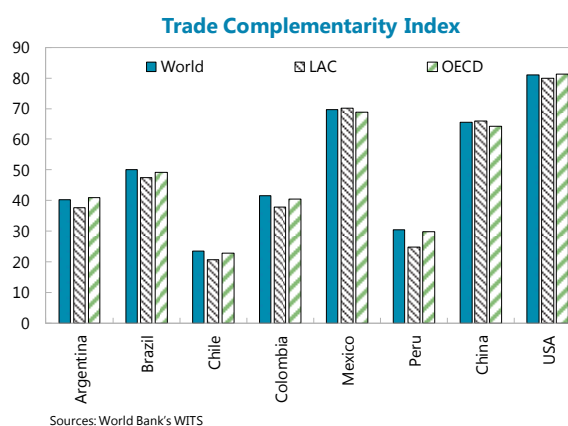
<sup>8</sup> RCA shows the relative advantage or disadvantage that a country (or a group of countries) has in exporting a certain good (or group of products). It is measured here according to the RCA index introduced by Balassa (1965) that divides the share of a certain good in a country's total exports by the share of that product's world exports in total world exports of all goods. Hence, if the RCA index is above one, the country (or the group of countries) is said to enjoy RCA in that product (or group of products).

<sup>9</sup> The share of most complex products since 2000 was squeezed by the higher share of primary commodities in total export value. When the primary commodities are excluded from the analysis, the share of most complex products stops increasing in the early 2000s and remains roughly unchanged in the subsequent period.

there is considerable heterogeneity in the importance of service exports in LAC. South America's service exports are limited, but in Central America and the Caribbean service exports account for over 40 percent of total exports, with their importance increasing considerably over the last four decades. The importance of service exports for these economies reflects, to a large extent, their reliance on the tourism sector.



**24. The countries in LAC have scope to increase trade integration both within the region as well as with economies outside LAC.** The trade complementarity index, which indicates how well the export structure of certain country matches the import demand composition of another country, suggests that the trade profiles of the large LAC economies show similar degrees of complementarity with LAC and with the rest of the world. Nonetheless, the trade profiles for most of them are slightly more compatible with the advanced economies than with LAC. Mexico seems to be an exception among them, likely as a result of its broad manufacturing base and lower dependence on commodities, as its export structure shows higher complementarity with LAC. While trade integration with partners outside the region appears slightly more complementary, further intra-regional integration may be more feasible given that the countries in LAC already have in place a large set of regional trade and integration agreements with some of them, such as the Pacific Alliance, aiming to serve as a platform for further integration that builds upon the existing agreements (Annex I).



## DETERMINANTS OF TRADE

*This section considers policies and other factors that support export growth and have an impact on the composition of exports, based on the findings from analytical papers conducted for this report. Improvement in infrastructure quality, expansion of trade agreements, and reduction of structural constraints have the potential to substantially raise LAC's exports. Policies to enhance education, upgrade skills and infrastructure quality are also important for the success of strategies that aim to diversify exports and increase their level of complexity and value added.*

### A. Export Growth

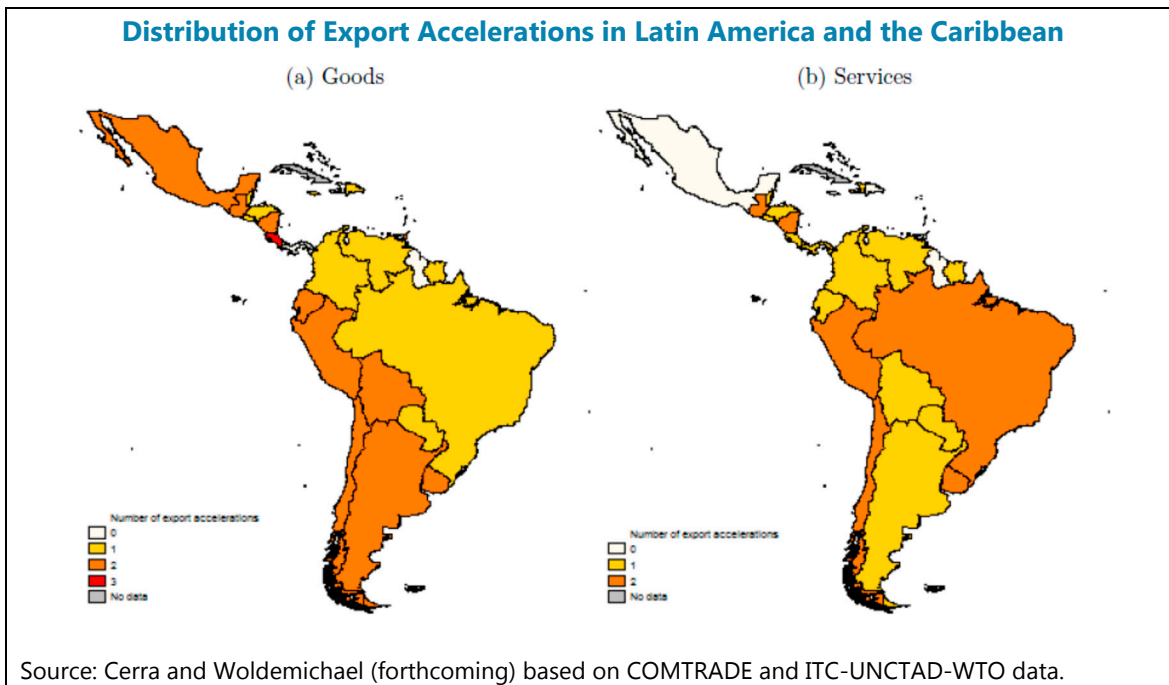
**25. LAC countries appear to be under-trading relative to their fundamentals.** Estimation results from gravity equations that model bilateral exports as a function of economic, historical, and geographic characteristics imply that economic size, common official language, contiguity, colonial relationship or common colonizer all have positive effects on bilateral trade flows. Conversely, larger geographical distance and being landlocked or trading with a partner that is landlocked have negative effects on bilateral trade. Results from gravity models that take into account all these factors suggest that LAC countries are expected to trade significantly more than they do, both within the region and with the rest of the world (IMF 2015b).

**26. Historical episodes of export accelerations in LAC have been driven by macroeconomic and structural factors.** Lower macroeconomic uncertainty, higher trade openness and real exchange rate depreciations have increased the likelihood of export accelerations in LAC, defined as a significant increase in exports sustained for at least seven years, as have improved institutional quality, agricultural reforms, and participation in GVCs (Cerra and Woldemichael, forthcoming).<sup>10</sup> While more diversified export portfolios are associated with surges in exports for the world in general, the expansion into new products has been an especially important determinant of historical export accelerations in LAC. As a result, LAC's diversification into new products could raise the likelihood of the region experiencing an export boom.

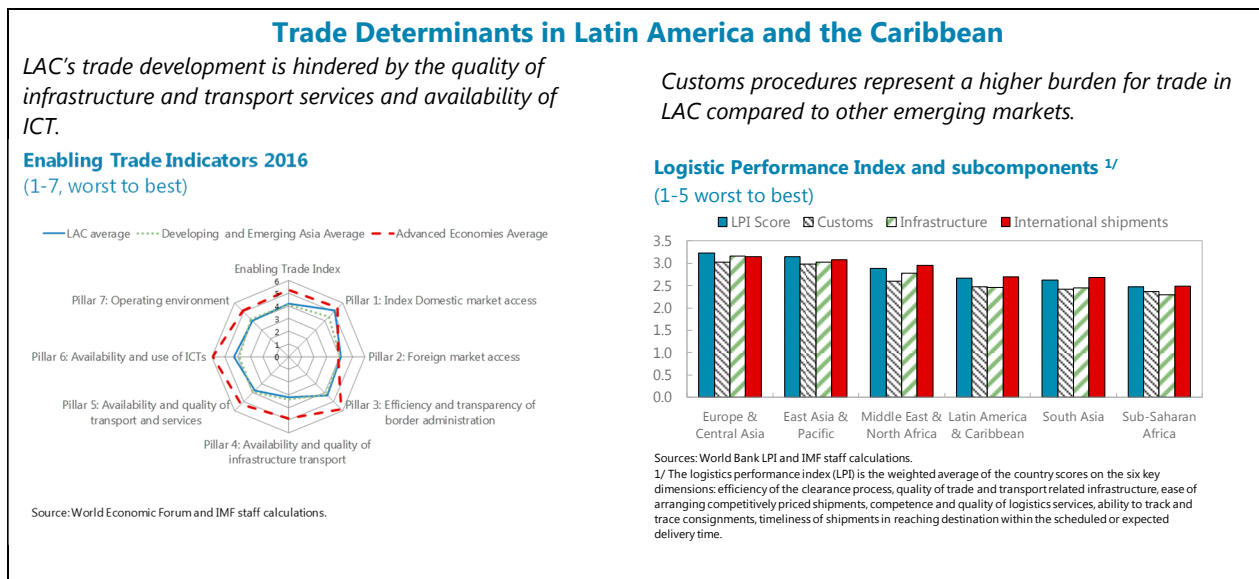
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<sup>10</sup> The definition of export acceleration employed here follows Freund and Pierola (2012).





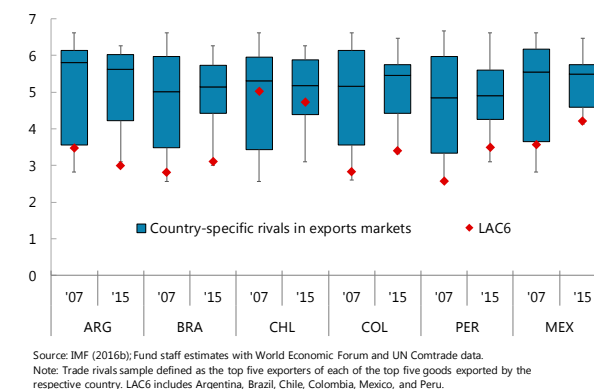
**27. Structural factors are impeding an expansion of LAC’s trade.** Enabling trade indicators suggest that improvements in the operating environment and the quality of infrastructure and transport services, particularly shipping connectivity and port infrastructure, as well as the availability and use of ICT could support an expansion of LAC’s trade. Similarly, streamlining customs procedures, which are more burdensome in LAC compared to other emerging market regions, could help expand LAC’s trade. Given the structural nature of these impediments, further trade facilitation in LAC is likely to be a gradual process encompassing broader policy objectives and priorities.



## 28. The quality of infrastructure across countries in LAC is below that of export rivals.

Infrastructure quality in LAC improved over the last decade driven both by increased public investment supported by the commodity boom and higher private investment supported by deeper domestic capital markets, particularly in sectors that reduced regulatory obstacles. Notwithstanding recent upgrades, infrastructure quality lags behind advanced economies and emerging Asia.<sup>11</sup> The logistics performance index (LPI), a summary measure of countries' relative performance on trade logistics compiled by the World Bank, also suggests that LAC lags behind most other regions, with the exception of Sub-Saharan Africa and South Asia. In particular, LAC lags behind other regions in terms of adequate roads and railways and port and airport efficiency (Cerra et al. 2016).<sup>12</sup> A direct comparison between LAC's larger economies with their main export market rivals suggests that only Chile's infrastructure quality is comparable to its competitors, while all others lag significantly behind rivals (Cerra et al. 2016). Beyond exports growth, such unfavorable standing may also compromise competitiveness and growth prospects in the region.

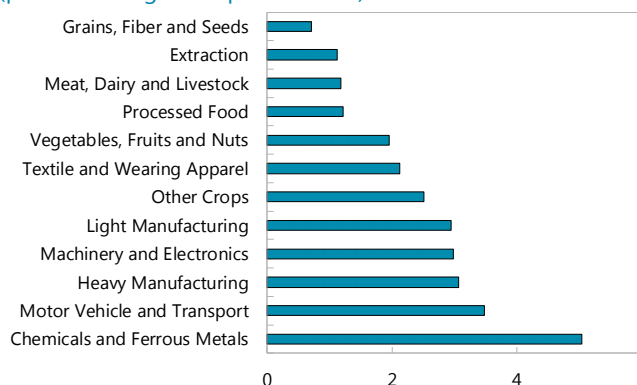
LAC6 and Trade Rivals' Comparison Quality of Infrastructure (2007-2015)  
(Index: worst = 0, best = 7)



## 29. An upgrade of LAC's infrastructure could stimulate exports from industries with potentially high value added such as chemicals, motor vehicles, and heavy manufacturing (Baniya, forthcoming).

An upgrade in LAC's transportation infrastructure, as measured by the LPI, to the level of the next highest region (MENA) is estimated to result in significant export growth. Moreover, the positive effect is concentrated exactly in industries that can become future leaders in generating high value-added for countries in LAC, such as chemicals, motor vehicles, and heavy manufacturing. In sum, policy focus on high-quality infrastructure is particularly important for countries that aspire to diversify

Effect of Infrastructure Improvement on Exports  
(percent change in export volume)



Sources: Baniya (forthcoming).  
Note: The results show the effect of a 7.9% increase in the LPI of Latin America, which increases its level of infrastructure to that of MENA. Based on time sensitivity regression results.

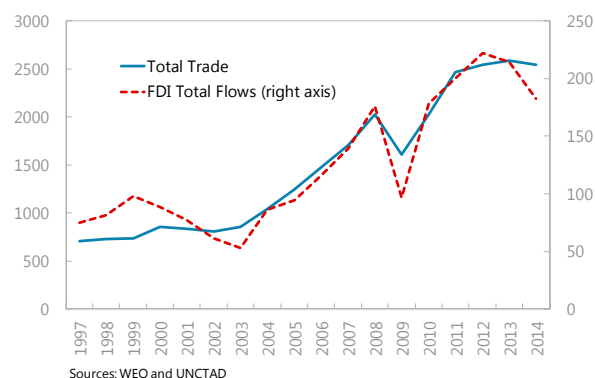
<sup>11</sup> Regions also differ with respect to private sector participation through greenfield investment, which has accounted for a much larger proportion of infrastructure spending in emerging Asia than in LAC.

<sup>12</sup> De la Torre et al (2015) measures the average trading costs for Latin American countries. The best performers—Panama, Chile and Peru—have lower average trading costs relative to advanced economies, while trading costs are very high in Venezuela, Colombia and Brazil, partly due to geographic reasons. Peru is an interesting example, because its trading costs are lower than one would expect, given the quality of its infrastructure. This is because of the high percentage of exports which are mining products, where the existence of rents may allow companies to build proprietary infrastructure (Cerra et al, 2016).

and move up the value ladder, as timely delivery is more important for processed goods and manufactures than for primary commodities.

