

THE BIG SWITCH IN LATIN AMERICA RESTORING GROWTH THROUGH TRADE



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The Big Switch in Latin America: Restoring Growth through Trade

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Executive Summary

The Latin America and Caribbean (LAC) economy is estimated to shrink further in 2016, by 1.1 percent, as recessions in some of the larger South American (SA) countries outweigh the generally positive and stable growth in Mexico, Central America and the Caribbean (MCC). But growth rebounds projected for Brazil and Argentina and modest growth accelerations in other SA countries are expected to result in an economic expansion of 1.8 percent for the region as a whole in 2017. To be sure, this favorable forecast is exposed to downside risks stemming from a turbulent and uncertain world environment.

The significant bifurcation in economic performance between SA and MCC (which emerged in the early 2000s and has remained strong to date) was a by-product of the global commodity cycle. It reflected broad trade structure differences across sub-regions, with SA composed mainly of net commodity exporting countries and MCC mainly of net commodity importers. Within each sub-region, policy differences across countries also played an important role, however. To better highlight the interplay of these regional similarities and heterogeneities, we compare MCC and SA to relevant “peer groups”—composed of middle income countries whose terms of trade have moved over the past 15 years in the same direction and by similar magnitudes.

The exercise reveals remarkable similarities, on average, in growth and inflation between commodity exporters (SA and its peers), on the one hand, and importers (MCC and its peers), a clear indication that trade structure matters. Among commodity exporters, macroeconomic dynamics were dominated by domestic demand, in turn driven by the compounded effect of terms of trade and global import demand fluctuations. In contrast, for commodity importers, domestic demand effects were muted, as global demand and terms of trade tended to cancel each other along the commodity cycle.

The evidence also highlights significant differences between the two LAC subregions and their peers, calling for deeper investigation within each subregion. For MCC, the main difference relative to peers is a persistently lower growth rate which, given the relative stability of domestic demand, points toward supply-side factors. Mexico—by far the largest economy in MCC—stands out. Its growth and investment rates have been below the rest of MCC (as well as below MCC peers) over the entire cycle, and they have remained comparatively low in recent years, despite an impressive wave of structural reforms and the economic recovery in the US.

For SA, the key contrasting feature relative to peers is the much steeper decline in growth and larger increase in inflation in the past four years or so. These contrasting patterns are largely explained by more accentuated fluctuations in SA’s consumption-induced domestic demand. This feature is most clearly detected among a subset of low-saving SA countries (Argentina, Brazil, Colombia, Uruguay and Venezuela), all of which have undergone strong expansions in public expenditures and are currently experiencing large fiscal imbalances. Moreover, within this subset of low saving countries, the pattern was substantially more accentuated for Argentina and, especially, Venezuela, where fiscal imbalances originated from primary expenditures instead of interest payments on public debt. In Brazil, Colombia and Uruguay, by contrast, the interest bill has been an important contributor to the fiscal deficit. Interestingly, among the SA high-saving countries, Ecuador and Bolivia stand out, in that they expanded their public spending aggressively over the cycle (largely in parallel with the low saving countries) and are now experiencing pronounced fiscal imbalances which are also driven by primary expenditures in excess of revenues (rather than by interest payments).

Given the above, pending macroeconomic adjustments to the “new normal” of low commodity prices and slower growth in China are naturally concentrated in SA, although several Central American and Caribbean economies face pre-existing fiscal imbalances and Mexico has to deal with the adverse fiscal implications of the decline in oil prices. The

nature and extent of adjustment needs vary across SA countries, however. A first group of high saving, flexible exchange rate countries (Chile, Paraguay and Peru) have arguably completed their macroeconomic adjustment, with Paraguay requiring the least saving effort of the three, given that it experienced only mild fluctuations in its terms of trade. The fiscal and external accounts for this group of countries are in a reasonably sustainable position, output growth (though weaker than in the past) remains above the regional average, and inflation pressures are muted. Yet, the fall in investment remains a concern in the case of Chile.

Instead, to bring about internal and external equilibrium, a second group of countries (Venezuela, Argentina, Ecuador and Bolivia) will require fiscal and, excepting Argentina, also real exchange rate adjustments. Venezuela is of course the outlier in this group, facing the strongest and most daunting required adjustments. As Argentina now allows its exchange rate to adjust flexibly, the premium must be put on fiscal adjustment. By providing relief to monetary policy, the latter should facilitate the fight against inflation and help promote private investment. In the cases of Ecuador and Bolivia, where nominal exchange rate inflexibility has resulted in a substantial loss of external competitiveness over the last years, a combination of fiscal tightening and real exchange depreciation is needed to restore external equilibrium (particularly in Bolivia) and bring growth up to potential (particularly in Ecuador). Given formal dollarization, however, the real exchange rate depreciation in the case of Ecuador would have to occur via prices and wages.

Among the last group of low saving, flexible exchange rate countries in SA (Brazil, Colombia and Uruguay), Brazil clearly faces the greater challenges, not least because its fiscal deficit (driven to a large extent by a high interest bill) severely constrains the maneuvering room for monetary policy. But all countries in this group will require some mix of short-term fiscal adjustment to keep public debt under control and reduce fiscal dominance over monetary policy; and forward-looking saving mobilization reforms to make space for investment without straining the external current accounts. While a front-loaded increase in saving rates cannot be reasonably expected, up-front reforms geared at strengthening savings could help get traction for the growth recovery by shaping expectations and promoting investment.

Restoring macro equilibria also calls for a major supply reorientation (a “big switch”), from non-tradable to tradable goods, so as to compensate the terms of trade losses through an improvement in the trade account that brings actual output closer to its potential. Absent fluctuations in world economic activity, this improvement would take place naturally as commodity importers (now benefiting from terms of trade gains) expand their demand for commodities. Instead, in the current global environment of sluggish demand, slowing international trade (particularly in East Asia) and protectionist threats (particularly in the US), there is a general concern as to whether trade can pull that trick. Thus, hard efforts by exporters in the region will be needed to raise their participation in the world market place.

Alternatively, the switch in production towards tradables could focus on efficient import replacement (i.e., local production of import-competing goods that does not rely on protectionism). Such a switch could in principle help sustain growth even under weak external demand. Furthermore, it could be supported by a rise in regional trade, aided by the now more competitive exchange rates vis-à-vis non-LAC countries and to the extent that economic activity firms up throughout the region. Further efforts to expand regional trade in the medium term are thus certainly welcome, provided they do not run against international trade. However, it is questionable whether import replacement can be substantial enough (early evidence in this direction is not encouraging) and deliver the same productivity gains (in terms of learning effects and technological spillovers) as export expansion.

Notwithstanding the unhelpful current global conditions, the quest to expand exports is likely to occupy center stage in the policy debate. At an aggregated level, the good news is that while SA’s exports in dollar terms continue to trend downward, reflecting lower export prices, an incipient pick-up in export volumes can be observed, starting by the end of 2015. Furthermore, the volume improvement appears to be concentrated in the countries that have depreciated the most (Brazil, Chile and Colombia), which suggests that the exchange rate works. The perhaps not so good news, however, is that primary commodities account for the bulk of the recent increase in export volumes (while there is an incipient positive

export response of other goods and services, it is quite marginal relative to total exports). Whether commodity exports are the best suited for generating productivity spillovers is an open question. In any event, export diversification would generally be desirable as it would also help limit macroeconomic volatility.

The long-term sustainability of the nascent export recovery in SA will depend on its quality, not just its quantity. This in turn depends on the nature of the “green shoots,” whether they are mainly volume increases in existing exports or whether they largely account for new, more elaborate products that cover new grounds and reach new destinations. Chapter 2 of this report takes a first dive in this direction by analyzing the trade data at a highly granular level, using the 6-digit classification of the Harmonized System of trade. Findings are mildly encouraging and are centered on three sets of results.

First, changes in SA export volumes are found to be overwhelmingly responding to the currently sluggish global demand for imports, which more than offsets the effects of the real exchange rate depreciations of recent years. Yet, when one focuses on the intensive margin (i.e., on the changes in the quantities of already existing exports), a large and significant exchange rate response is found after controlling for global and Chinese demand for imports, with a significant resumption of export volume growth detected for the post-2011 slowdown years and mainly occurring in SA countries with the most flexible exchange rate regimes. Micro data thus confirms the findings mentioned earlier based on aggregate observations.

Second, when one focuses on the extensive margin (i.e., on the changes in the quantities of new exports), a pick-up in volume growth is detected in the slowdown years. Although still mainly concentrated in primary commodities, the new products that the region is now exporting tend to be of higher quality—they appear at higher relative prices and in product categories that offer more room for value upgrading—compared to the boom years. Interestingly, when it comes to higher quality new exports, neither trade structures nor the real exchange rate appear to matter. However, the client’s wealth does seem to matter, as new exports are tilted towards the richer US market. This finding suggests that exporters in LAC are making efforts to exploit new niches and the branching out toward the higher end is indeed promising when one looks farther into the future.

Third, a process of export diversification (defined by an increasing number of export-destination pairs) is detected, which has gathered strength during the slowdown years in the LAC countries with the most flexible exchange rate regimes. Yet, the elasticity with which the diversification of exports responds to a real exchange rate depreciation declines with economic size. Overall, this is again good news as it further confirms the importance of exchange rate flexibility, particularly for smaller economies which have greater scope for diversification.