**30. Investment and trade flows have been highly intertwined in LAC.** The association between FDI flows and trade has been particularly close in the “boom” years over the past decade and a half. In addition, economies with higher presence of FDI tend to have higher levels of participation in global production chains (Rodriguez Delgado, forthcoming). As global trade trends become increasingly shaped by cross-country fragmentation of the production processes, vertical FDI undertaken by multinational firms is expected to gain further prominence. In some countries in the region, another trade-investment connection has occurred through investment-related imports in response to the commodity boom. Booms in import volumes have coincided with periods of strong terms of trade, particularly the most recent one in the 2000s.

**LAC: Total Trade vs Total FDI**  
(Billions USD)

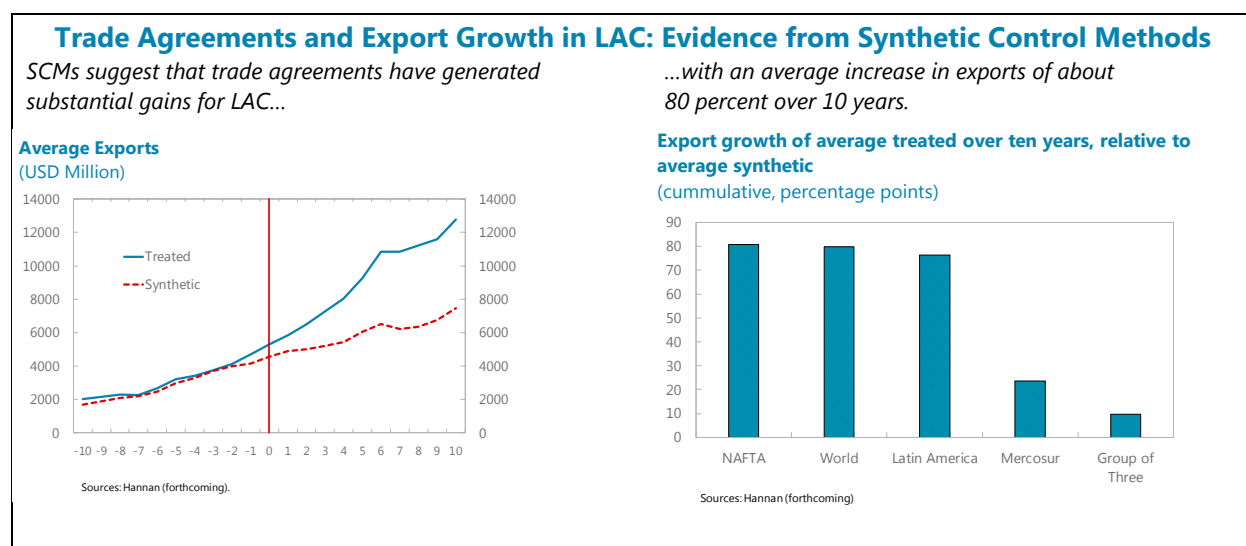


**31. Lower tariffs on imported capital goods in LAC could stimulate domestic investment—an essential component of the trade-growth nexus.** Investment will play an important role in the region’s rebound from the end of the commodity super cycle. About 1/3 of the expected growth pickup in LAC between 2016 and 2021 is projected to come from stronger fixed capital formation. At the same time, data suggests a high correlation between investment and capital goods imports, likely due to the limited availability of such goods in the region. Despite a general reduction in tariffs over recent decades, some countries in LAC have room to lower tariffs on capital goods imports to bring them in line with other regions and facilitate imports of investment inputs. These tariff barriers represent a significant drag to private investment. The combination of tariff barriers on capital goods with limited infrastructure, and relatively weak investment climate as measured by low ranking in key Doing Business components such as investor protection and contract enforcement, could become an important investment obstacle. Measures to reduce tariff barriers, including on a unilateral basis, would reduce the cost of investment, improve capacities for innovation, and help boost economic growth.<sup>13</sup>

**32. Trade agreements in Latin America seem to have generated substantial growth in exports.** In general, the impact of trade agreements on export growth is found to be highly sensitive

<sup>13</sup> Where tariff revenue is an important contributor to government finances, a gradual liberalization combined with measures to offset the negative impact of tariff liberalization on revenue would be appropriate; this is of particular importance for some Caribbean countries.

to the methodology and model specification employed (IMF, 2015c).<sup>14</sup> Recent studies that investigate the ex-post impact of Latin America's trade agreements using ex-post synthetic control methods (SCMs) indicate that they generate substantial gains, with an average increase in exports of about 80 percent over ten years (Hannan, forthcoming).<sup>15</sup> In this regard, estimated exports gains vary widely across countries and trade agreements. Across country groups, export gains are found to be especially important for emerging markets, and for trade agreements between emerging markets and advanced economies. Compared to the world average, export gains in Latin America are more limited, possibly due to the region's relatively lower trade openness, weaker integration into global production chains, as well as limited product complexity, and lack of accompanying structural reforms.



## B. The Composition of Exports

**33. Infrastructure quality, along with education enrollment, levels of tariffs and income inequality also boost export complexity (Table 1).** Countries with better infrastructure, higher secondary school enrollment, lower average tariffs, and less income inequality also tend to export more complex products.<sup>16</sup> In turn, some studies suggest that higher economic complexity has a

<sup>14</sup> While traditional ex-ante computational general equilibrium models are useful to provide insight about the likely effect of trade agreements before entry into force, they also encompass considerable uncertainty and significantly under-estimate the agreements' impact on trade growth in subsequent years. Hence, their findings can reasonably be considered a lower bound of trade agreements' potential to generate additional trade. See Kehoe (2003) for a comparison of predictions from CGE models with actual outcomes.

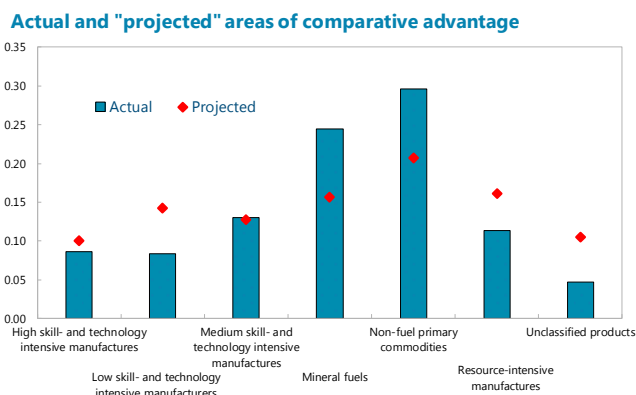
<sup>15</sup> See also Hannan (2016). SCM allows unobserved country characteristics to vary over time, which helps address the endogeneity problem linked to the fact that countries are more likely to adopt trade agreements with natural trading partners with whom they have significant bilateral trade. These results are in line with other literature, such as Baier and Bergstrand (2007) and Baier and Bergstrand (2009), which use instrumental variables and nonparametric techniques, respectively, to deal with endogeneity.

<sup>16</sup> Based on findings in Ding and Hadzi-Vaskov (forthcoming).

positive impact on future growth prospects.<sup>17</sup> Factors such as lower tariffs are also associated with more diversified and more sophisticated export portfolios. Better infrastructure quality, and higher education are also important determinants of countries' export share and comparative advantage in high skill- and technology-intensive products. In sum, beyond the well-documented impact on the intensity of trade, these factors also exercise a significant effect on the composition of trade.

**34. Product proximity provides insights into the likely direction of change in which LAC can take advantage of its current areas of comparative advantage to diversify in related industries.**

The growing literature on economic complexity and product proximity suggests that the ability of a country to produce certain product depends on how similar or close it is to the products that are already produced in this country.<sup>18</sup> It is easier for a country to reuse or re-employ certain set of skills for producing similar goods, than to acquire completely new skills and competencies and make revolutionary jumps in its product portfolio. The proximity between groups of products suggests that LAC is likely to export less mineral fuels and primary commodities, and export more resource-intensive, low- and high-skill manufactured goods in the future (Ding and Hadzi-Vaskov, forthcoming).<sup>19</sup>

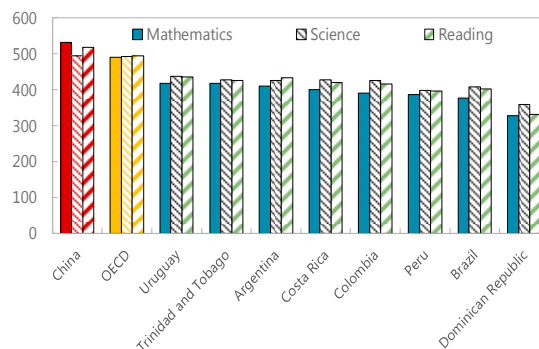


Source: Ding and Hadzi-Vaskov (forthcoming)  
 Note: Figures for actual and predicted RCA are standardized, so they sum to one. Predictions are based on proximity between product groups over time and the most recent figures for RCAs (2013).

**35. Successful diversification into more complex and skill-intensive exports is likely to be a gradual, incremental process, but can be boosted by policies to upgrade skills and infrastructure.**

Episodes of effective diversification into new products (including in Emerging Asia) were not sudden and abrupt events, but rather proceeded gradually through intermediate stages in which countries moved into products that were similar to what they were already producing. In fact, an analysis based on product proximity has correctly predicted the change in the RCA for all categories of exports in LAC except for high-skill ones, where

Program for International Student Assessment (PISA) results 2015 (averages for PISA scale, students age 15)



Source: OECD

<sup>17</sup> See Hausmann et al. (2014) for a discussion about the importance of complexity for economic growth.

<sup>18</sup> For an elaboration of the concept of product proximity see Hausmann et al. (2014).

<sup>19</sup> Predictions about areas in which LAC is likely to improve its RCA is based on the current distribution of RCA across the seven groups of products and the average proximity between these product groups calculated from historical data. These findings are robust to alternative time periods and methods to calculate proximity. For analytical details, see Ding and Hadzi-Vaskov (forthcoming).

comparative advantage decreased instead of increasing (Ding and Hadzi-Vaskov, forthcoming). This finding likely reflects the lack of necessary skills, technology and adequate infrastructure that can potentially prevent LAC from capturing its opportunity to move up the next ladder, emphasizing the need for policy actions to make progress in several areas, such as enhancing educational outcomes and infrastructure. These would include education, especially to focus on improving student achievement scores (beyond higher enrollment rates that were targets in the past), strengthen secondary school curriculum with technical subjects/skills, and improve tertiary education. Another key area is to focus on high quality public investment in infrastructure, in line with the priorities emphasized by country authorities.

## THE ECONOMIC AND SOCIAL IMPACT OF TRADE

*Drawing on analysis conducted to support this report, this section revisits the relationship between international trade, economic growth, and income inequality with a focus on the LAC region.<sup>20</sup> The analysis suggests that trade integration can promote economic growth without adversely affecting aggregate income inequality. With LAC's trade openness lower than that of other emerging markets, this points to an opportunity for the region to leverage trade for economic growth. However, as trade integration may lead to adjustment costs in particular segments of society, there is a role for social safety nets to smooth the adjustment process.*

### A. Trade and Economic Performance

**36. Trade integration may promote economic growth.**<sup>21</sup> Standard panel growth regressions (Table 2) suggest that trade openness improves economic growth.<sup>22</sup> The effect of trade on growth varies with the level of economic development, with the growth benefit stronger for advanced countries relative to countries at earlier stages of economic development. This is consistent with other findings that the beneficial effects of trade increase as economies develop and strengthen complementary policies that allow them to reap the benefits of trade (e.g. D.H. Kim 2011). Among other aspects, this includes strengthening human capital development and physical infrastructure, while also improving institutional frameworks and putting in place policies that encourage investment. There is also some evidence that the economic impact of trade differs by region. For

<sup>20</sup> The cross-country econometric and event study analysis in this section is based on Beaton, Cebotari, and Komaromi (forthcoming).

<sup>21</sup> A vast literature examines the effect of trade on growth. A seminal contribution by Frankel and Romer (1999) found that trade, instrumented with geography, has a positive effect on countries' income. These findings were disputed by some (e.g. Rodríguez and Rodrik (2001)), while other, more recent papers have found an important role for trade in economic growth. For example, see Dollar and Kraay (2004), Loayza and Fajnzylber (2005), de la Torre et al (2015).

<sup>22</sup> The model in Beaton, Cebotari, and Komaromi (forthcoming) is estimated with system generalized methods of moments and follows the approach used in de la Torre et al (2015). Causality between trade and growth likely runs in both directions, leading to concerns of endogeneity. While the GMM methodology is designed to mitigate endogeneity, but may be sensitive to the specifications of the model. Therefore, the regression analysis is complemented with event studies of major trade liberalization episodes.

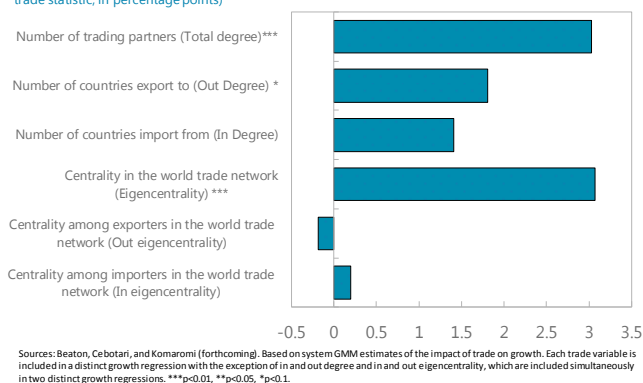
LAC, the results suggest a stronger economic impact of trade relative to other regions (see column 3, Table 2).<sup>23</sup>

**37. More expansive and diverse trading networks can enhance economic activity.**

Countries with similar levels of trade integration based on trade openness can have very different patterns of integration into the world trade network in terms of the number of their trading partners and their centrality and that of their main partners. Results from panel regressions suggest that countries with more trading partners benefit from stronger economic growth.<sup>24</sup> The economic benefit of expanding a country’s trade connections is primarily from increasing its export markets. Being at the center of the world trade network rather than in the periphery is also associated with positive growth effects. Conceptually, this positive effect may be linked to enhanced opportunities to gain from technology diffusion and learning spillovers given the preponderance of trade activities that either flow directly to or from a country or to or from a country’s direct trading partners. With its diversified set of trading partners and central role in the world trade network of its larger economies, Latin America is well placed to reap the growth benefits of its trade connections.<sup>25</sup>

**Trade Connectivity and Economic Growth**

(impact on 5-year average real per capita growth rate from moving from the 25 to the 75 percentile of trade statistic; in percentage points)



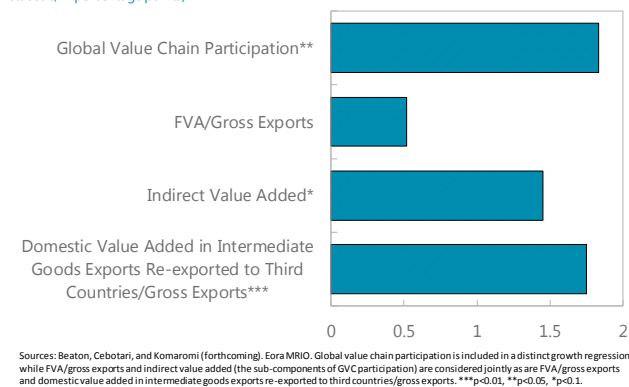
<sup>23</sup> Conversely, for Asian economies results of a similar (not reported) regression with a dummy variable for Asian economies and an interaction term between the Asian dummy variable and trade openness suggest the impact of trade openness is lower than for other regions. This related, but converse, finding also lends support to our hypothesis that it is not trade openness alone, but the characteristics of countries trade that also matter for economic growth.

<sup>24</sup> The regressions (Beaton, Cebotari and Komaromi, forthcoming) augment the standard growth regression in Table 1, column 1 with characteristics of countries’ trading relationships to determine if they are associated with additional growth effects over and above the effect of trade openness.

<sup>25</sup> The larger LA economies of Argentina, Brazil, Chile, Colombia and Peru have already reached or neared the 75<sup>th</sup> percentile of the global distribution of countries’ based on the number of their trading partners and are also close to the 75<sup>th</sup> percentile of the global distribution based on their centrality or importance in the world trade network (even if excluding commodities). The Caribbean, given the small size of these economies, remains relatively less connected.

**38. Participation in global value chains, can lead to knowledge spillovers and enhance the effect of trade on economic growth.** Results from panel regressions, suggest that participation in global value chains, particularly upstream participation, enhances economic activity. Downstream participation also has a positive, although not statistically significant, effect. The length of the global value chain in which a country participates (captured by domestic value-added in intermediate goods production re-exported to third countries) also appears to matter for economic growth. These results are consistent with the enhanced exposure of firms at the middle stages of the production process to knowledge diffusion across firms inside the value chain. Given that LAC's participation in GVCs remains limited (see paragraph 17), enhancing participation in GVCs may offer LAC new opportunities for technology transfer, particularly through trade in intermediate goods. Based on the results of this analysis, bringing LAC's participation in GVCs in line with that of Asia has the potential to increase the region's average per capita growth by just under 1 percentage point.

**Participation in Global Value Chains and Economic Growth**  
(impact on 5-year average real per capita growth rate from moving from the 25 to the 75 percentile of trade statistic; in percentage points)



**39. Enhancing LAC's participation in GVCs will require supportive reforms.** Fostering GVC participation requires efforts to reduce trade barriers, enhance infrastructure, foster human capital formation, support research and development and improve institutions.<sup>26</sup> Removing trade barriers is of particular importance for enhancing participation in GVCs as the detrimental effect of a given trade barrier is compounded in a production environment in which intermediate goods cross borders multiple times. In this environment, trade barriers within a GVC on the import of intermediate goods effectively act as a tax on the economy's exports. For LAC, the region's infrastructure deficiencies are well known (e.g. Cerra et al. 2016) and would likely need to be addressed to strengthen participation in GVCs. Finally, to reap the largest gains from their participation in GVCs, LA countries should continue to focus on human capital development and putting in place an environment conducive to R&D, which have been shown to facilitate a shift upstream in countries' participation in GVCs and enable countries to capture a higher share of value-added along a GVC (Cheng, Rehmon, Seneviratne and Zhang (2015)).

**40. The composition of countries' export markets is also an important aspect of the relationship between international trade and economic growth.** Results from panel regressions suggest that trade connections with regional partners are associated with larger growth effects than inter-regional trade connections. Thus, efforts to enhance regional integration in LAC present an opportunity to increase the economic benefit of trade for the region. Increasing intra-regional trade in LAC from about 15 percent of the region's export to 55 percent, comparable with that observed in

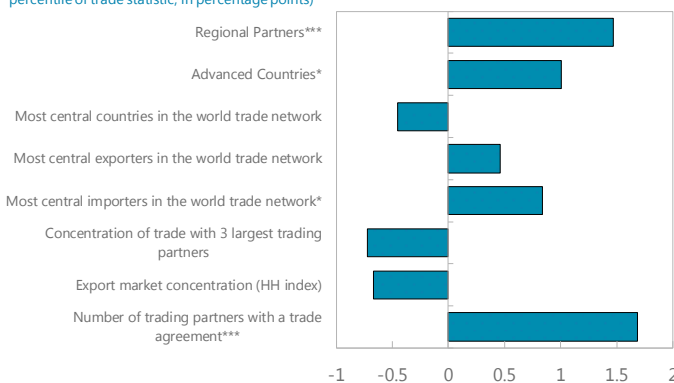
<sup>26</sup> Cheng, Rehmon, Seneviratne and Zhang (2015).



Asia, could enhance real per capita growth in the region by 1.3 percentage points. Trade with advanced economies can also enhance the growth benefits of trade and, indeed, LAC has historically benefited from its trade with advanced economies given the concentration of many countries' exports to the United States. More recently, the emergence of China as a key export destination, particularly for LAC's commodity exporters, has contributed to a rise in the share of emerging markets and developing countries in LAC countries' total exports to 50 on average over 2010–2015, from 33 percent on average over 1995–1999. The emergence of new export markets for LAC and diversification of its export partners may have thus lowered the overall impact of trade on economic growth for LAC, given that the expansion has been driven to a large extent by trade with other emerging market and developing countries (see also de la Torre et al. 2015). While trade connections with the most important (or central) importers in the world trade network can offer additional growth benefits, the concentration of a country's export markets may have a negative effect on growth, alluding to the importance of diversifying trading partners. Formalizing trade relationships with trade agreements can also confer additional growth benefits, confirming that LAC's strategy of integrating through trade agreements can have beneficial growth effects.

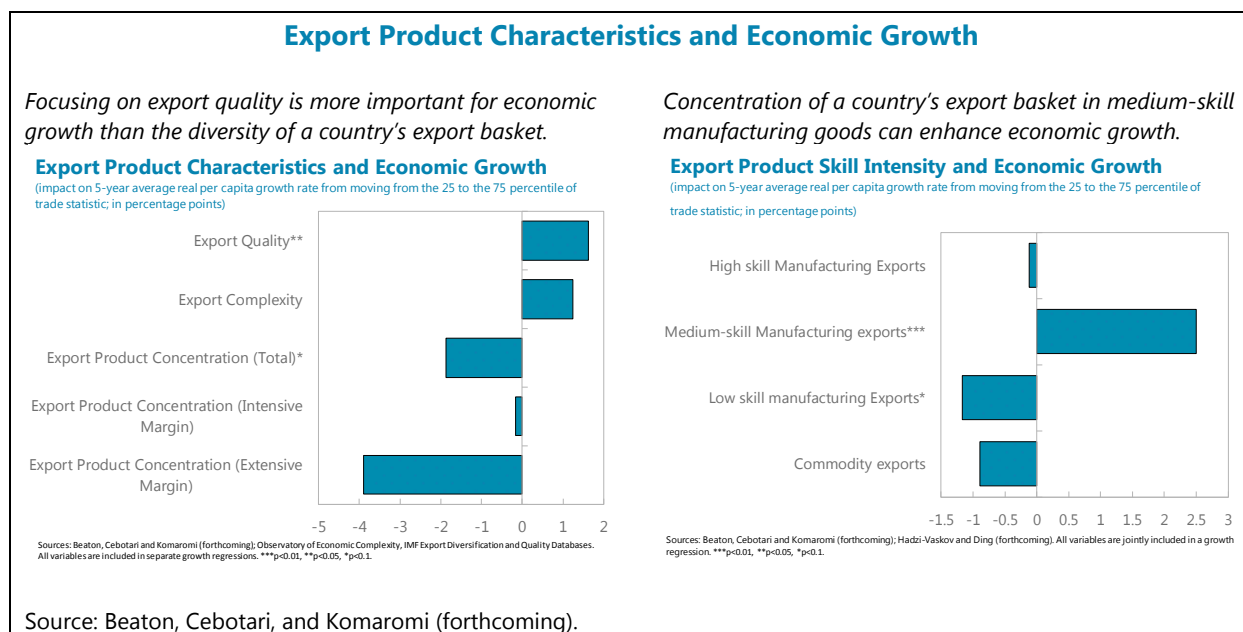
**Export Markets and Economic Growth**

(impact on 5-year average real per capita growth rate from moving from the 25 to the 75 percentile of trade statistic; in percentage points)



Sources: Beaton, Cebotari, Komaromi (forthcoming). All variables are included in separate growth regressions.\*\*\*p<0.01, \*\*p<0.05, \*p<0.1.

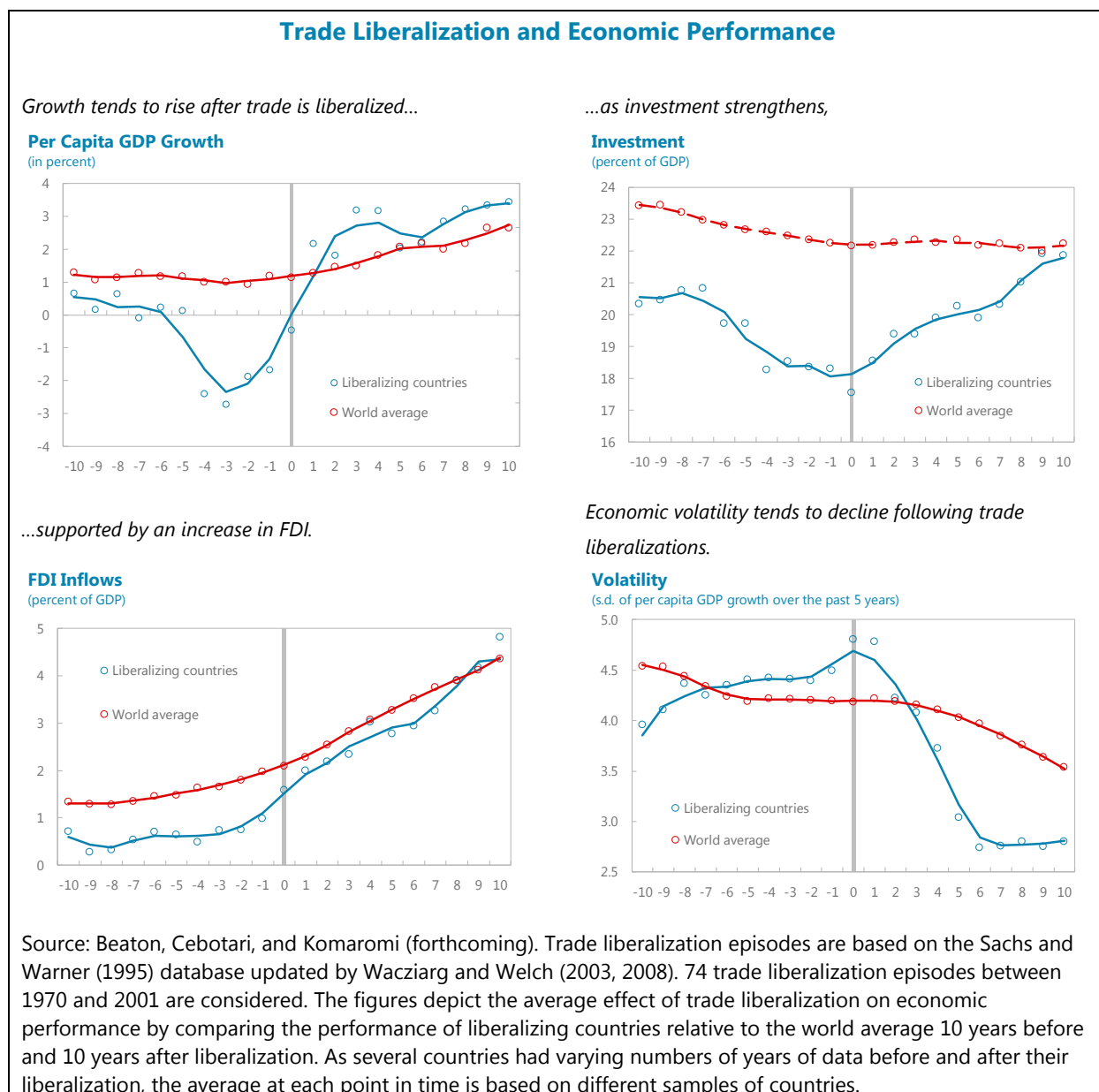
**41. Diversified exports and export quality can enhance the effect of trade on economic growth.** Results from panel regressions suggest that a highly concentrated export basket may impede the economic gains from trade. LAC's export products are relatively concentrated given the importance of the commodity sector. A reduction (increase) in their concentration (diversification) by 25 percent has the potential to increase the region's real per capita growth by 1 percentage point. Higher export quality is also linked to stronger growth effects of exports; however, LAC has already cemented itself as a region with high quality exports and, while a strong focus on export quality remains important, there are less opportunities for the region to increase the growth dividends from trade through improvements in export quality. There is also some evidence that the relative skill-intensity of a country's basket of manufactured goods exports can influence growth outcomes. Concentration of manufactured goods exports in medium-skills products are found to confer additional growth advantages, while concentration in low-skilled products can reduce the positive effect of trade on growth. This finding is consistent with the importance of trade in intermediate goods, which tend to be associated with medium-skilled labor, for growth. This reasserts the importance of reversing the recent decline in the complexity of LAC's export product basket.



**42. Event studies also suggest that large and distinct trade liberalization episodes can enhance economic activity.**<sup>27</sup> Growth and investment tend to pick up after liberalization, supported by foreign capital inflows. The few years immediately preceding liberalization tend to be low-growth and high-volatility years: reforms are often preceded by downturns or crises. However, growth and investment appear to increase immediately after liberalization and the effects do not die out after a few years. Major trade reform episodes are also associated with rising foreign direct investment, which could be partly related to accompanying policy changes that liberalize financial flows.<sup>28</sup> A significant acceleration in FDI inflows may have contributed to growth through increases in the capital stock and technology transfer. Against the backdrop of higher growth and investment, the average liberalizing country also experienced a drop in economic volatility.

<sup>27</sup> The event study approach attempts to mitigate the identification problems in cross-country regressions caused by the endogeneity between trade and growth by considering only trade liberalization episodes when countries implemented large changes in their trade policies. However, as significant trade reforms are usually part of a broader policy package, the approach cannot ascertain whether the observed effects are strictly caused by trade liberalization or accompanying policies.