Overall, the key messages of this report are positive in that the macroeconomic adjustment the region requires, while far from completed for many countries, is on its way. Trade adjustment is also materializing under both a push effect (higher competitiveness and the creativity of local exporters) and a pull effect (the demand from richer countries for upscale products). However, whether and how fast both adjustments will allow growth to resume on a sustainable basis remains an open question. The answer to this question will deserve more scrutiny as more data becomes available; its final outcome will unavoidably depend on the global environment but also, and crucially, on the strength and adequacy of structural reforms within the region.

Chapter 1:

Recent Economic Developments

Introduction

Output growth for Latin America and the Caribbean (LAC) is expected to continue trending downward in 2016—the fifth year of deceleration and second of economic contraction—but a growth rebound is projected for 2017. The adverse growth trend to date mainly reflects the downward pull of several large economies in the South American (SA) region, particularly Brazil, but also Venezuela, Argentina and Ecuador. At the same time, while Mexico, Central America and the Caribbean (the MCC region) continue to grow, they do so with limited dynamism, particularly Mexico. As a result, the region's overall economy, which declined by around half a percentage point in 2015, is expected to contract in 2016 by a further 1.1 percent. Consensus Forecasts for 2017 point toward a growth rebound, particularly in the most severely affected economies in the SA region. However, risks of a further shrinkage cannot be ruled out in view of the downside tilt of global risks in the current turbulent world environment.

Since the region's current macroeconomic stress originates mainly in the South, the analysis in this chapter focuses on SA rather than MCC (the discussion on MCC is limited to a peer comparison that contrasts the symmetries of the terms of trade shocks that have affected MCC and SA over the commodity cycle with the relative asymmetries of their macroeconomic responses). The main question this chapter therefore addresses is whether there are sufficient grounds to believe that SA's expected growth rebound will lead to a sustainable growth recovery. The response has both a macroeconomic dimension and a trade dimension. On the macro side, what role has macroeconomic disequilibrium played and has the required macroeconomic adjustment been completed? On the trade side, what role has trade structure played in driving growth, are there signs of an export rebound and, if so, can it be the conduit for a sustained growth recovery?

In both cases, there are some grounds for optimism. Progress has been achieved toward restoring macroeconomic equilibria. At the same time, there are early signs of an ongoing export recovery, originating for the most part in the countries with the most flexible exchange rates. In both cases, there are also reasons for caution, however. On the macro front, the quality of the adjustment has still room for improvement in many cases. In a first group of countries, the priority has to be on short-term fiscal adjustments, which are needed to reduce fiscal dominance over monetary policy, hence to help stabilize inflation; in a second group, where exchange rate regimes are less flexible, adjustments in relative prices (i.e., real exchange rates) would help stabilize the current account while stimulating the economy; in a third group, a growth-friendly rotation from consumption to investment is required which, to be sustainable, would need to rest on higher domestic saving rates over the medium term.

On the trade front, few will doubt that a deeper and more robust integration into international markets is crucial for LAC to succeed in lifting its long-term growth rate. However, there is a general concern as to whether in the current world environment of sluggish demand, slowing international trade

(particularly in China) and protectionist overtones (particularly in the US), trade can pull that trick. A further concern is whether SA's all times high dependency on commodity exports will constitute an additional hurdle to a sustained pick up in broader exports growth. Admittedly, while a switch of resources towards the production of goods and services that are traded internationally appears necessary, it does not need to involve only exports. It could also entail production to replace imports, either locally or regionally. For import-replacing production to be efficient, however, it has to be competitive by world standards and not artificially supported by excessive protectionist policies. In addition, whether import replacement can trigger over the longer run similar productivity gains as exports is an open question.¹

Against this background, this chapter:

- (i) Reviews the region's short-term growth performance and prospects in view of world developments;
- (ii) Identifies, with the help of a simple peer group exercise, various bifurcations in the macroeconomic patterns followed by LAC countries; between commodity exporters and commodity importers; high savers and low savers; countries with primary imbalances vs. debt imbalances; and countries with more or less flexible exchange rates;
- (iii) Discusses the role and nature of the domestic demand and trade adjustments that would be needed to sustain higher growth in the SA region; and
- (iv) Reviews, at an aggregate level, the nature (and early evidence of) of trade shifts that would be needed to support a sustained growth recovery; from non-tradable goods toward exportables or importables; and, within exportables, from commodity-related to non-commodity related goods.

The discussion in the last section of this chapter provides a bridge to Chapter 2, which reviews the existence of export green shoots from a microeconomic, statistical perspective that puts the spotlight on new products, new destinations and product quality.

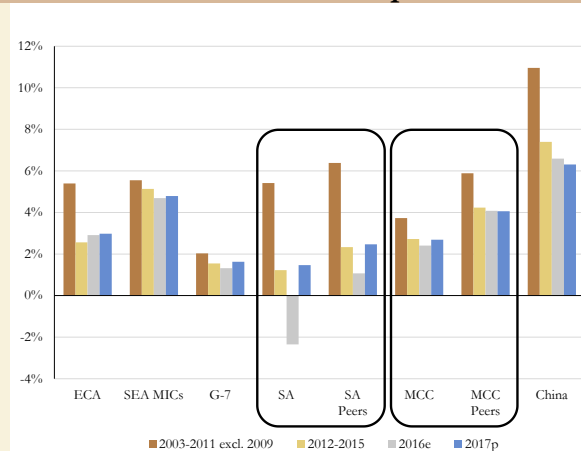
Short-term Growth Performance and Prospects

The downward slide of growth in LAC, which is concentrated in SA, has by far been the most pronounced in the world (Figure 1.1). SA is the only region expecting a significant economic *contraction* in 2016 (of over 2 percent), one that is disproportionately large relative to the deceleration in China. Instead, growth during 2016 in other regions, including in MCC, is expected to remain broadly stable relative to the 2012-15 average. A stark contrast between SA and MCC also exists as regard forecasting errors. Whereas growth has systematically fallen short of forecast since 2012 in SA, in MCC growth has met or slightly exceeded forecasts (Figure 1.2, Panels A and B).

This bifurcation in growth expectations, performance and prospects between SA and MCC is further illustrated in Panel C of Figure 1.2 that compares the estimated growth for each country in the LAC

¹ The term "import replacement" is used generically here to refer to the increase in the local production of goods and services that would otherwise be imported. Such an increase could result from increased exchange rate competitiveness and is compatible with open trade. "Import replacement" therefore is meant to contrast with "import substitution", which has historically involved increases in tariffs or other protectionist policies.

FIGURE 1.1. Real GDP Growth: International Comparison



Notes: Weighted averages. ECA includes Croatia, Czech Republic, Hungary, Lithuania, Poland, and Turkey. SEA MICs includes Indonesia, Malaysia, Philippines, and Thailand. SA Peers includes Ghana, Indonesia, Nigeria, Russian Federation, South Africa, and Uzbekistan. MCC Peers includes Bangladesh, Malaysia, Pakistan, Philippines, Thailand, and Turkey. Sources: Consensus Forecasts and World Bank staff estimates.

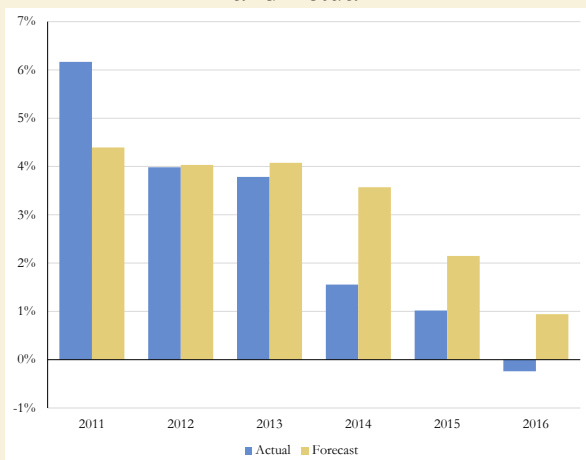
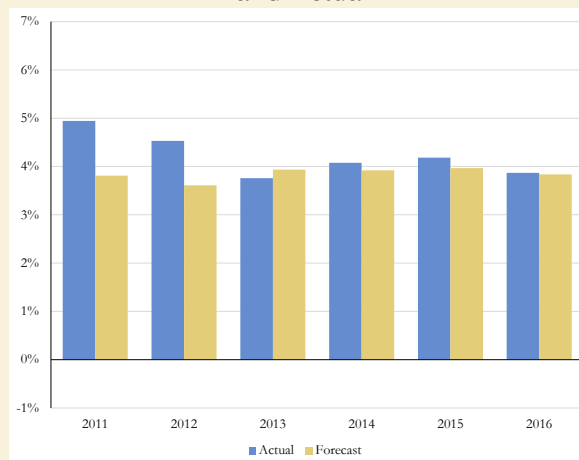
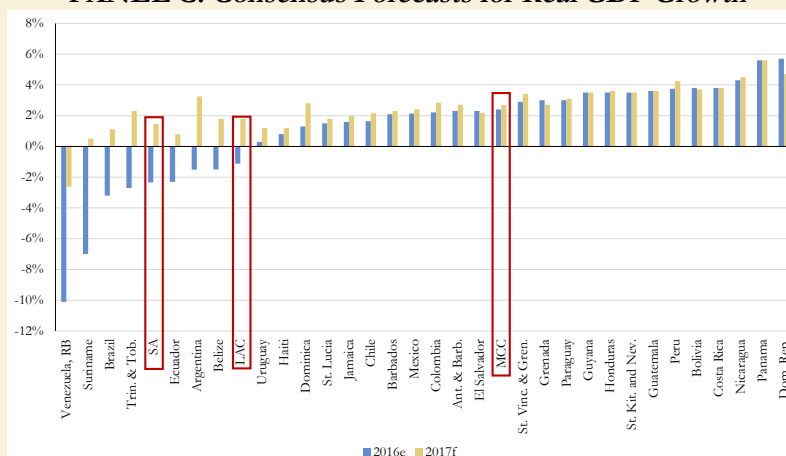
region together with the latest forecasts for 2017, as published in the September 2016 issue of the Consensus Forecasts. The heterogeneity within LAC is quite striking—in 2016, estimated growth rates range from a *negative* 10 percent in Venezuela to a positive 5.7 percent in Dominican Republic. The two largest economies in the region, Brazil and Mexico, are expected to end on sharply diverging paths in 2016, with Brazil's economy expected to shrink by 3.2 percent, Mexico's expected to expand by about 2.1 percent.