<sup>28</sup> In Beaton, Cebotari, and Komaromi (forthcoming) the results of the event study are confirmed with panel fixed effects regressions of economic outcomes on a binary liberalization indicators defined by the dates of liberalization. Trade liberalization has a positive and significant effect on growth and investment and a negative, but not statistically significant effect on economic volatility.



**43. LAC could benefit from putting in place a regional trade agreement that reduces NTBs.**

As a benchmark, Cerdeiro (2016) studies the potential effect of tariff and NTB reductions for a set of LAC countries (e.g., Chile, Mexico, and Peru) and finds that these countries would benefit mainly from reduction in non-tariff barriers, with minimal trade diversion or welfare loss to other countries in the region.<sup>29</sup> These results suggest that a trade agreement that includes measures to reduce NTBs has the potential to increase the welfare of LAC countries.

<sup>29</sup> The estimates in Cerdeiro (2016) are based on an analysis undertaken using Costinot and Rodriguez-Clare (2014)'s multi-sector computational general equilibrium model with perfect competition. The exercise is based on input-

## B. The Social Impact of Trade

**44. Trade theory predicts that trade liberalization will have distributional effects within an economy.** The Heckscher-Ohlin model of international trade predicts that countries that are relatively rich in unskilled labor will specialize in the production of goods that are unskilled labor-intensive.<sup>30</sup> The Stolper-Samuelson (Stolper and Samuelson, 1941) theorem suggests that a trade liberalization-induced increase in the price of unskilled labor-intensive products should increase the return to the factor that is used intensively in the production of these products. In contrast, the expected decrease in the relative price of the skilled labor-intensive imported products should lead to a decline in the wage of skilled labor. Based on this theorem and the empirical evidence suggesting that developing countries are richly endowed with unskilled labor, one would expect the distributional changes induced by trade liberalization to favor the unskilled workers in developing countries leading to a reduction in the skill premium and a reduction in inequality. In advanced countries, where high-skill factors are relatively abundant, the reverse would be expected.<sup>31</sup> However, the predictions of the Stolper-Samuelson theorem for the effects of trade liberalization on income inequality have generally not been consistent with findings from economy-wide empirical studies.<sup>32</sup>

**45. Despite predictions of theoretical models, trade openness does not appear to systematically influence income inequality.** Panel fixed effects regressions of the impact of trade on income inequality (both market and net) suggest that trade openness lowers income inequality, but not in a statistically significant way (Table 3, Beaton, Cebotari, and Komaromi, forthcoming).<sup>33</sup> In contrast, financial openness and financial deepening are associated with rising inequality, consistent with results from Jaumotte, Lall and Papageorgiou (2013) and Dabla-Norris et al. (2015). However, there is some evidence that the effect of trade openness on inequality may vary with the level of development, decreasing inequality for emerging market economies and increasing (although not in a statistically significant way) for advanced economies. There is no evidence of a distinct distributional effects for LAC countries compared to other regions. An instrumental variables approach based on Frankel and Romer (1999) corroborates the finding that more trade does not increase inequality measured either by the Gini coefficient or the ratio of average income in the top and bottom deciles of the population (Cerdeiro and Komaromi, forthcoming).<sup>34</sup> Finally, in contrast to

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output data for 189 countries and 26 sectors. For the countries in the sample, NTBs are assumed to drop to the levels of 2.5 percent for goods imports and to the level of the U.S. for services imports (unless that sector has NTBs that are already lower than those in the U.S.), while bilateral tariffs between countries in the sample are eliminated.

<sup>30</sup> In the simple 2 factors of production, 2 products, 2 country version of the model.

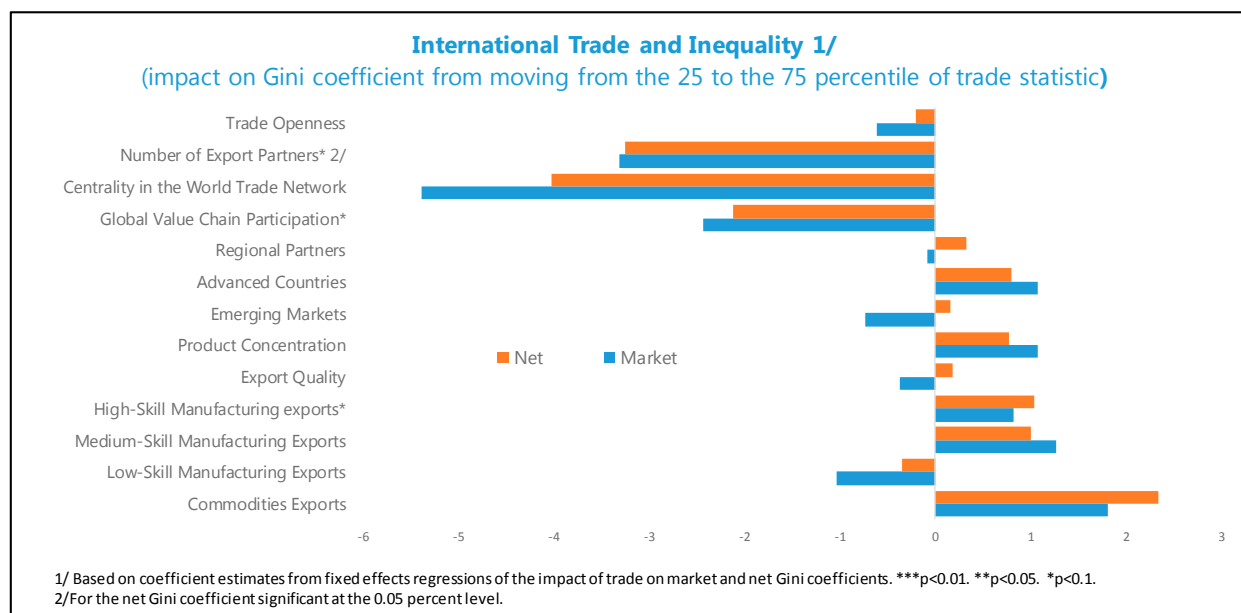
<sup>31</sup> The same story can be told with labor and capital as the two factors of production, and workers and capital-owners as the two groups of society.

<sup>32</sup> See Alvaredo and Gasparini (2015), Goldberg (2015) and Goldberg and Pavcnik (2007) for recent surveys of the evidence.

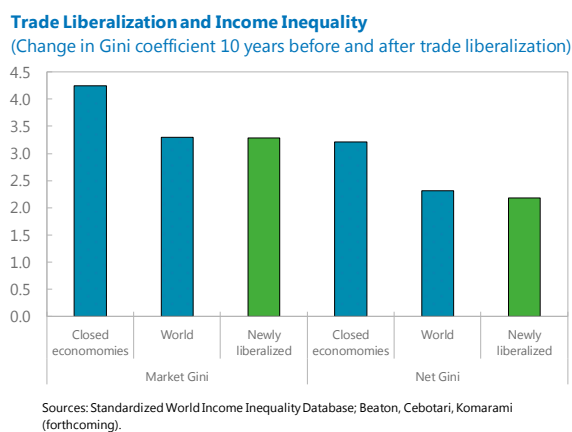
<sup>33</sup> See Beaton, Cebotari, and Komaromi (forthcoming) for additional details on the panel regressions.

<sup>34</sup> The identification strategy uses countries' geographic characteristics to isolate exogenous variation in trade openness.

the findings for economic growth, there is limited evidence that the characteristics of trade affect income inequality. Increasing the number of export markets and GVC participation are found to reduce income inequality, while the concentration of exports in high-skill manufactured products tends to increase income inequality.

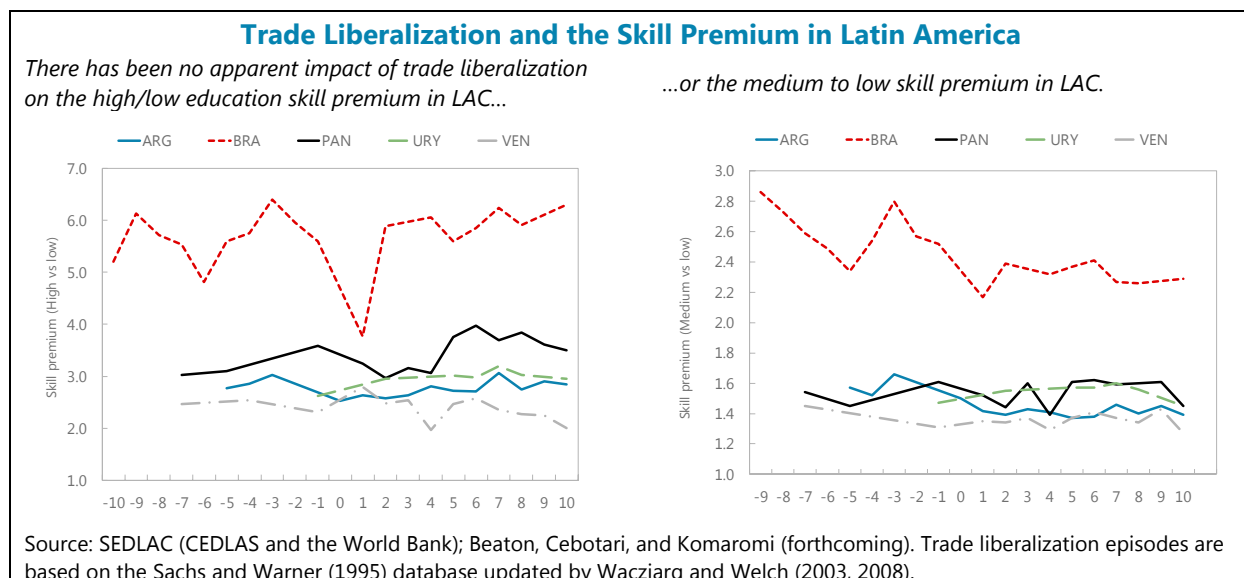


**46. Event studies confirm that countries in the process of liberalizing their trade observe similar dynamics in income inequality to the rest of the world.** Although average inequality increased worldwide following trade liberalization events, newly-liberalizing countries did not experience a larger increase in inequality than the world average. Moreover, they experienced a smaller increase in their Gini coefficient than closed economies. The lack of differential trends around major liberalization episodes suggests that trade opening was not the primary driver of rising aggregate inequality in these countries.



**47. Consistent with the findings on income inequality, the skill premium does not show a clear trend around trade liberalization episodes experienced by LAC countries.** While there is no global data available with which to examine trends in the skill premium following episodes of trade liberalization, the Socio-Economic Database for Latin America and the Caribbean (SEDLAC) provides data for five Latin American countries: Argentina, Brazil, Panama, Uruguay and Venezuela. The SEDLAC database reports the average hourly wage of low, medium and highly educated workers. The skill premium, defined as the wage ratio of the high/low and medium/low educational groups for LAC countries has varied considerably over time. There is no noticeable break around

trade liberalization episodes and the trends in the skill premiums vary by country. However, almost none of the skill premium measures seem to increase after trade liberalization.



**48. Country-level evidence suggests the aggregate effect of trade on inequality depends on country-specific circumstances.** The inconclusive findings of cross-country studies on the impact of trade on inequality suggest that country-specific factors are important. Indeed, evidence from country case studies based on recent export accelerations experienced by Brazil (in 2000) and Peru (in 2004) suggest that the economic benefits from export accelerations are not uniform across countries, indicative of an important role for domestic policies in enhancing the gains from trade. In Cerra and Woldemichael (forthcoming), the post export acceleration trajectories of real GDP per capita, unemployment and income inequality in Brazil and Peru are compared to the trajectories in a combination of similar economies.<sup>35</sup> Peru appears to have reaped the benefits of its export acceleration in terms of economic growth and lower unemployment, but was not able to parlay these gains into a significant decline in income inequality relative to the control. In contrast, for Brazil the export acceleration does not appear to have contributed to enhanced economic growth, but does appear to have resulted in a reduction in income inequality and unemployment relative to the synthetic control.

**49. Trade opening may induce structural change in the economy, which can potentially lead to winners and losers even if an economy benefits from enhanced trade at the aggregate level.** Trade theory predicts that reductions in trade barriers should lead to sectoral reallocations as the economic structure adjusts to its natural comparative advantages and the country gains access to new technologies. This process is expected to affect the employment and relative wages of different groups within an economy, even as trade may benefit overall growth.

<sup>35</sup> The estimated effect of the export acceleration is given by the difference in the post-surge value of each outcome variable between the treated country and its synthetic control.

**50. Trade liberalization has been associated with a secular decline in the importance of the agricultural sector.** Event studies around trade liberalization dates suggest that the liberalization of trade tends to accelerate the trend decline in the importance of agriculture and increase the importance of the tertiary sector, bringing the economic structure of countries undergoing trade liberalization closer to the world average.<sup>36</sup> Although aggregate data is not easily amenable to detect the distributional effects of trade policy, it is probable that such structural changes *could* lead to significant adjustment costs in certain segments of society, such as rural areas and some manufacturing industries. Household data would allow for a more granular look at the channels through which trade liberalization affects the different segments of the labor force; however, this data is not widely available on a cross-country basis.

**51. Household production and consumption may be affected by price changes following trade liberalization.** Price changes resulting from trade liberalization may be particularly relevant for households in poorer developing countries, yet they have received little attention mainly because of data constraints. Fajgelbaum and Khandelwal (2016) develop a model with non-homothetic preferences, so that individuals at different income levels consume different baskets of goods.<sup>37</sup> Their simulations, with their model's parameters calibrated from cross-country data on trade and production, show that trade typically favors the poor, who concentrate spending in more traded sectors. However, Porto (2006) uses consumer survey data from Argentina to study the effect of price changes implied by the Mercosur-induced tariff reform, and he finds that the consumption channel implied an *increase* in inequality. Thus, it is difficult to make general statements about the impact of trade liberalization on inequality, as the effects depend crucially on the specifics of the reform in question, particularly the structure of tariff changes across industries.

**52. Evidence from Peru confirms that while the aggregate economy benefits from trade integration, the resulting increase in imports competition has a significantly negative effect on some sectors (Annex III, Baldarrago and Salinas, forthcoming).** Although Peru has experienced high economic growth in recent decades partly as a result of greater integration to the global economy, districts that faced more imports competition due to lower tariff rates experienced lower growth in their expenditure and less reduction in poverty indicators than other districts. In fact, the significant labor mobility in response to the reduction in tariffs was not enough to allow a full adjustment of labor to trade liberalization. This calls for policies to enhance mobility through investments in infrastructure and social policies that target districts that produce imports-competing goods that are liberalized.

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<sup>36</sup> In Beaton, Cebotari, and Komaromi (forthcoming), the shift in the production structure of the economy after liberalization is confirmed with panel fixed effects regressions. Liberalization has a positive and statistically significant effect on the share of services in the economy, but the negative effect on agriculture is not statistically significant.

<sup>37</sup> Most international trade models assume that individuals have identical and homothetic preferences. In these models, trade-policy-induced changes in relative prices of goods change the consumption of individuals with different incomes in proportional terms; as a result, trade does not affect people's relative position in the welfare distribution through the consumption channel.

**53. As trade integration may lead to adjustment costs in particular segments of society, there is a role for social safety nets to smooth the adjustment process.** Many LAC countries are conscious of the need to make trade more inclusive, with the incorporation of SMEs in trade, including indirectly as suppliers to exporting firms, seen by the region as a way to spread the benefits of trade more widely. Measures to directly support losers from trade liberalization through financial aid and retraining, such as the Trade Adjustment Assistance in the U.S. and the European Globalization Adjustment Fund in the EU have not been developed in LAC yet. While it can be difficult to identify the winners and losers from trade liberalization *ex ante*, there is a role for complementary policies to help smooth the adjustment process for adversely-affected industries or workers *ex-post*. Such social safety nets could include policies to enhance education and training, measures which reward firms for investing in worker training, policies for labor intermediation, conditional cash transfers, and policies to smooth income during unemployment. Improvements in infrastructure can also expand access to a larger range of jobs and facilitate relocation.

## COUNTRY VIEWS ON POLICY ISSUES

*This section summarizes the results of a survey of LAC country authorities on trade policy objectives and strategies; and export constraints (see Mowatt, forthcoming, for a more detailed discussion of the survey results). About half of LAC countries participated in the survey, which was conducted between September 2015 and 2016, and thus omits the most recent developments on the TPP and NAFTA. The results reveal that the region as a whole has a strong commitment to trade integration. The region considers structural reforms to reduce trade costs and translate trade integration into higher productivity critical to increasing its integration into world markets and reaping associated growth benefits.*

### A. Trade Policy Objectives and Strategies

**54. Country authorities view market and product diversification as key trade policy objectives (Figure 5).** Broadly speaking, South American countries have traditionally depended on commodity exports and are searching for ways to diversify into a wider range of exports. LAC countries also indicated a desire to increase export sophistication, particularly Central American countries whose exports of manufactured goods tend to have low value-added. Better integration of SMEs into trade is also an important objective of many countries in the region, given that large firms dominate the export sector.

**55. Trade agreements are considered an important tool to expand and diversify trade.** Some countries are seeking out new agreements with strategic partners (Brazil, Chile, Guatemala, Mexico, Nicaragua, and Trinidad and Tobago), while others are focused on leveraging current agreements (Colombia, Nicaragua). Other countries would like to deepen and modernize existing trade agreements to bring them in line with current global trade practices (Brazil, Chile, Mexico). In Colombia, policy efforts are increasingly focused on addressing firm-level constraints to export.



**56. LAC is strategically focused on export promotion and trade facilitation.** Many countries in the region focus on promoting trade in specific sectors, considered to have the highest growth potential. These “picking winner”-type interventions are generally not as heavy-handed as the import substitution policies of a previous era, as their focus is typically on providing services to firms rather than protecting domestic industries. For example, Colombia has pilot projects to help firms identify products with export potential and improve innovation and managerial skills. LAC countries are also promoting trade by strengthening trade facilitation, including through: risk-based inspections; electronic border systems; and authorized economic operator programs. Brazil, for example, has just implemented a single window system at customs and is reformulating its export, import and customs transit processes.

**57. Trade integration is broadly considered positive for growth and jobs by LAC countries.** Some countries (Bolivia, Costa Rica, Guatemala, Mexico) consider that trade integration has a critical role to play in creating jobs. Mexico, for example, considers its free trade zones as an important mechanism to promote development in under-developed regions. Brazil noted that increased trade improves productivity in sectors more exposed to competition. Efforts to ensure that the gains from trade are broad-based are mostly focused on increasing the participation of SMEs in trade, rather than on assisting firms and workers that might be impacted by trade shocks.

**58. Infrastructure deficiencies and lack of human capital and adequate skills are considered key impediments to export growth.** Weaknesses in road and railway infrastructure and inefficiencies at ports and airports are seen as major factors that contribute to high transportation and trading costs, and prevent further integration in GVCs. In light of this, some countries, including Brazil and Mexico, are designing and putting in place plans to lower transportation costs. Several responses to the survey highlighted the low level of education as an important barrier to trade. Country authorities also acknowledged that the lack of specialized skills is a constraint to expanding into higher value-added products, which is a strategic trade objective of many LAC countries.

**59. Export growth has also been impeded by structural characteristics and low access to finance.** High wage and energy costs, small domestic markets, and complex tax systems are seen as elements that negatively affect competitiveness and result in suboptimal export performance for several countries in the region. Competitive devaluations and exchange rate fluctuations are not cited as major obstacles to export growth, with the exception of some dollarized economies that claim to have experienced adverse shocks to their exports during recent U.S. dollar appreciation episodes. In addition, inadequate access to finance is perceived to limit export growth opportunities, particularly in the small Caribbean economies.

**60. NTMs have become more relevant than tariff barriers in the region.** Non-tariff measures (NTMs), especially sanitary and phytosanitary standards (SPS) and technical barriers to trade (TBTs), were frequently cited as constraints to export growth as well as relevant policy issues for the region. In particular, these measures can hurt export growth in economies that enjoy comparative advantage in agriculture as well as economies that lack the resources to upgrade their trade infrastructure. Trade agreements provide an opportunity to reduce the costs associated with

standards compliance. Beyond SPS and TBTs, subsidies constitute an additional trade barrier for agricultural exports from LAC. Rules of origin were also highlighted as a constraint for many countries, particularly in Central America.

## B. Views on Regional and Global Trade Integration

**61. LAC countries consider both regional and global integration important.** Regional integration was particularly supported by Central American and Caribbean countries, in reference to their own sub-regions. Larger economies, such as Brazil and Mexico, tended to demonstrate a more global outlook in terms of trade policy. However, the survey responses did not suggest a tension between pursuing agreements within and outside the region. Trade initiatives with the United States featured prominently, particularly for Mexico and Central America. LAC countries also aspire to strengthen trade integration with the Asia-Pacific region. LAC's TPP participants consider the potential to increase trade with the Asia-Pacific region a key benefit of the agreement. Finally, a few countries (Bolivia, Nicaragua) expressed concern about the possible fragmentation of the world trading system if the WTO loses relevance; this would particularly hurt smaller developing countries which are not included in current mega-regional agreements.

**62. Within South America, regional integration did not stand out as a clear priority.** There has been significant optimism recently on the potential for a renewal of Mercosur, the dynamism of the Pacific Alliance, and the possibility of cooperation between the two initiatives. However, neither Mercosur, nor the Pacific Alliance were highlighted in the responses of their member countries (with the exception of Mexico). Instead, South America appears more focused on reaching bilateral trade agreements with their LAC partners. For example, Brazil noted that it is currently negotiating an agreement with Mexico to facilitate a deepening of their bilateral trade. Chile mentioned the potential to establish more regional value chains and for regional projects in the areas of infrastructure, trade facilitation, connectivity, and energy, which could help to reinvigorate export growth.

**63. Mexico and Central American countries view regional trade as important.** Mexico's most important regional initiatives are NAFTA and the Pacific Alliance; it considers the latter to be "one of the most fast-forward initiatives in the region" which "promotes the free movement of goods, services, capital and people", and notes that the Pacific Alliance could pave the way towards increasing regional integration in Latin America. Completing the integration process in Central America is regarded as a priority for the respondents from this region, although they also mentioned obstacles such as their production of similar products, and the history of tax competition in the *maquila* sector. Different perspectives were expressed on integration with the rest of LAC. For Guatemala, for example, the proximity of the U.S. and Mexican markets makes integration with South America less of a priority. At the other end of the sub-region, Panama and Costa Rica discussed the possibility of joining the Pacific Alliance and implementing LAC-wide regional projects.

**64. Regional integration is also seen as essential by the Caribbean.** The Caribbean Community (CARICOM) is considered among the most important trade initiatives by most Caribbean

respondents. The Organization of Eastern Caribbean States (OECS), a subgroup of CARICOM, has taken further steps towards integration and was highlighted as important by two of its three member states that responded. Although intra-Caribbean trade is limited, a World Bank study (2015) demonstrates that the implementation of the planned common market in CARICOM would lead to an increase in the total export-to-GDP ratio of 3 percentage points. However, small size is seen as a major obstacle to Caribbean integration with Latin America. For example, St. Vincent and the Grenadines notes that CARICOM has negotiated a trade agreement with Costa Rica and the Dominican Republic, but smaller members have not ratified it because they are not able to export to these markets. Also, many Caribbean countries face high transport costs in exporting to their Caribbean neighbors and the Americas.

## CONCLUSIONS

**65. Further trade integration can yield important growth dividends for LAC.** With trade integration remaining below that of other regions, there is scope for the region to enhance its integration, building on the progress achieved in recent decades. Incipient signs of renewed political momentum among LAC countries for more integration, despite rising trade protectionism in advanced economies, is promising. The results of the analysis in this report suggest that enhancing LAC's trade integration can bring important growth dividends amid the weaker outlook for the region. At the aggregate level, the evidence suggests that integration can promote economic growth without adversely affecting overall income inequality, although there may be adjustment costs for particular segments of society. Therefore, LAC will need to complement a renewed focus on trade integration with enhanced support for those affected in the adjustment process to help ensure an equitable distribution of the gains from trade across groups in society.

**66. There is scope to expand LAC's integration into world.** Inter-regionally, the focus has been primarily on strengthening ties with the expanding Asia-Pacific market, particularly given its demand for LAC's commodity exports. This remains appropriate, especially because there is potential to gradually increase the value-added of exports to the Asia-Pacific region. Trade with advanced economies may offer greater potential for LAC to benefit from knowledge and technology spillovers and enhance productivity to reap the greatest growth benefits from trade. However, with protectionist sentiment on the rise in these economies, prospects for further integration at this time appear limited. In this context, LAC's existing strategy to focus its inter-regional trade integration strategy on emerging economies, the Asia-Pacific region in particular, may offer the greatest opportunity for LAC to strengthen its inter-regional integration. While inter-regional integration can be facilitated by new trade agreements, as the country authorities have also indicated, there is scope in some cases to leverage current agreements more effectively, or deepen them to include areas beyond traditional trade issues. As a complement to the region's current strategy to strengthen inter-regional trade integration by expanding its network of trade agreements, there is also scope to consider unilateral liberalization of tariff and NTBs.

**67. LAC has not yet fully exploited the opportunities for regional integration.** LAC's regional integration framework, characterized by a multitude of trade agreements, is fragmented

and LAC remains relatively less regionally-integrated compared to other regions. To some extent, LAC's relatively lower degree of regional integration is consistent with the presence of significant geographical/topographical barriers as well as its natural resource endowments and consequent structure of production, which is concentrated in the commodities sector. However, empirical evidence suggests that if LAC could enhance its intra-regional trade from 15 percent of exports to 55 percent, a level comparable to the highly-integrated Asia-Pacific region, it could increase real per capita growth by 1.3 percentage points. With rising obstacles to global trade and a renewed commitment to trade integration from LAC countries, now is an opportune time to re-orient the region's trade integration strategy toward enhancing regional integration.

**68. Regional trade integration could be promoted through a LAC-wide regional trade agreement.** Despite the multitude of trade agreements, there remain some important missing links in the regional trade network, notably stronger links between Mercosur and the Pacific Alliance. Moreover, the existing complex system of bilateral and multilateral FTAs, each with their own distinct rules, has complicated regional efforts to strengthen trade integration. Yet, the region appears focused on pursuing additional bilateral trade agreements to promote regional trade integration. A model strategy would be to overhaul the existing system of FTAs and replace it with a regional free trade agreement. Given the considerable challenges in putting in place a regional trade agreement, such an agreement could be a long-term objective for the region. The TPP framework, which includes frontier areas of trade policy in addition to traditional trade policy like liberalization of tariffs and NTMs, could serve as a model for a future regional free trade agreement. In the near-term, the region should focus on strengthening linkages between existing trading blocks, most importantly Mercosur and the Pacific Alliance, and on harmonizing the trade rules across the multitude of existing FTAs in the region.

**69. Beyond FTAs, policies to enhance regional integration should focus on strengthened cooperation on regulatory issues, trade facilitation, and improvements in the region's interconnectivity.** Initiatives to ensure harmonization of rules of origin and regulatory standards, interoperability of national customs systems, and mutual recognition of economic operators, such as those undertaken by the Pacific Alliance, can significantly facilitate intra-regional trade through reduction in administrative and compliance costs. Deeper agreements between LAC countries which address issues beyond tariffs, such as investment rules and competition policy, would be important in facilitating cross-border investment and production chains. The experience of East and Southeast Asia demonstrates the importance of private sector-led regional integration as well as the linkages between intra-regional trade and investment. Measures to harmonize standards and help ensure a level playing field for companies across the region are important for intra-regional investment (IMF, 2016). Where they remain, the region should also focus on further reducing intra-regional tariffs and NTMs, including on a unilateral basis (IMF, 2015), and eliminate redundant protection of products that LAC countries do not make. Removing the remaining barriers to intra-LAC trade would generate prospects for increased intra-industry trade and the formation of regional value chains, and contribute to enhanced growth opportunities.

**70. Reducing the costs of trading will be key to enhancing the region's competitiveness.** In addition to the policy agenda of trade facilitation measures and infrastructure development mentioned above, support to firms in meeting the technical standards required by importing countries would be important, especially for SMEs. The difficulties in meeting sanitary and phytosanitary standards and technical barriers to trade in particular were highlighted by country authorities in the survey. Regional arrangements could provide economies of scale that could help support domestic policy agendas in this area, especially for smaller countries in the region. For example, regulatory cooperation at a regional level—including mutual recognition agreements on SPS and TBT—would facilitate intra-regional trade and could help countries meet standards in third markets.