Importantly, growth is expected to recover in most SA countries in 2017. Except for Venezuela, where GDP is forecasted to decline by a further 2.6 percent, the Consensus Forecasts envisage a growth rebound into positive territory for Brazil (1.1 percent), Argentina (3.2 percent) and Ecuador (0.8 percent). If these forecasts for 2017 hold, the average growth gap between MCC and SA should narrow substantially. Unfortunately, the growth convergence also partly reflects the limited dynamism of the Mexican economy. Despite the pull of an improving US economy and the push of an ambitious structural reform agenda, growth is expected to decelerate in 2017, in part reflecting the adverse impact of falling commodity prices on public finances.

Consistent with the above and except for Mexico (where the nominal dollar exchange rate has continued to depreciate), the improvement in growth forecasts for LAC is generally matched by similar improvements in key financial market indicators, which in turn mirror broad world patterns. Since early 2016, stock market indices have gained ground in LAC and around the world while EMBIs have declined and nominal dollar exchange rates have appreciated (Figure 1.3).

At the same time, however, a number of important worldwide downside risks, both economic and political, could easily derail SA's expected recovery. These include the adverse downstream repercussions of Brexit, a worsening of Chinese growth, or a further expansion of terrorist activities. The continued depressed aggregate demand in the largest industrial countries and the very limited fiscal and monetary response capacity are further concerns weighing on the downside.

Over a slightly longer horizon, the ongoing world trade deceleration is another cause for concern. While imports by developed countries are stagnant in real terms, China's imports (which had already

FIGURE 1.2. LAC: Real GDP Growth**PANEL A. SA: January Consensus Forecasts and Actual****PANEL B. MCC: January Consensus Forecasts and Actual****PANEL C. Consensus Forecasts for Real GDP Growth**

Notes: Panels A and B show the simple averages for the actual growth rates and January Consensus Forecasts for each year. In Panel A, SA includes Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Paraguay, Peru, Uruguay, and Venezuela. In Panel B, MCC includes Costa Rica, Dominican Republic, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, and Panama. In Panels A and B, actual growth for 2016 corresponds to the September 2016 issue of the Consensus Forecasts. In Panel C, the estimates and forecasts reported are from the September 2016 issue of the Consensus Forecasts. For those countries that are not included in the Consensus Forecasts (mainly the Caribbean), the figure shows the latest World Bank estimates and forecasts. Sources: Consensus Forecasts and World Bank staff estimates.

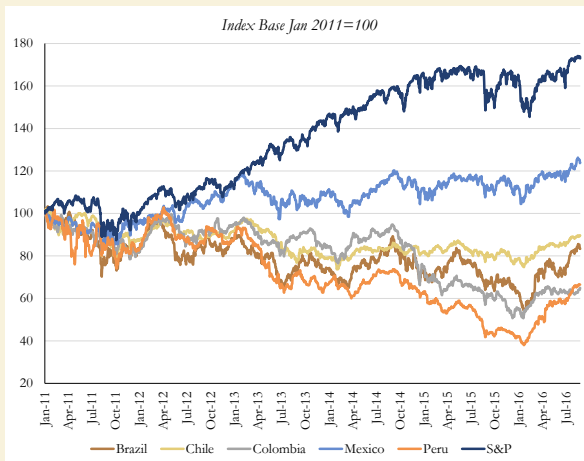
decelerated after the global crisis) have followed a decidedly downward trend since early 2014, which is problematic in view of the fact that, as argued below, a sustained growth recovery in SA will most likely require a sustained pick up of world exports (Figure 1.4, Panels A and B).² Part of this import slowdown reflects a structural plateauing in the growth of intraregional trade (global value chains)

² The analysis of trade developments in this section is based on export volume indices by broad type of goods (primary, processed, other) that follow the Broad Economic Categories (BEC) classification but are constructed using leaf data from the SITC Revision 3 classification in order to ensure the finest possible granularity. Aggregate indices were obtained by taking weighted averages of year-to-year volume changes, with weights corresponding to the dollar value of each product category in last year's trade. To ensure homogeneity (thereby also avoiding jumps in the index), an upper threshold of 60 percent was imposed on changes in year-to-year unit values. Thus, all product categories exceeding the threshold in any given year were excluded from the computation of the index for the following year. We followed the standard practice of utilizing data on imports as reported by customs agencies and, since one country's imports are another's exports, export flows were obtained by mirroring.

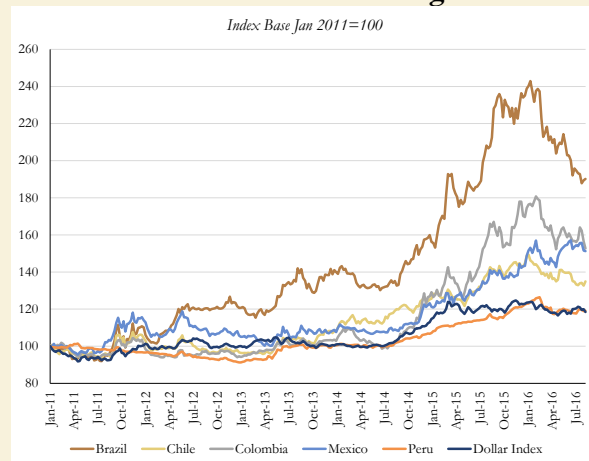
within the South East Asia region, which by itself may have only limited spillovers for world growth (Figure 1.4, Panel C).³ Yet, imports from the rest of the world by the South East Asian countries as a group have also declined since the fourth quarter of 2014. The recent (rather unusual) announcement by the World Trade Organization of a large downward revision (to 1.7 percent, down from 2.8 percent in April) of its yearly trade growth forecast provides a further, more specific warning of possible trouble ahead.⁴