**71. LAC can gain through further participating in global value chains.** GVCs create technological spillovers and allow for broadening the participation of smaller firms in trade. Although growth of these supply chains has slowed, LAC has significant scope for further joining these production chains, as well as adding value downstream in agricultural products and mineral resources. Also, the proximity of Central America and Mexico to the U.S. and Canadian markets gives these countries some advantages over Asian countries. The results in this report suggest that bringing LAC's participation in GVCs in line with that of Asia has the potential to increase per capita growth in LAC by about 1 percentage point. Making the most of this opportunity will require addressing infrastructure and skills deficits, as highlighted above. Further regional integration can help increase GVC participation as well, by facilitating the creation of regional value chains. Also, although MFN tariffs in the region are much lower than they were in the early 1990s, tariff levels on some goods remain high in some important LAC economies, a point also stressed in IMF (2015b). Tariffs on intermediate and capital goods and high transportation and trade facilitation costs are an impediment to participation in GVCs. Initiatives to further reduce tariffs on intermediate and capital goods, including on a unilateral basis, can support investment, integration in GVCs, and economic growth. However, the results of the survey suggest a degree of complacency amongst LAC authorities on both tariffs and non-tariff barriers, with few countries mentioning any plans to revisit their tariff schedules or to reduce non-tariff barriers.

**72. Effective strategies that aim to change the composition of exports are likely to build on current comparative advantages.** They are also likely to follow an incremental process that depends on adequate policies to upgrade skills and infrastructure. Many countries in the region have consistently maintained a comparative advantage in commodity exports, which implies a higher exposure to external shocks such as global commodity prices. The current slowdown in global trade and depressed commodity prices present an opportunity for greater diversification of exports, which is seen as an important goal of trade policy for many LAC countries. Reducing their concentration in commodities would likely result in lower macroeconomic volatility, contributing to a virtuous circle of investment in new products and services. Diversification into new products or industries typically proceeds gradually through intermediate stages that involve products close to the existing export portfolio. In turn, strategies that aim to increase the share of higher value-added and better quality products will likely need to be building on current areas of comparative advantage. Such changes would likely require enhancing the quality of infrastructure and addressing

education gaps, especially through upgrading technical skills, as this is an area in which LAC substantially lags behind Asia. Authorities in the region should explore how to accommodate such reforms, including through the creation of fiscal space. The region recognizes the constraints imposed by the quality of infrastructure and human capital and is, appropriately, working to address these barriers to integration, and growth more broadly.

**73. LAC can take proactive steps to promote an equitable distribution of the gains from trade.** While the evidence suggests that trade can provide an important growth dividend without adverse distributional effects on aggregate income inequality, trade liberalization may be accompanied by more granular yet important changes such as the distribution of economic activity and income across regions or industries within an economy. Managing these distributional effects is critical to promoting an equitable distribution of the gains from trade within an economy. For LAC, the recent period of trade liberalization was accompanied with strong domestic economic activity and the commodity price boom, which may have helped to mask the intra-economy distributional effects from the trade liberalization. Looking ahead, in the current context of weak economic activity in the region, the intra-economy distributional effects from the next wave of trade liberalization have the potential to be more apparent. Efforts in the region are rightly focused on distributing the gains from trade more widely by encouraging the participation of SMEs in trade, a strategy that has worked well in Asia. In addition, where fiscal space permits, complementary labor market policies and social safety nets should be put in place to help smooth the adjustment process for workers and industries that may be negatively affected from trade liberalization. Labor market policies should focus on promoting labor mobility both across regions and industries to facilitate the supply response to changing labor demand. Barriers to geographical mobility should be removed while simultaneously putting in place skills training programs for workers.

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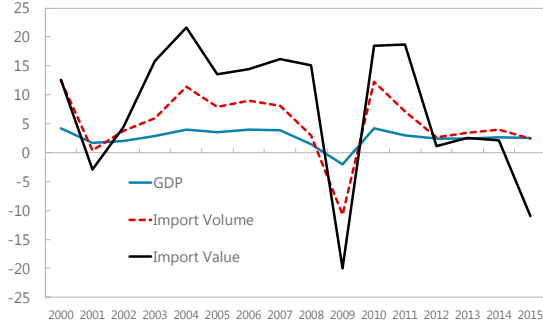
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**Figure 1. The Slowdown in World Trade: Implications for Latin America and the Caribbean**

World trade has decelerated significantly in recent years...

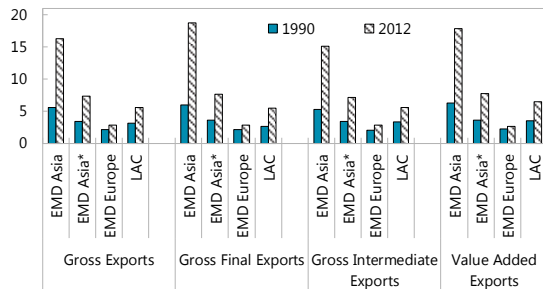
**World Trade and Global Economic Activity**  
(annual percentage change, %)



Source: IMF World Economic Outlook.

While LAC has increased its participation in world exports...

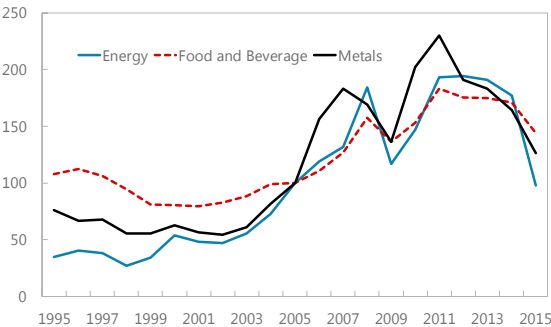
**Participation in World Exports**  
(percent)



Sources: Eora MRIO, Comtrade; CEPII; IMF, World Economic Outlook database; and IMF staff calculations. Note: EMD = emerging and developing; LAC = Latin America and the Caribbean. EMD Asia\* excludes China. Openness (gross) is the sum of gross exports and imports divided by nominal GDP from the IMF, World Economic Development database.

The value of LAC's commodity exports has been particularly affected by declines in commodity prices.

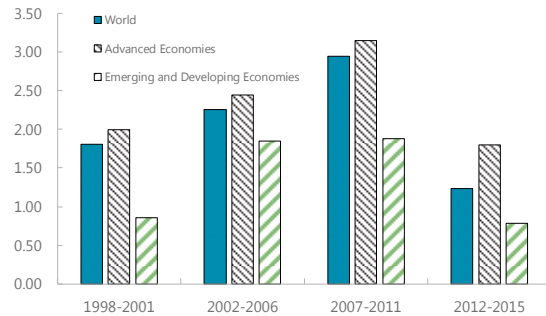
**Commodity Price Indices**  
(2005=100)



Sources: IMF.

...much faster than global economic activity.

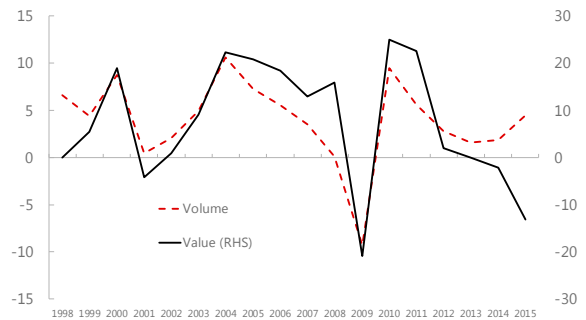
**Gross Income Elasticity of Trade**  
(Ratio of Imports Growth to GDP Growth)



Sources: IMF World Economic Outlook; IMF Staff Calculations. Note: 2009 is excluded.

...its exports have also been affected by the slowdown in global trade.

**Latin America and the Caribbean: Export Growth**  
(annual percentage change, %)



Source: IMF World Economic Outlook.

The slowdown in LAC, partly as the region has adjusted to lower commodity prices, has also contributed to the slowdown in global trade.

**Latin America and the Caribbean: Economic Activity and Imports**  
(annual percentage change, %)



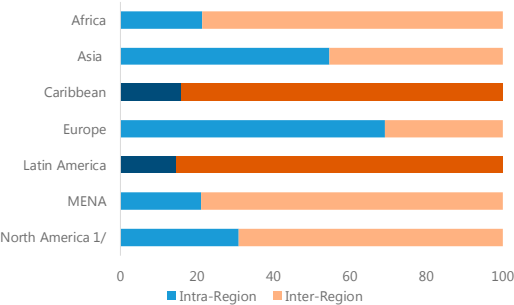
Source: IMF World Economic Outlook

**Figure 2. Regional Trade Integration in Latin America and the Caribbean**

LAC is relatively less regionally-integrated compared to advanced countries in North America and Europe...

**Regional Export Shares**

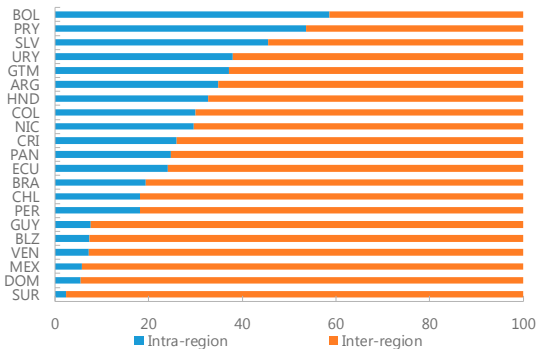
(2015, in percent of total exports)



There is significant heterogeneity in the importance of intraregional trade within LAC...

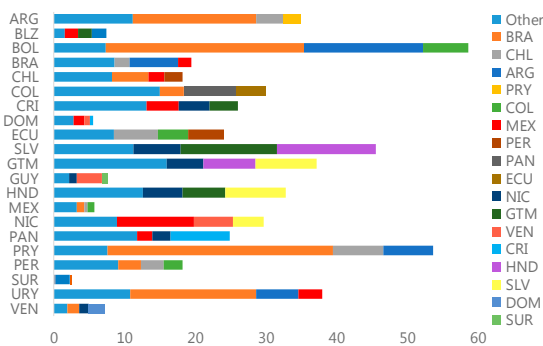
**Latin America: Regional Export Shares**

(2015, in percent of total exports)



LAC lacks a dominant hub with trade clustered around sub-regional partnerships.

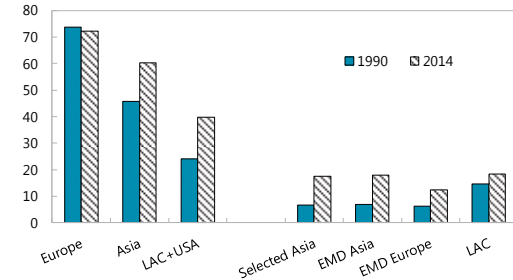
**Latin America: Intra-Regional Export Shares 1/**  
(2015, in percent of total exports)



...but regional integration is comparable to emerging market and developing countries in Asia and Europe.

**Share of Intra-regional Gross Exports**

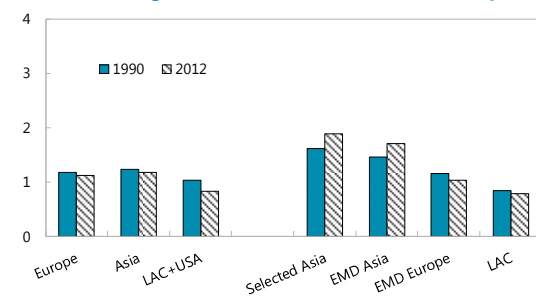
(percent of gross exports)



Sources: IMF, Direction of Trade database; and IMF staff calculations. Note: EMD stands for Emerging and Developing. Selected Asia: Includes Cambodia, China, Indonesia, Malaysia, Philippines, Taiwan Province of China, Thailand, and Vietnam.

...partly due to the importance of the commodity sector, which contributes to a higher concentration of intraregional trade in final goods.

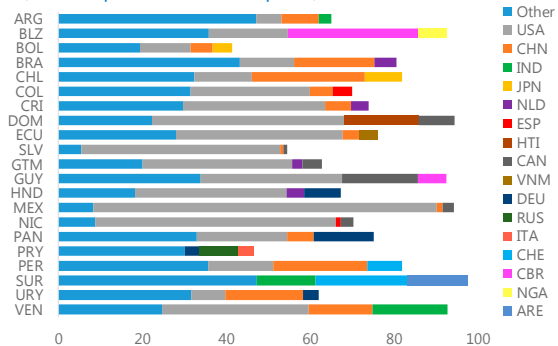
**Ratio of Intra-regional Intermediate to Final Gross Exports**



Sources: IMF, Direction of Trade database; and IMF staff calculations. Note: EMD stands for Emerging and Developing. Selected Asia: Includes Cambodia, China, Indonesia, Malaysia, Philippines, Taiwan Province of China, Thailand, and Vietnam. Bars indicate intraregional intermediate goods exports divided by intraregional final goods exports.

LAC's inter-regional trade is dominated by the U.S. and, to a lesser extent, China.

**Latin America: Inter-Regional Export Shares 2/**  
(2015, in percent of total exports)

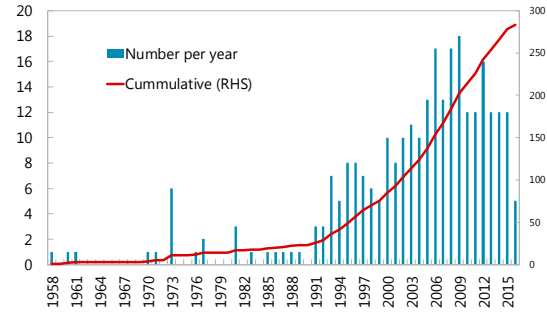


Note: Mexico is included in Latin America and excluded from North America. Source: COMTRADE, IMF Staff calculations. 1/ For each LAC country, the top 3 intra-regional export markets are shown separately. All other intra-regional export markets are included in other. 2/ For each LAC country, the top 3 inter-regional export markets are shown separately. All other inter-regional export markets are included in other.

**Figure 3. Trade Agreements and Global Trade Barriers**

Trade agreements have expanded globally...

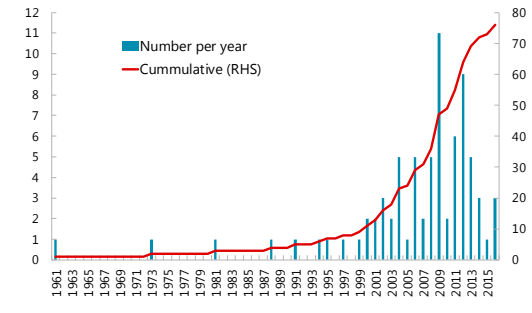
**Regional Trade Agreements (RTAs) by date of entry in force**  
(number)



Sources: WTO and Fund staff calculations.

...with LAC countries important participants.

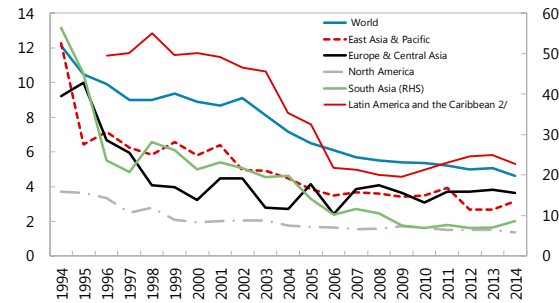
**LAC: RTAs by date of entry in force**  
(number)



Sources: WTO and Fund staff Calculations.

Tariffs in LAC remain elevated compared to other regions.

**Weighted average tariff**<sup>1/</sup>  
(percent)

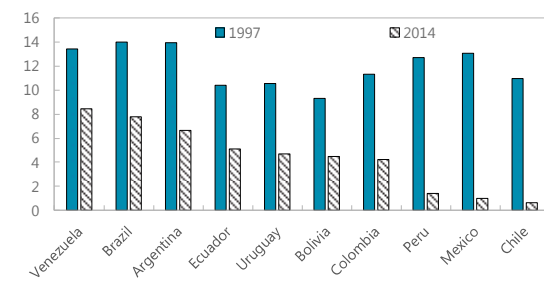


Sources: World Bank's WITS database and Fund Staff calculations.

1/ Effectively Applied Weighted Average tariff (%). The average of tariffs weighted by their corresponding trade value figures.  
2/ For Latin America and the Caribbean refer to 3-month moving average.

...but have declined over time.

**Weighted average tariff**  
(percent)

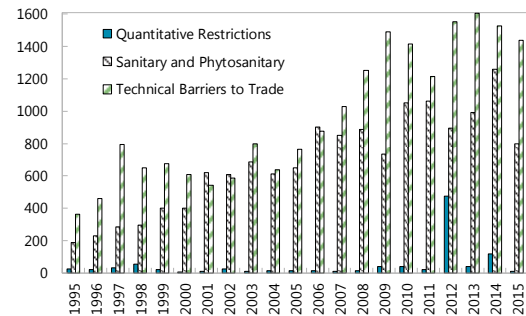


Sources: World Bank's WITS database and Fund Staff calculations.

1/ Effectively Applied Weighted Average tariff (%). The average of tariffs weighted by their corresponding trade value figures.

Non-tariff barriers have become more important globally...

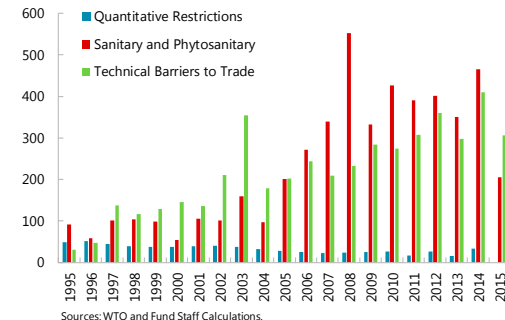
**Non-tariff measures**  
(number)



Sources: WTO and Fund staff calculations.

...as well as in LAC.

**LAC: Non-tariff measures**  
(number)

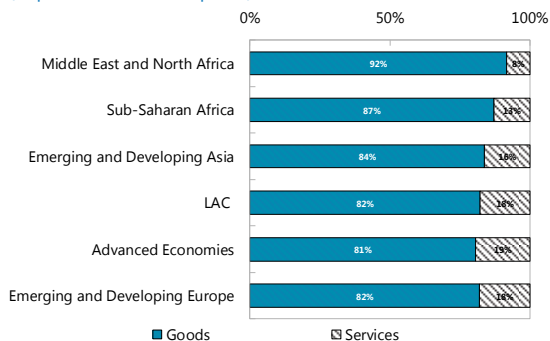


Sources: WTO and Fund Staff Calculations.

**Figure 4. The Composition of LAC's Exports: Goods vs. Services**

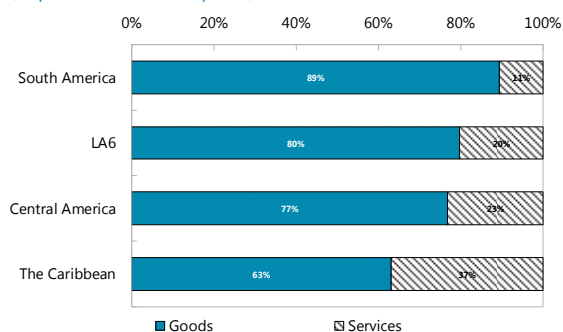
*Exports of goods dominated exports of services globally...*

**Exports of Goods and Services in 1975**  
(in percent of total exports)



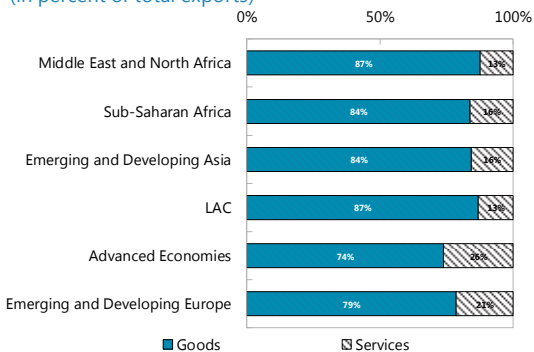
*...and in LAC in 1975.*

**Exports of Goods and Services in 1975**  
(in percent of total exports)



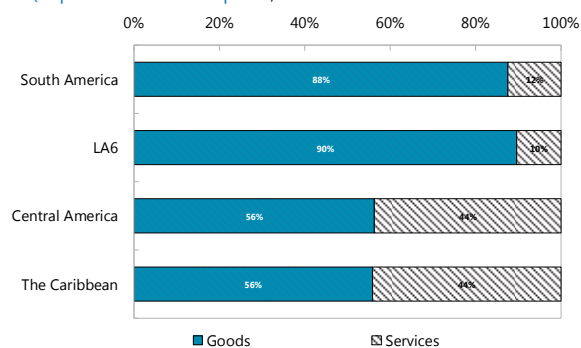
*Service exports have grown in importance for some regions...*

**Exports of Goods and Services in 2015**  
(in percent of total exports)



*...particularly Central America and the Caribbean within LAC.*

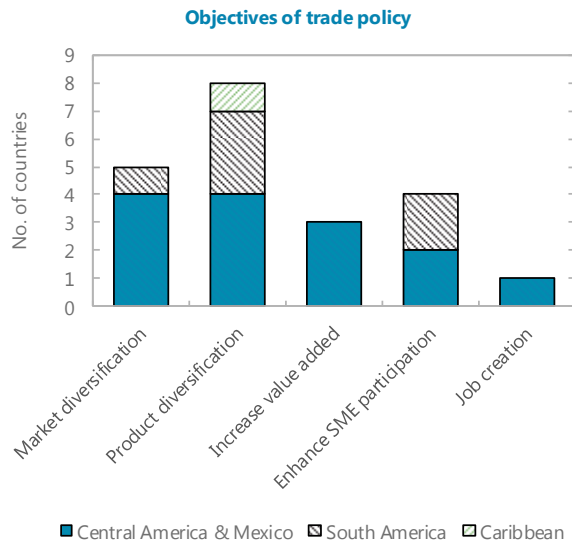
**Exports of Goods and Services in 2015**  
(in percent of total exports)



**Figure 5. Results of Survey of Country Authorities on Trade Policy**

*Diversification is the most common trade policy objective for authorities in the region ...*

*...and regional integration, trade agreements, and export promotion are key strategies.*



*Regional and global initiatives are seen as very important...*

*...while weaknesses infrastructure and human capital, and NTBs are identified as main constraints to export growth.*

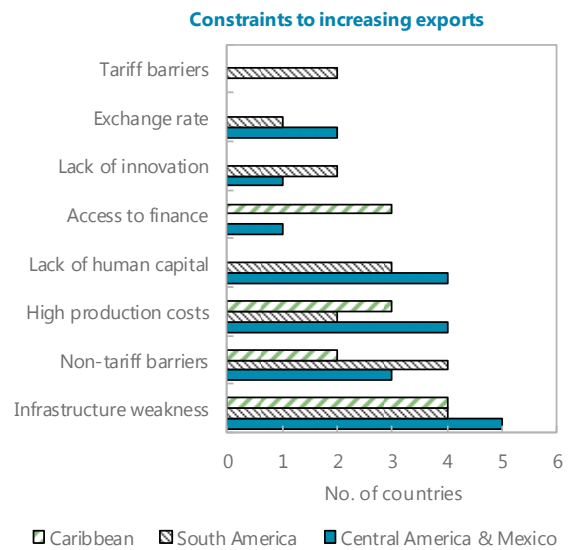
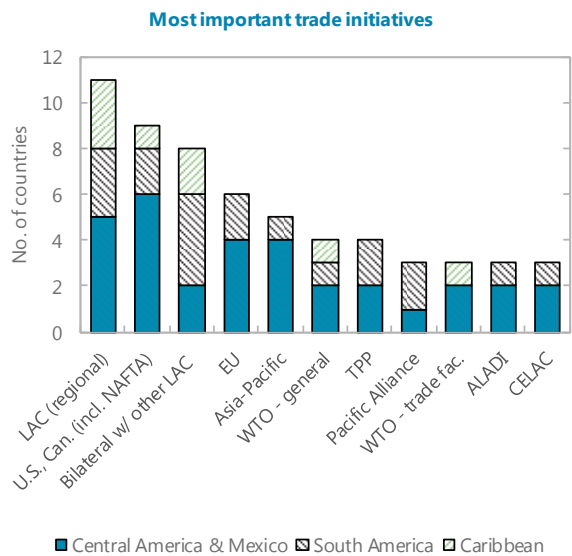




Table 1. Determinants of the Composition of Trade

	complexity		concentration		sophistication		RCA in high-skill products		share of high-skill products	
Infrastructure	4.869*** (0.000667)	8.017*** (5.85e-07)	0.174 (0.405)	0.113 (0.559)	0.186 (0.306)	0.401** (0.0457)	3.137*** (0.000688)	4.301*** (5.90e-08)	0.811*** (0.00138)	1.127*** (1.90e-07)
Tariffs	0.0105 (0.246)	-0.0622*** (1.33e-06)	0.00381 (0.100)	0.00549** (0.0152)	0.00172 (0.369)	-0.00491*** (0.000981)	0.0121 (0.188)	-0.00153 (0.862)	0.00312 (0.224)	-0.000592 (0.808)
Education	0.00525** (0.0251)	-0.00165 (0.581)	-0.000320 (0.408)	-0.000197 (0.565)	0.000584* (0.0864)	7.32e-05 (0.844)	0.0227*** (9.94e-05)	0.0291*** (3.34e-08)	0.00625*** (8.94e-05)	0.00799*** (2.00e-08)
Gini Index	-0.00952 (0.107)	-0.0230*** (0.00239)	-0.00160* (0.0921)	-0.00137 (0.160)	-0.00122 (0.180)	-0.00263** (0.0121)	0.0175*** (0.000716)	0.0161*** (0.000967)	0.00486*** (0.000602)	0.00446*** (0.000850)
Income per capita	0.765*** (0)		-0.0192 (0.158)		0.0656*** (5.04e-11)		0.206*** (0.00160)		0.0563*** (0.00262)	
Constant	-7.167*** (0)	1.576*** (2.48e-06)	0.485*** (0.00198)	0.269*** (0)	0.201* (0.0642)	0.953*** (0)	-2.575*** (8.05e-06)	-0.590*** (0.00230)	-0.715*** (1.48e-05)	-0.169*** (0.00144)
Observations	688	708	688	708	688	708	688	708	688	708
R-squared	0.696	0.457	0.096	0.083	0.382	0.249	0.284	0.258	0.294	0.271

pval in parentheses

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

Source: Ding and Hadzi-Vaskov (forthcoming).

Note: The table reports estimation results from instrumental variables (IV) panel regressions that include time fixed effects. Infrastructure, tariffs, education, and Gini index are instrumented by their first two lags. Infrastructure is measured by the density of the railway network from the WDI, tariffs refer to average applied tariffs retrieved from the WITS database, education refers to secondary school enrollment rate and to share of population with tertiary education in regressions for RCA and share of high-skill products, and income inequality is measured by the net Gini index from the SWIID.

**Table 2. International Trade and Economic Growth 1/**

	(1)	(2)	(3)	(4)
Initial GDP per capita	-3.816*** (0.759)	-8.825*** (2.961)	-3.713*** (0.718)	-4.187*** (0.907)
Labor force education	0.773 (0.560)	-2.484 (1.837)	0.478 (0.526)	-0.374 (2.133)
Terms of trade	-1.741 (1.833)	2.591 (5.065)	-1.495 (1.688)	-1.604 (1.666)
Public Infrastructure	1.674*** (0.407)	5.094*** (1.813)	1.895*** (0.394)	0.643 (1.019)
Trade openness	2.045*** (0.574)	-0.0408 (1.494)	1.658*** (0.574)	0.426 (1.298)
FDI (percent of GDP)	0.274 (0.238)	0.430 (0.533)	0.362* (0.217)	0.399 (0.266)
Advanced economy (dummy)		-38.05* (22.07)		
Advanced economy (dummy)*Trade Openness		10.97** (5.551)		
Latin America and the Caribbean (dummy)			-2.196*** (0.814)	
Latin America and the Caribbean (dummy)*Trade Openness			6.723** (2.968)	
Labor force education*Trade Openness				0.381 (0.293)
Public Infrastructure*Trade Openness				0.194 (0.578)
Observations	1,041	1,041	1,041	1,041
Number of ISO	135	135	135	135
AR(1)	0.0190	0.0299	0.0190	0.0192
AR(2)	0.244	0.309	0.254	0.241
Hansen	0.511	0.00694	0.901	0.577

1/ This table reports the results of regressions of growth in real GDP per capita on trade openness using non-overlapping 5-year panels over 1960 -2015 using system GMM., System GMM controls for potential endogeneity of the explanatory variables using instruments. For the variables measured as averages over the 5-year panel, the instruments correspond to their average in period t-2 and t-3, while for variables measured as initial values the instruments correspond to their observation at the start of period t-1. All regressions include time and country fixed effects. Robust standard errors in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

**Table 3. Trade and Inequality**

	(1)	(2)	(3)	(4)	(5)	(6)
	Market Gini	Net Gini	Market Gini	Net Gini	Market Gini	Net Gini
Trade Openness	-0.0205 (0.0177)	-0.00851 (0.0141)	-0.0413* (0.0244)	-0.0216 (0.0207)	-0.0220 (0.0224)	-0.00796 (0.0177)
Trade Openness*Advanced Economy			0.0563 (0.0410)	0.0355 (0.0293)		
Trade Openness*Latin America and Caribbean					0.00649 (0.0301)	-0.00240 (0.0257)
Financial Openness	0.000985 (0.000677)	0.000638 (0.000417)	0.000456 (0.000765)	0.000305 (0.000392)	0.00101 (0.000749)	0.000629 (0.000479)
Financial Deepening	0.0342*** (0.0119)	0.0215** (0.00840)	0.0349*** (0.0125)	0.0219** (0.00866)	0.0343*** (0.0120)	0.0215** (0.00848)
Education	-0.0884 (0.450)	-0.254 (0.350)	-0.0905 (0.442)	-0.255 (0.346)	-0.0759 (0.465)	-0.259 (0.355)
Government Spending	0.183 (0.262)	0.267 (0.198)	0.186 (0.266)	0.270 (0.199)	0.181 (0.261)	0.268 (0.197)
Agriculture Employment Share	-0.199 (0.133)	-0.191 (0.122)	-0.214 (0.136)	-0.200 (0.124)	-0.201 (0.136)	-0.190 (0.123)
Industry Employment Share	-0.0500 (0.0830)	0.00941 (0.0627)	-0.0301 (0.0870)	0.0219 (0.0668)	-0.0515 (0.0797)	0.00995 (0.0601)
Constant	48.74*** (5.037)	39.67*** (4.091)	48.12*** (5.069)	39.28*** (4.118)	48.80*** (5.006)	39.65*** (4.084)
Observations	562	562	562	562	562	562
R-squared	0.133	0.120	0.143	0.126	0.133	0.120
Number of ISO	118	118	118	118	118	118

Sources: Barro-Lee; MF World Economic Outlook; Fraser Institute; World Bank.