FIGURE 1.3. Market Prices for LAC Inflation Targeters and Global Benchmarks

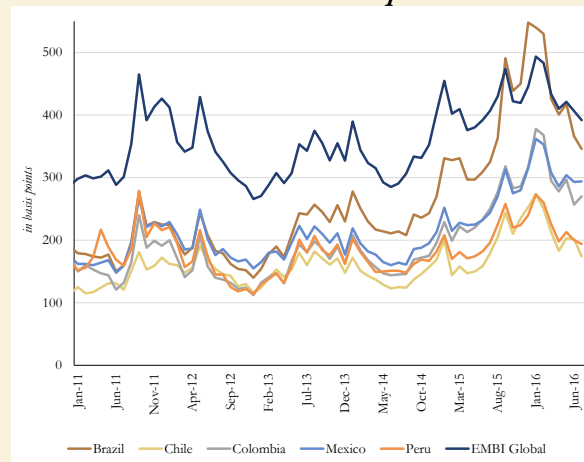
PANEL A. Stock Market Indices



PANEL B. Nominal Exchange Rates



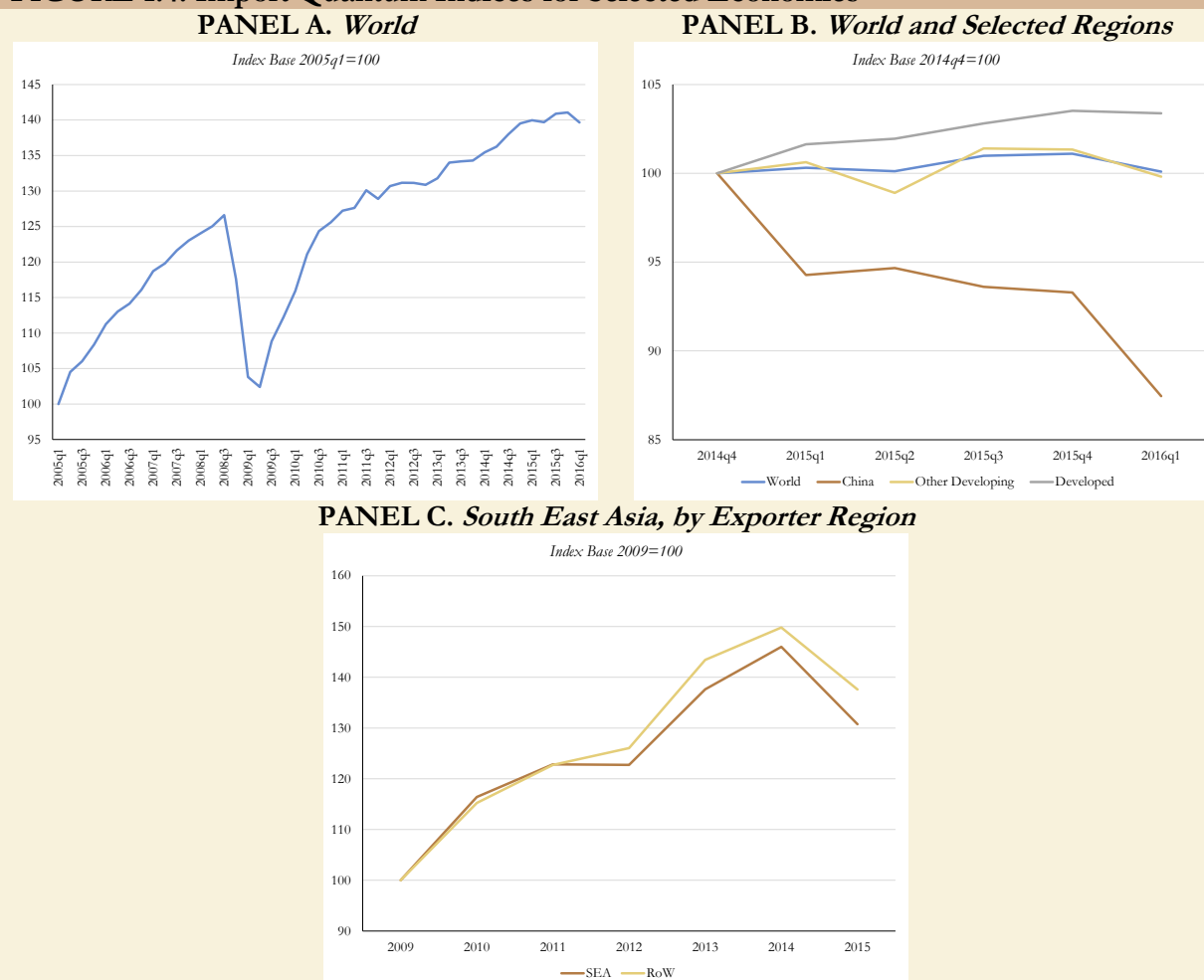
PANEL C. EMBI Spreads



Sources: Bloomberg.

³ For recent studies on the role of global value chains in the deceleration of world trade see for example Ferrantino and Taglioni (2014); or Contantinescu et al. (2015).

⁴ According to the WTO, the slowdown may signal that, after a long period of growth through globalization and reliance on global trade, governments may be increasingly seeking to protect their own industries and promote domestic producers at the expense of foreign competitors.

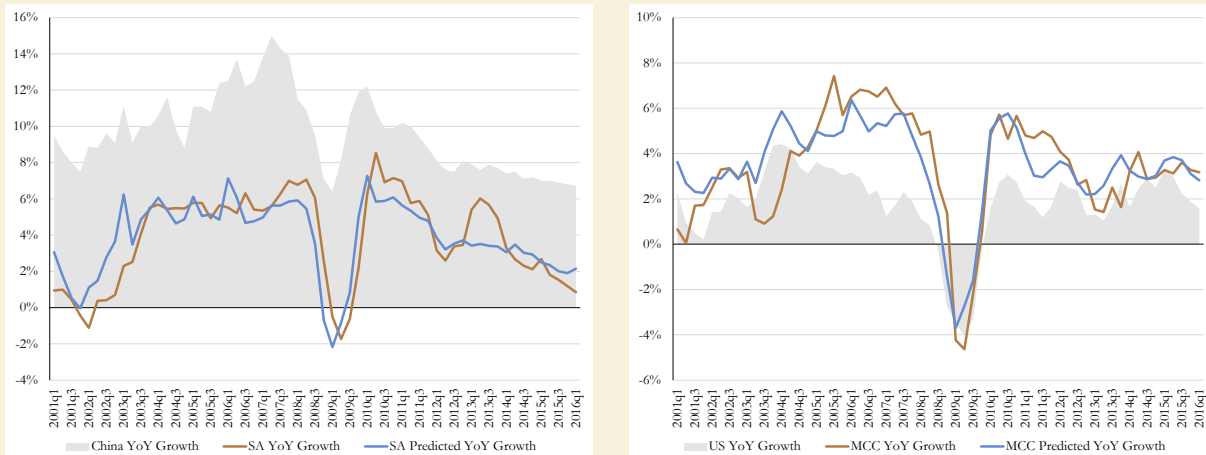
FIGURE 1.4. Import Quantum Indices for Selected Economies

Notes: The indices in Panel C were obtained by using leaf data from the SITC Revision 3 classification. Weighted averages of year-to-year volume changes were calculated, using weights corresponding to the dollar value of each product category in last year's trade. To ensure homogeneity (thereby also avoiding jumps in the index), an upper threshold of 60 percent was imposed on changes in year-to-year unit values. Thus, all product categories exceeding the threshold in any given year were excluded from the computation of the index for the following year. SEA includes China, Hong Kong, Indonesia, Malaysia, Philippines, Singapore, Thailand, and Vietnam. Sources: UNCTAD and LCRCE based on data from UN COMTRADE.

Explaining the Growth Bifurcation between North and South: the Role of Trade

A simple multifactorial model—our so-called Wind Index Model (WIM)—can be used to estimate average growth for both MCC and SA as a function of four exogenous variables (growth in the G7 countries, growth in China, commodity prices, and the US 10 year interest rate). Three features from this exercise clearly stand out (Figure 1.5, Panels A and B). First, world factors do a remarkably good job at predicting growth fluctuations *and* growth levels in both MCC and SA. Second, MCC and SA have followed quite distinct growth trends (actual and predicted), with MCC growth stabilizing since the peak of the commodity boom (2011), SA's declining constantly. This suggests that there are also important regional (North vs. South) determinants of growth. Third, the prediction in recent years is much closer for MCC than for SA, with SA's actual growth rates systematically underperforming relative to predicted. The latter suggests that additional SA-specific factors have also played a role in shaping SA's sharper than expected growth deceleration. The possible nature of these factors is investigated below.

FIGURE 1.5. Real GDP Growth and Wind Index Model Projection for SA and MCC
PANEL A. SA and China **PANEL B. MCC and the US**



Notes: Panels A and B show simple averages for SA and MCC. SA includes Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Paraguay, Peru, and Uruguay. MCC includes Costa Rica, Dominican Republic, El Salvador, Guatemala, Jamaica, and Mexico. Average predicted growth is calculated by averaging the fitted values of country regressions of GDP growth on G-7 growth, China's growth, the CRB commodity index growth, and the U.S. 10 year treasury rate. Sources: LCRCE based on data from Bloomberg and national sources.

Starting with regional factors, the most obvious candidate differentiating MCC from SA growth is the structure of trade. Simple peer group comparisons help flesh out its influence. In this chapter, trade structures are captured by classifying countries as commodity exporters or commodity importers according to whether their net export balance of (primary and processed) commodities is in surplus or deficit. Accordingly, all SA countries are commodity exporters, most MCC countries are commodity importers (Figure 1.6).⁵ Peer groups of non-SA commodity exporters and non-MCC commodity importers can then be assembled by picking the middle income countries having experienced terms of trade changes in the same direction and of similar magnitude (see Table 1.1). As can be checked in Panels A and B of Figure 1.7, the resulting average terms of trade trajectories for the two peer groups closely track MCC and SA averages.⁶ At the same time, while the rise in the commodity exporters' terms of trade somewhat exceeds in absolute magnitude the decline in the commodity importers' the shapes of the two trajectories are remarkably similar, one being nearly the mirror image of the other.

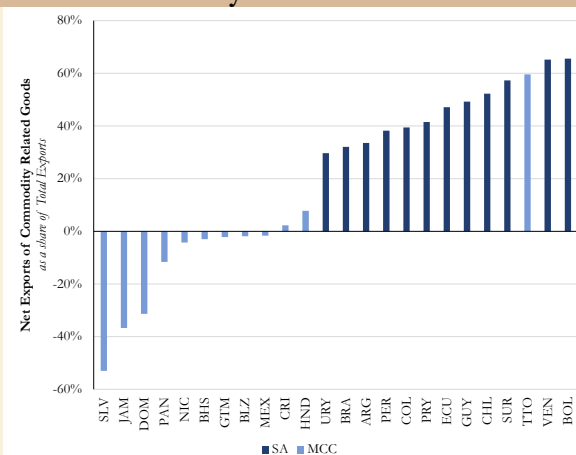
In tune with the high resemblance of the trade structure and terms of trade trajectories between LAC subgroups (SA and MCC) and their peers, the average growth and inflation patterns of the LAC subgroups are also quite similar to that of their respective peers (Figure 1.7, Panels C through F). During the slowdown years (2012-present), growth in the commodity exporters (SA and its peers) declined as the terms of trade losses led to a contraction in domestic demand (thereby stopping growth in its tracks), and inflation rose as exchange rates depreciated sharply (thereby pushing inflation up through the exchange rate pass-through).

As expected, the picture for inflation in commodity importer countries (MCC and its peers) is the opposite to that in commodity exporters—it has been on a declining trend. Yet, for growth, the picture

⁵ See Appendix 1 for a more detailed analysis of the LAC's trade patterns and the location of LAC countries in various trade maps that break down net exports by type of products.

⁶ To further enhance comparability with the peer group, Trinidad and Tobago (an oil exporter) is excluded from the MCC sample and the group is restricted to the larger countries in the region (with GDPs above US\$10 billion). For a recent study of the smaller Central American and Caribbean countries, see Lederman and Lesniak (2016).

FIGURE 1.6. Net Exports of Commodity Related Goods for SA and MCC Countries



Notes: Net Exports were calculated using leaf data from SITC Revision 3 classification. Commodity related goods are those products that map to chapters 1 through 3 of the Broad Economic Categories (BEC) classification. The figures shown correspond to 2014, except for Costa Rica (2013), Trinidad & Tobago (2010), and Venezuela (2013). For operational purposes the World Bank manages its relations with Guyana and Suriname through the Caribbean Regional Management Unit. Sources: LCRCE based on data from UN COMTRADE.

is more muddled. Rather than increasing, growth in MCC and its peers has remained steady. This asymmetry largely reflects the fact that aggregate domestic demand was clearly pro-cyclical for commodity exporters but nearly flat (instead of counter-cyclical) for commodity importers (Figure 1.7, Panels G and H). While external demand compounded pro-cyclically the effects of terms of trade changes in the case of commodity exporters (amplifying both the expansion of domestic demand during 2003-2011 and the contraction of domestic demand during 2012-2016), it tended to offset counter-cyclically the effects of terms of trade changes in the case of commodity importers (dampening both contraction in domestic demand in 2003-2011 and the expansion of domestic demand in 2012-2016). Thus, the combination of terms of trade and global demand effects ended up magnifying the growth cycle amongst commodity exporters (SA and its peers) while stabilizing growth amongst commodity importers (MCC and its peers).⁷

TABLE 1.1. SA, MCC and Their Peer Groups

SA Peers	MCC Peers
Ghana	Bangladesh
Indonesia	Malaysia
Nigeria	Pakistan
Russian Federation	Philippines
South Africa	Thailand
Uzbekistan	Turkey

Notes: Peer groups for SA and MCC were chosen following the similarity of their terms of trade shocks, subject to being of a comparable income level.

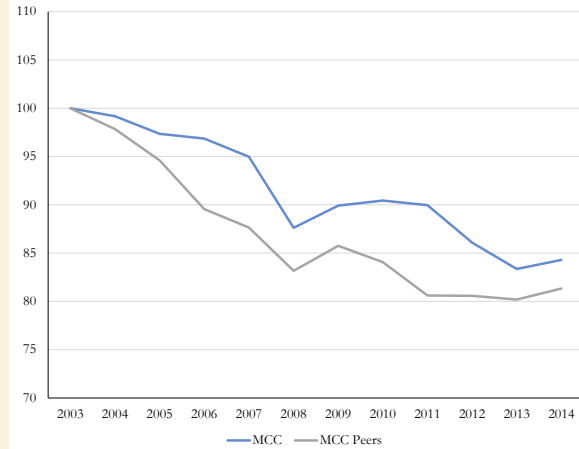
⁷ Somewhat similar asymmetries arise between the paths followed by fiscal deficits in commodity exporting countries (where they are clearly counter-cyclical) and commodity importing countries (where they are only mildly counter-cyclical). Such asymmetries may reflect the fact that windfall terms of trade gains are probably easier to capture as tax revenue from commodity exporting firms than from commodity importing firms.

FIGURE 1.7. Terms of Trade and Macroeconomic Variables for SA, MCC and Peers

PANEL A. SA and Peers: Terms of Trade



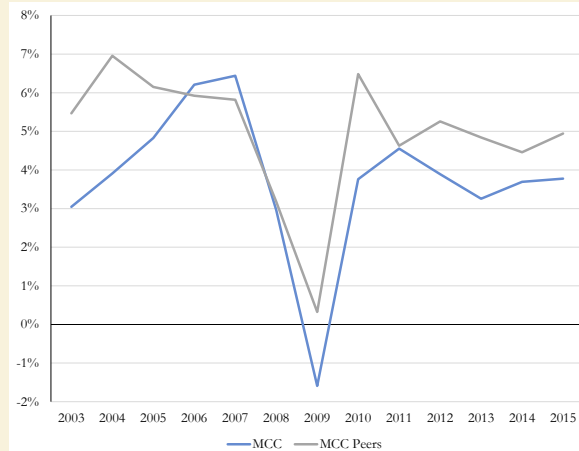
PANEL B. MCC and Peers: Terms of Trade



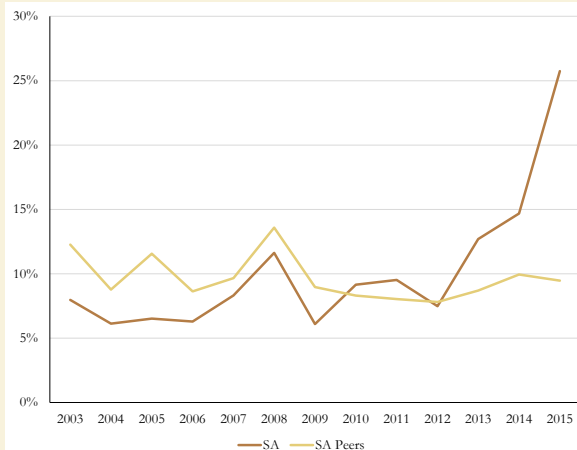
PANEL C. SA and Peers: Real GDP Growth



PANEL D. MCC and Peers: Real GDP Growth



PANEL E. SA and Peers: Inflation



PANEL F. MCC and Peers: Inflation

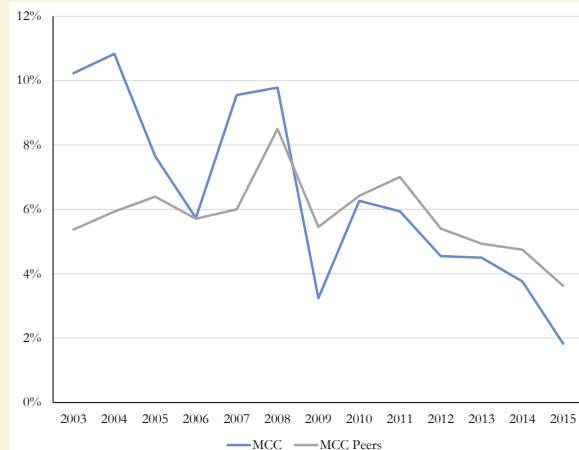
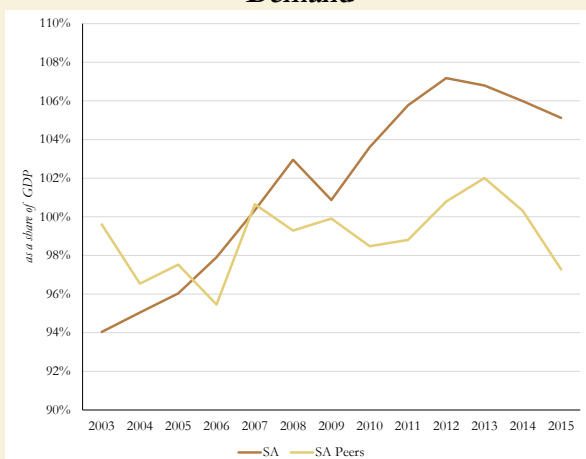
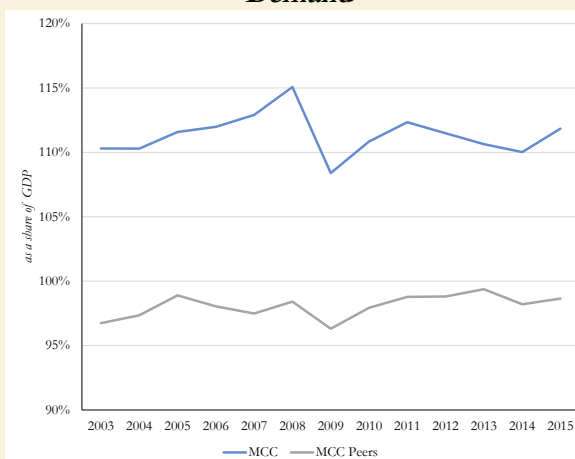


FIGURE 1.7. Terms of Trade and Selected Macroeconomic Variables for SA, MCC and Peers (cont.)

PANEL G. SA and Peers: Real Domestic Demand



PANEL H. MCC and Peers: Real Domestic Demand



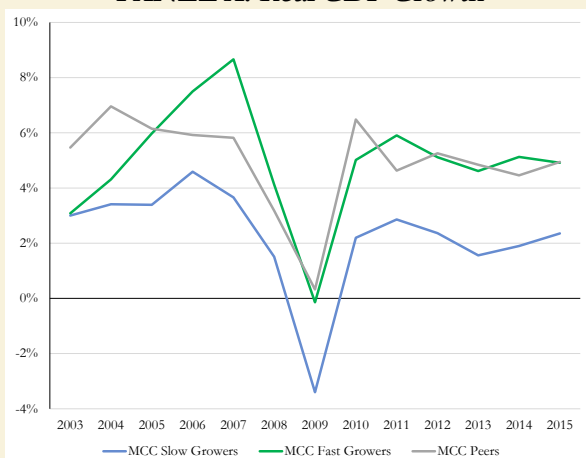
Notes: The series shown are simple averages. SA includes Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Paraguay, Peru, Uruguay, and Venezuela. MCC includes Costa Rica, Dominican Republic, El Salvador, Guatemala, Honduras, Jamaica, Mexico, Nicaragua, and Panama. SA Peers includes Ghana, Indonesia, Nigeria, Russian Federation, South Africa, and Uzbekistan. MCC Peers includes Bangladesh, Malaysia, Pakistan, Philippines, Thailand, and Turkey. Sources: WDI, Economist Intelligence Unit and WEO (IMF).