Note: Panel fixed effects regressions using five-year panels over 1980–2015 estimated with time and country fixed effects and robust standard errors clustered at the country level. Estimation details available in Beaton, Cebotari and Komaromi (forthcoming). Financial openness is measured as the sum of foreign assets and liabilities relative to GDP; financial deepening is captured by the ratio of private credit to GDP; education is the average years of schooling from Barro-Lee; government spending (included to capture redistributive policies) is the Fraser Institute Index that measures total government spending as a share of GDP. Results from regressions (3) and (4) are robust to the inclusion of an interaction term between financial openness and the advanced economy dummy variable.

## Annex I. Selected Regional Trade and Integration Agreements in Latin America and the Caribbean

**Andean Community.** Formed as the Andean Pact in 1969 with the aim to liberalize intraregional integration, the Andean Community is currently a customs union that comprises Bolivia, Colombia, Ecuador, and Peru.<sup>1</sup> Member countries have reached full tariff liberalization of intraregional trade since 1993 and agreed to adopt a common external tariff since 1994.

**Caribbean Community (CARICOM) Single Market and Economy (CSME).** CSME was established by the Revised Treaty of Chaguaramas in 2002 with the objective of creating a single market and economy for its members and facilitate their insertion into the global trading and economic system. Now it includes 12 members (Antigua and Barbuda, Barbados, Belize, Dominica, Grenada, Guyana, Jamaica, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago).<sup>2</sup> Progress toward the single market and economy stalled in the aftermath of the global financial crisis.

**Central American Common Market.** The common market is one of the oldest integration projects in Latin America, with efforts starting in the early 1950s and culminating in a treaty in 1960 with the objective of creating a custom union within a decade. The political turmoil in the 1970s and 1980s left the treaty ineffective, but the agreement was revived in the early 1990s. Important features of this agreement include free intra-regional trade and the introduction of a common external tariff for third-country imports. The countries also made efforts to reduce nontariff barriers at the borders. Membership includes Costa Rica, Guatemala, El Salvador, Honduras, and Nicaragua.

**Dominican Republic-Central America Free Trade Agreement (CAFTA).** Signed in 2004 and in effect since 2006, CAFTA-DR is the first free trade agreement between the United States and the economies from Central America and the Dominican Republic that aims to expand trade in goods and services, increase investment opportunities and promote intellectual property rights.<sup>3</sup> Members include Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua and the Dominican Republic.

**Mercosur.** Formed in March 1991, with the goal of the formation of the Common Market of the South (MERCOSUR) by December 31, 1994. Membership includes Argentina, Brazil, Paraguay, Uruguay, and Venezuela.<sup>4</sup> MERCOSUR facilitates the free movement of goods, services and factors of production. The members set a common external tariff, adopted a common trade policy towards third parties and aim at tariff reductions and NTB elimination.

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<sup>1</sup> Peru left the Andean Community in 1992 and rejoined in 1997. Chile was a founding member, but withdrew in 1976. Venezuela joined the Andean Community in 1973 and withdrew in 2006.

<sup>2</sup> Haiti is a full member of CARICOM and a partial participant in CSME.

<sup>3</sup> CAFTA-DR entered into force in 2006 for the US, El Salvador, Honduras, Nicaragua, and Guatemala, in 2007 for the Dominican Republic, and in 2009 for Costa Rica.

<sup>4</sup> Venezuela's membership has been suspended since December 2016 and Bolivia is an associate member currently following the admission process.

**North American Free Trade Agreement (NAFTA).** Includes Canada, Mexico, and the U.S. Came into force on January 1, 1994, superseding the Canada-United States Free Trade Agreement between Canada and the United States. The goal of the agreement was to eliminate trade and investment barriers amongst the signatory countries, and to protect the intellectual property rights on traded products. NAFTA has two supplements: the North American Agreement on Environmental Cooperation (NAAEC) and the North American Agreement on Labor Cooperation (NAALC).

**Group of Three.** Comprising Colombia, Mexico, and Venezuela, was formed in 1990, with the aim of promoting trade and eventually forming a free trade area by January 1, 1995.<sup>5</sup> The agreement was not only limited to liberalizing trade, but also included issues such as investment, services, government purchases, regulations to fight unfair competition, and intellectual property rights.

**Pacific Alliance.** Established by Chile, Colombia, Mexico, and Peru in 2011, the Pacific Alliance is an initiative of regional integration that aims to move progressively towards the free movement of goods, services, resources and people, promote economic growth, competitiveness, and social inclusion, and serve as a platform for further integration with the rest of the world, with an emphasis on the Asia-Pacific region. The Pacific Alliance is commonly seen as a pragmatic model for further trade integration that aims to build upon existing trade agreements.

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<sup>5</sup> Venezuela left the Group of Three in 2006.

## Annex II. Can LAC Emulate Asia's Export Growth Model?

Trade and output growth in Asia has significantly outperformed that of LAC in recent decades. As shown in the main paper, Asia also does better than LAC in measures of participation in GVCs and intra-regional trade. Even Mexico, which adopted an export-oriented growth strategy in the 1990s with NAFTA, and which has strong value chain participation with its North American partners, has not experienced the economic dynamism that some Asian countries have in the past two decades. This note examines the applicability of the Asian model of export growth to LAC, and whether there are any lessons for trade policy.

**Emerging Asia's success in developing manufacturing exports relied on a "hub and spokes" approach.** Japan's eroding comparative advantage in manufacturing resulted in Japanese multinationals offshoring some of their manufacturing processes to lower wage locations within the region. Following a similar rationale, China has more recently overtaken Japan as a hub for Asian countries participating in GVCs. As noted in Baumann (2010), this offshoring process hinged on the existence of significant differences in the relative endowments of Asian countries, notably skilled and unskilled labor. Within LAC, however, there is less cross-country diversity of endowments and no clear hub. Brazil does have some important trading relationships with LAC countries, but it is far from being a hub, while Mexico is more closely integrated with the U.S. than with the rest of LAC (IMF, 2015). Levy-Yeyati (2012) also highlights the problem of LAC's largest economies being "reluctant hegemon" in that they have less intense trade links with the rest of the region than do the relatively smaller LAC economies. Thus they only have weak incentives to give up some economic policy autonomy.

**Regional trade integration in Asia was initially *de facto* rather than *de jure*.** Intra-regional trade in Asia increased significantly during the 1990s without any regional trade agreements in place. Instead, many Asian countries pursued a strategy of liberalizing unilaterally, with tariffs reduced for the purpose of attracting investment, often initially in the context of duty free zones (Baldwin, 2006). Thus, although since the late 1990s various regional groupings have emerged and bilateral deals with regional partners have proliferated, the initial impetus for integration came from commercial interests (Baumann, 2010). LAC, on the other hand, has pursued more formal mechanisms of integration since the 1960s, with mixed results, leading to more trade integration in some cases and trade diversion in others. Regional arrangements have typically followed the European sequencing of integration and have tended to be driven by political rather than business interests. Some countries, notably Mexico and Chile, have aggressively pursued bilateral free trade deals with both regional and non-regional partners (Baldwin, 2006). Thus both Asia and LAC are currently characterized by "spaghetti bowls" of overlapping regional agreements.

**Geography has worked in Asia's favor.** Although overall infrastructure quality in Asia is not necessarily superior to that of LAC, Asia benefits from most of its manufacturing export activities being located near the coast (Baumann, 2010). LAC, on the other hand, has significant natural barriers which inhibit trade. The Asian region as a whole has also benefited from the proximity of a

large advanced economy (Japan) and a large, fast-growing economy (China), whereas most countries in LAC are a significant distance away from comparable economies.

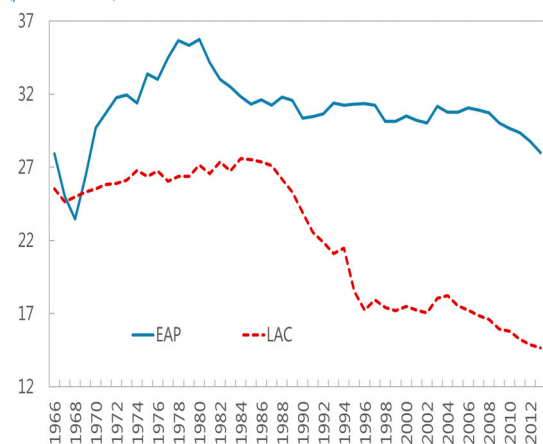
**Foreign direct investment has been key to establishing Asia’s comparative advantage in manufacturing.** In general, emerging Asia has had more success than LAC in attracting FDI, by creating a business environment conducive to foreign investment. Associated with these flows of investment has been technology transfer, which has also been facilitated by favorable environments for R&D. Asian countries have also managed to attract more FDI to the manufacturing sector, whereas FDI flows to LAC have been more focused on natural resources.

**LAC seems unlikely to follow the same path as emerging Asia.** Lacking a dominant hub and with a difficult geographical environment, LAC faces more obstacles in developing manufacturing GVCs than does Asia. Further, Rodrik (2015) observes that many developing countries are experiencing “premature deindustrialization,” which he speculates could be driven by trade liberalization and globalization. Asia already has a strong comparative advantage in manufacturing, which has rendered other developing regions less able to compete. For LAC, the services sector may hold growth potential, but the kind of services that will drive output and export growth typically require higher-skilled labor.

**Nevertheless, a few lessons can be drawn from Asia’s experience.** Asian countries actively reduced barriers to trade and investment, including trade barriers on intermediate goods. In addition, their education systems have been substantially strengthened to provide adequate skills for the emerging industries. Moreover, regional integration has also largely been business focused rather than politically driven.

**Manufacturing value added**

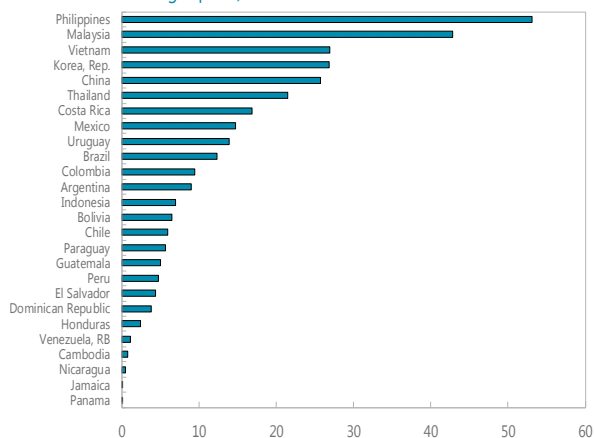
(percent of GDP)



Sources: World Bank and Fund Staff calculations.

**High-technology exports 2015 <sup>1/</sup>**

(percent of manufacturing exports)



Sources: World Bank and Fund Staff calculations.

<sup>1/</sup>Data of Honduras, Indonesia and Vietnam correspond to the year 2014 and Venezuela 2013.

## Annex III. The Social Impact of Trade Liberalization in Peru

**Recent trade liberalization in Peru provides a useful case to analyze the impact of liberalization on domestic producers that compete with liberalized imports (the expected losers from liberalization).** While lowering trade policy barriers increase overall welfare, producers of imports-competing goods are expected to be negatively affected by reduced protection. Estimating this negative impact and designing offsetting policies are key to minimize the loss. Analyzing trade liberalization in Peru in the 2000s is particularly helpful in this regard due to the availability of annual household surveys throughout the liberalization period.

**A district-level analysis finds that domestic producers of imports competing products were considerably affected by the lowering of tariff rates in Peru (Baldarrago and Salinas, forthcoming).** The analysis hinges on building a district level tariff that reflects its production structure and exposure to imports, and uses regressions at the district level to determine the relation between changes in the estimated district tariffs and changes in expenditure/poverty indicators. This analysis finds a negative impact of tariff reductions on imports-competing producing districts. Specifically, a one percentage point reduction in the district tariff lead to a decrease of 0.68 percent in income and to an increase of 0.3 percentage points in headcount poverty and of 0.23 percentage points in the poverty gap (see table).

Regressing Social Indicators on Tariff Levels (excluding non-tradables) in 2004-14

	Headcount Poverty Ratio	Poverty Gap	Log expenditure per person
District Level Tariffs (excl. non-tradeables)	-0.292* (0.09)	-0.230** (0.02)	0.634** (0.01)
Constant	0.616*** (0.00)	0.272*** (0.00)	5.112*** 0
R-squared	0.387	0.362	0.641
Observations	5236	4893	5236

Notes: Coefficients and p-values reported for each independent variable (\* p<0.05, \*\* p<0.01, \*\*\*p<0.001). District and year fixed effects are used. Tariffs are weighted by countries' share of Peru's total imports based on Appendix Table 1.

**The identified negative effect points to the need for policy action to minimize the impact of liberalization on its “losers.”** Suggested policies include:

1. Estimate district level tariffs to identify those likely affected by liberalization through the imports competition channel.
2. Protect and facilitate adjustment especially in likely-to-be-affected districts by:
  - Strengthening social safety nets.
  - Implementing retraining and job search programs with an exceptional budget at least during the first years after liberalization.
  - Lowering costs of migration mainly by providing infrastructure (transport and telecommunications), as well as nationwide information (on jobs, housing).
  - Adopting gradual/longer liberalization schedule for socially/politically sensitive products.