Inside MCC: the Role of Supply

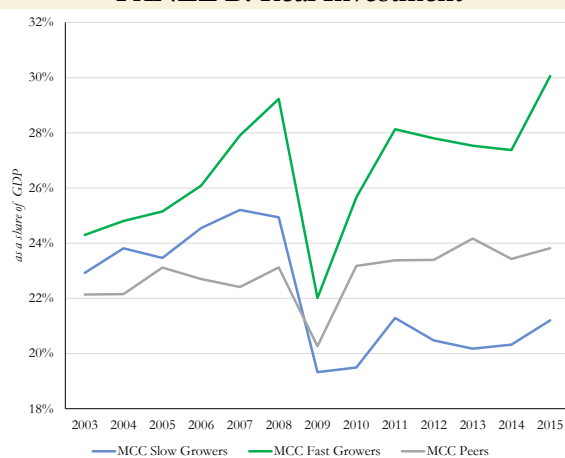
While the above peer group comparisons clearly demonstrate that regional differences in trade structures played a key role in separating MCC's from SA's macro trajectories, these structures were not the whole story. Identifying the additional idiosyncratic (i.e., country-specific) factors that have also influenced macroeconomic patterns requires digging deeper into the specifics of North and South, using the peer comparisons as a guiding tool.

FIGURE 1.8. Macroeconomic Variables for MCC and Peers

PANEL A. Real GDP Growth



PANEL B. Real Investment



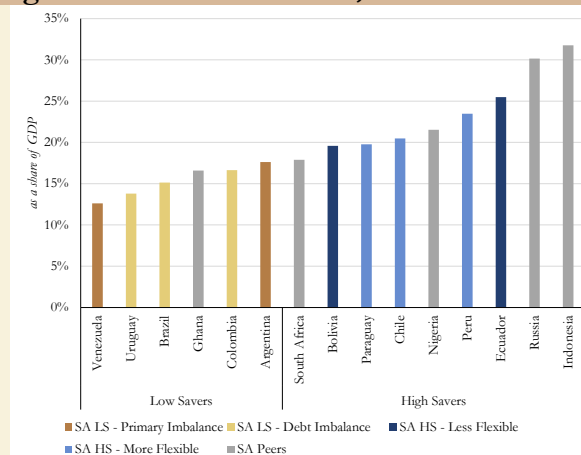
Notes: The series shown are simple averages. MCC Slow Growers includes El Salvador, Honduras, Jamaica, and Mexico. MCC Fast Growers includes Costa Rica, Dominican Republic, Guatemala, Nicaragua, and Panama. MCC Peers includes Bangladesh, Malaysia, Pakistan, Philippines, Thailand, and Turkey. Sources: WDI, Economist Intelligence Unit and WEO (IMF).

In the case of MCC, while inflation closely tracked that of peers, growth was lower throughout (Figure 1.7, Panels D and F). Given the dampened effects on domestic demand of terms of trade changes discussed above, the systematic growth underperformance in MCC relative to its peers points toward supply side factors. Since the relevant supply side constraints on growth vary considerably from country to country, deeper country studies, which are beyond the scope of this report, would be needed to explain the differences in growth performances within MCC. However, a cursory inspection of growth trajectories highlights a stark contrast between the slowest growing economies (that include El Salvador, Honduras, Jamaica, and Mexico) and the rest of MCC. While growth for the former group has lagged considerably with respect to peers, the rest of MCC countries has stayed very close (Figure 1.8, Panel A)⁸. Similar contrasts exist for investment (Figure 1.8, Panel B). Mexico's slow growth is particularly puzzling in view of important recent structural reforms and rising growth in the US. The recent growth deceleration has much to do with recent losses of petroleum revenue (that have required fiscal spending adjustments), as well as the mediocre growth of the US manufacturing sector. Yet, Mexico's disappointing growth performance over a longer horizon unavoidably calls for supply side explanations.⁹

Inside SA: the Role of Demand

Let us now turn to the SA region. While macro variables in SA countries have commoved with those of their peers, SA countries incurred more accentuated cycles, with faster declines in growth and steeper increases in inflation, especially in the past 4 years or so. In this case, aggregate domestic demand and its components (particularly consumption, hence saving) appear to be the main factor behind these more accentuated patterns. To see this, SA countries can first be sub-divided into two

FIGURE 1.9. Real Saving Rates for SA and Peers, 2003-2015 Averages



*Notes: Real saving rates are calculated as real GDP minus total real consumption plus real primary and secondary income. For an explanation of how primary and secondary income are deflated see *The Commodity Cycle in Latin America: Mirages and Dilemmas* (2016). Sources: LCRCE based on data from WDI, Economist Intelligence Unit, national sources and Balance of Payments data.*

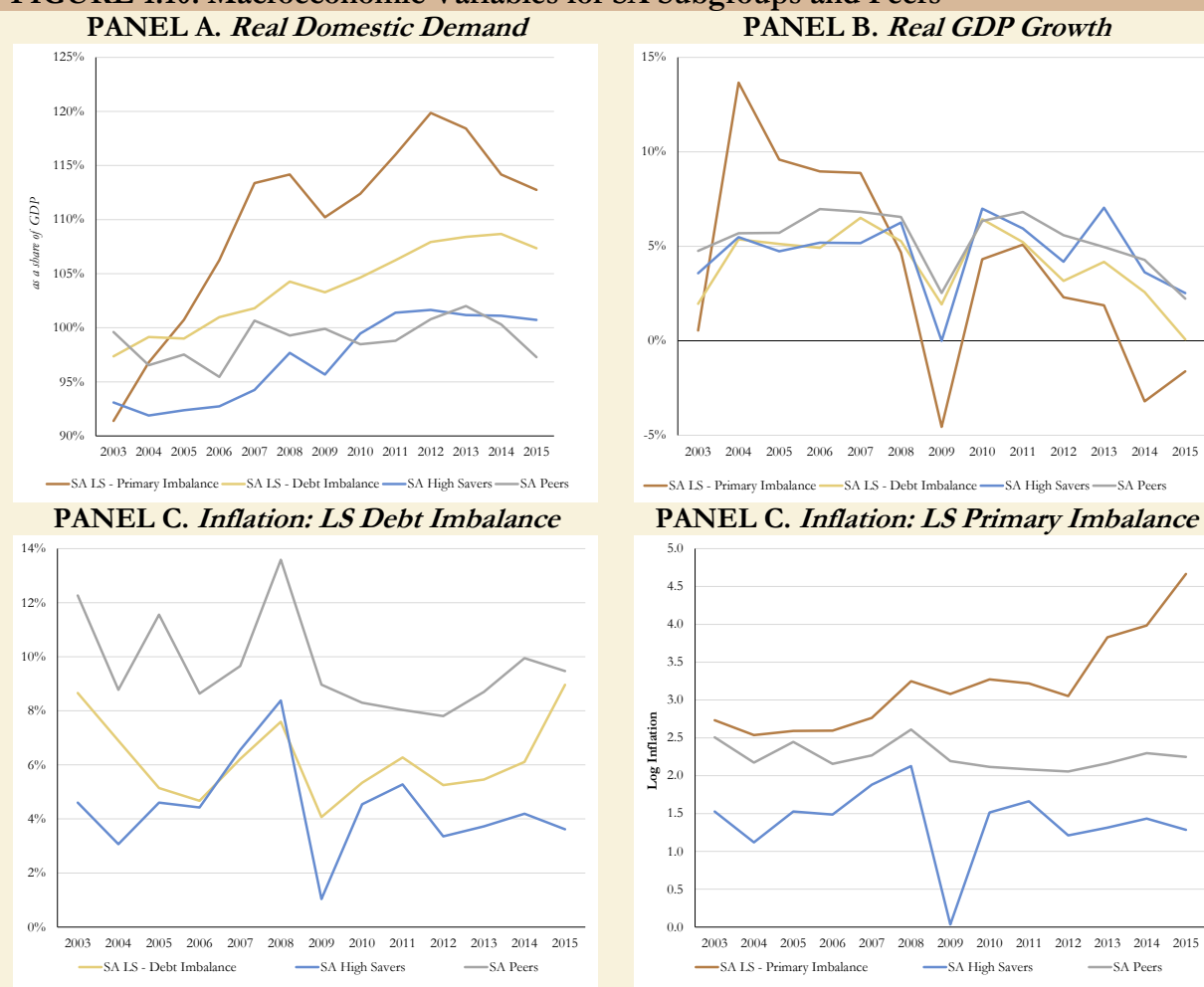
⁸Jamaica is another puzzling case. It has been under the grip of a low-growth high-debt equilibrium for a long time, which it has not been able to escape despite successfully meeting the fiscal, monetary and external targets under the most recent IMF-supported program.

⁹ A variety of potential explanations have been discussed in the academic literature, including competition and trade-related, as in Kehoe and Meza (2011), rule of law and financial system-related, as in Bergoeing et al. (2007), or labor market-related, as in Kambourov (2009).

groups according to their average domestic saving rates over the commodity cycle (2003-15). A first group (the low savers, “LS”), which includes Venezuela, Argentina, Uruguay, Brazil and Colombia, stands mostly on the left of the peers in terms of their saving rates (Figure 1.9). A second group (the high savers, “HS”), which includes Bolivia, Chile, Ecuador, Paraguay and Peru, intermingles with the peers.

The HS group closely aligns with its peers as regard the trajectories of domestic demand and growth but undershoots as regard inflation (Figure 1.10, Panels A, B and C).¹⁰ Instead, the LS group overshoots as regard domestic demand and inflation but undershoots with respect to growth. The much stronger demand response of the LS group to the terms of trade windfall gains, in turn, reflected radically distinct consumption (rather than investment) trajectories (Figure 1.11, Panels A and B). As a result, real saving rates were much lower than that of the peers and declined steadily over the cycle.

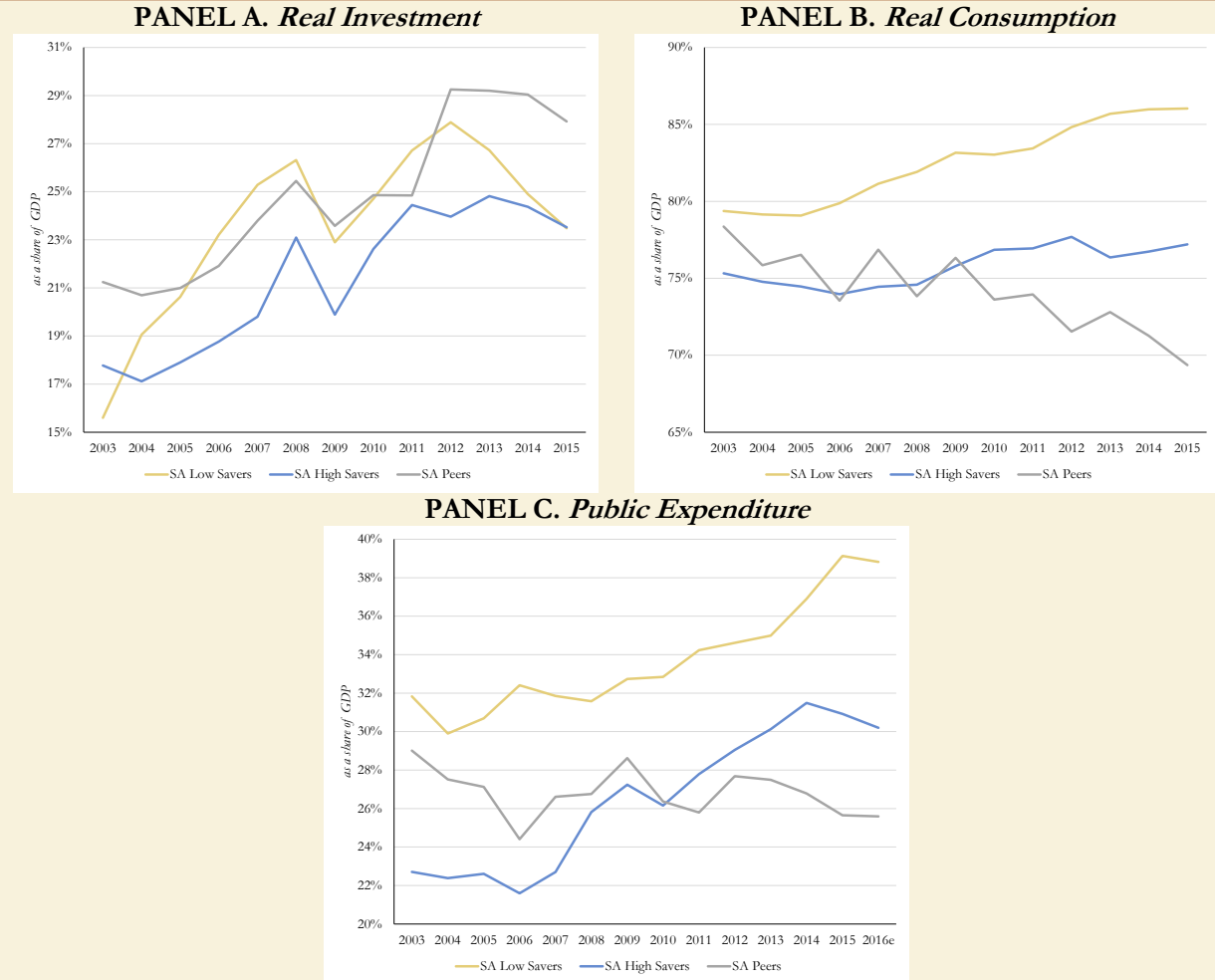
FIGURE 1.10. Macroeconomic Variables for SA Subgroups and Peers



Notes: The series shown are simple averages. SA LS Primary Imbalance includes Argentina and Venezuela. SA LS Debt Imbalance includes Brazil, Colombia, and Uruguay. SA High Savers includes Bolivia, Chile, Ecuador, Paraguay, and Peru. SA Peers includes Ghana, Indonesia, Nigeria, Russian Federation, South Africa, and Uzbekistan. Panel D shows the logarithm of inflation. Sources: WDI, Economist Intelligence Unit and WEO (IMF).

¹⁰ Note from Figure 1.10 that the contrast between the inflation and growth trajectories followed by SA countries and those of their peers becomes less stark yet remains present when removing Venezuela and Argentina from the LS group (or, using the terminology presented earlier, when expressed in terms of the *debt imbalance countries* only).

FIGURE 1.11. Domestic Demand Components and Public Expenditure for SA Subgroups and Peers



Notes: The series shown are simple averages. SA Low Savers includes Argentina, Brazil, Colombia, Uruguay, and Venezuela. SA High Savers includes Bolivia, Chile, Ecuador, Paraguay, and Peru. SA Peers includes Ghana, Indonesia, Nigeria, Russian Federation, South Africa, and Uzbekistan. Sources: WDI, Economist Intelligence Unit and World Bank staff estimates.

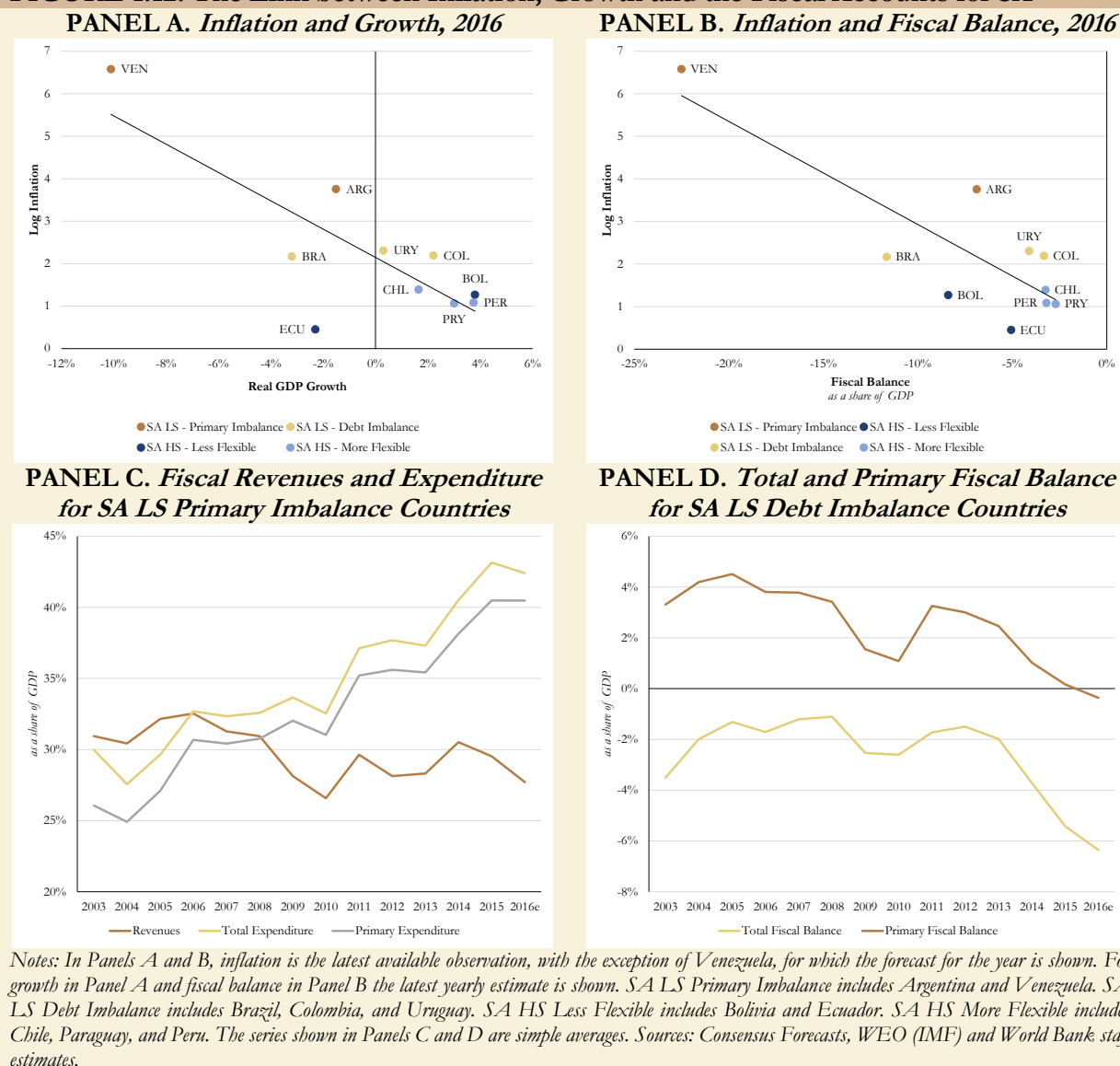
In addition, saving appears to be at least partly related to public expenditure, with LS countries experiencing much higher levels of public spending than the HS countries (Figure 1.11, Panel C).¹¹

Remarkably, the differential macroeconomic patterns developed over the cycle by high savers and low savers permeate the present. LS countries are experiencing higher inflation than the HS countries (Figure 1.12, Panel A). And there is a substantial correlation between savings and fiscal deficits, suggesting also a close link between fiscal policy, saving rates and inflation (Figure 1.12, Panel B).

Closer inspection, however, reveals two very distinct channels through which this link has operated. For Venezuela and Argentina (the “primary imbalance” countries), fiscal deficits rose because primary expenditures continued to increase even as the declining terms of trade eroded revenues (Figure 1.12,

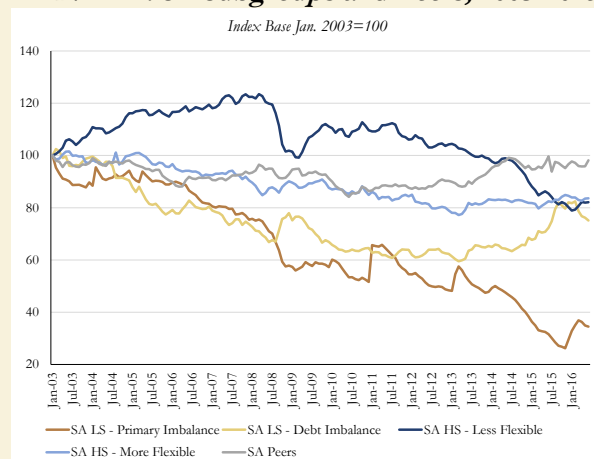
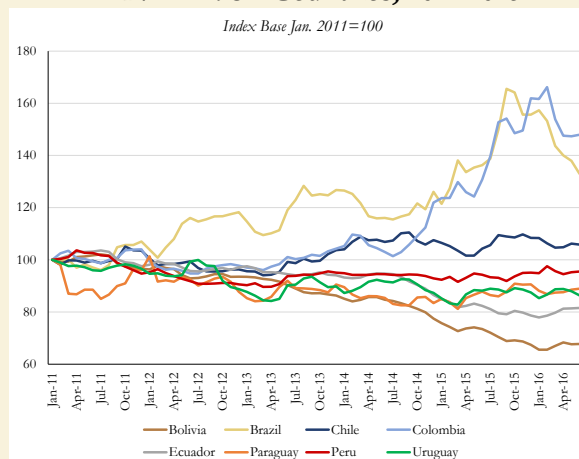
¹¹ For a more in-depth, country by country analysis of the role of terms of trade windfalls, saving and aggregate demand in explaining SA’s cyclical macroeconomic patterns see the previous Semi-Annual report in this series, “The Commodity Cycle in Latin America: Mirages and Dilemmas”.

FIGURE 1.12. The Link between Inflation, Growth and the Fiscal Accounts for SA



Panel C). For both countries, monetization of the fiscal deficit was thus the main driver of inflation. The very high resulting rates of inflation in turn contributed to an output collapse.

Instead for Brazil, Colombia and Uruguay (the “debt imbalance” countries), causality went the other way (Figure 1.12, Panel D). Fiscal deficits rose due to the increase in interest payments on public debt resulting from the monetary tightening that came about in response to the higher inflation. In this case, inflation originated from the steep exchange rate depreciations that took place in the downturn, which reversed the prior appreciations of the upturn and were facilitated by the fact that all three countries have flexible exchange rate regimes (Figure 1.13, Panels A and B). Through this exchange rate channel, domestic demand pressures at the top of the cycle ended up exacerbating inflationary pressures at the bottom of the cycle. At the same time, despite the expansionary effects of currency depreciations, output fell due to the negative demand shock resulting from monetary tightening and, arguably more importantly, from the income losses from declining terms of trade.

FIGURE 1.13. Real Effective Exchange Rate for SA and Peers
PANEL A. SA Subgroups and Peers, 2003-2016

PANEL B. SA Countries, 2011-2016


Notes: In the figure and increase in the index implies a depreciation. SA LS Primary Imbalance includes Argentina and Venezuela. SA LS Debt Imbalance includes Brazil, Colombia, and Uruguay. SA HS Less Flexible includes Bolivia and Ecuador. SA HS More Flexible includes Chile, Paraguay, and Peru. SA Peers includes Ghana, Indonesia, Nigeria, Russian Federation, South Africa, and Uzbekistan. The series shown in Panel A are simple averages. Sources: IFS (IMF).

Towards a Growth Recovery for SA: Domestic Demand Adjustments

As noted, the rebound in SA growth forecasted for 2017 should reduce the differences in growth rates between SA and MCC. The key question is, of course, whether the expected resumption or acceleration of growth in SA countries will be sustainable. The answer entails a macroeconomic dimension—i.e., the adequacy and quality of the macroeconomic adjustment to the new normal of low commodity prices and slower growth in China—and a longer-term structural dimension—i.e., SA’s ability to raise productivity growth. This section considers the first dimension; the next briefly discusses the second.

Macroeconomic adjustment is fully achieved when both internal and external equilibria are restored. Internal equilibrium obtains where the gap between actual and potential output is reasonably closed while inflation is under control. External equilibrium obtains where the current account balance is narrowed to a sustainable position and the real exchange rate is not grossly out of equilibrium. Completing the restoration of internal and external equilibria in SA will typically call for:

- *Short-term fiscal adjustment:* in several SA countries, to help stabilize inflation (by relieving monetary policy when the latter is encumbered by fiscal dominance) or to maintain public debt sustainability (when the latter threatens to spin out of control);
- *Real exchange rate adjustment:* in some SA countries, to help achieve external balance while sustaining domestic economic activity and employment (by redirecting domestic demand toward local production);
- *Longer-term adjustment in the saving-investment balance:* in most SA countries, to promote sustainable growth (by raising saving and redirecting domestic demand toward investment, rather than consumption, without weakening external competitiveness or endangering balance of payments viability).

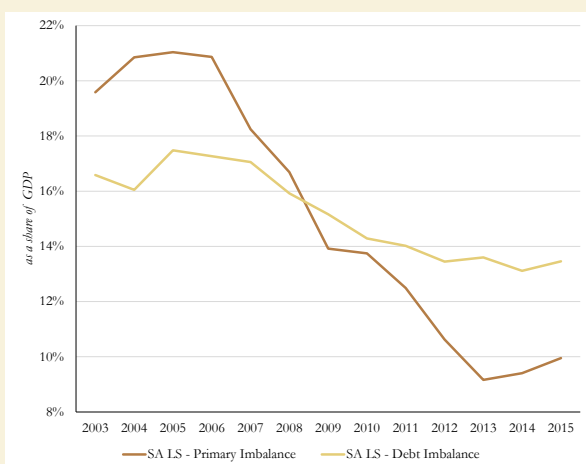
The pending adjustment needs vary across SA countries, of course. All LS countries should in principle benefit from fiscal adjustments, whether to stop monetization of fiscal deficits (the *primary imbalance countries*) or to maintain public debt sustainability (the *debt imbalance countries*). While most LS countries could also benefit from structural saving adjustments, they are best suited to the debt imbalance countries. Indeed, the saving rates of primary imbalance countries, which were relatively high at the start of the commodity cycle, only collapsed as primary fiscal imbalances started to build up (Figure 1.14, Panel A). Thus, saving rates in these countries are likely to rise back endogenously as fiscal adjustments are implemented.

Progress thus far in meeting these adjustment goals is mixed and reflects country specific factors and policies. Consider first the fiscal accounts. As for other commodity exporters (the SA peers), fiscal balances of SA countries have generally worsened due to both falling revenues and rising expenditures (Figure 1.15, Panel A). As expected, for the debt imbalances countries, the expenditure deterioration indeed came from the higher cost of public debt; instead for the primary imbalance countries, it originated from non-interest payments. Remarkably, while Bolivia and Ecuador have not incurred thus far large inflationary pressures, their fiscal balances have taken a turn for the worse in the most recent period. In part, this may reflect the aggressive trajectories followed by their public spending over the last decade, which look very similar to those of the primary imbalance countries (Figure 1.14, Panel B). While Ecuador has been cutting its public investment program, further (and perhaps more painful) adjustments, including in current expenditures, are likely to be needed in order to close the fiscal gap over the next 2-4 years.

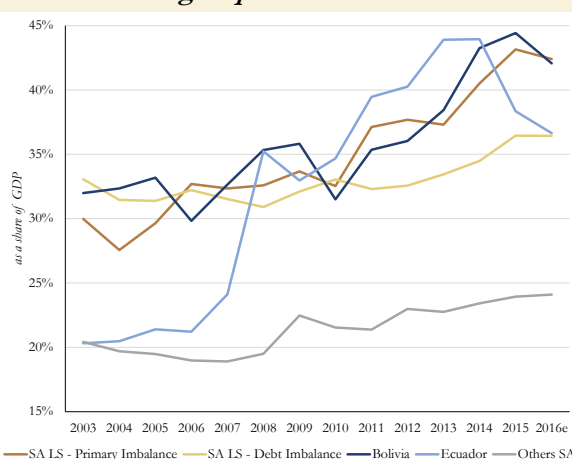
Consider next the external current accounts. Except for Bolivia and Colombia, other SA countries have mostly adjusted and their residual current account gaps appear manageable in the short run in view of prevailing levels of incoming FDI (Figure 1.15, Panel B). However, the external adjustment was accompanied by abrupt declines in output, with Chile and Peru (countries with flexible exchange

FIGURE 1.14. Real Saving Rates and Fiscal Expenditure for SA Countries

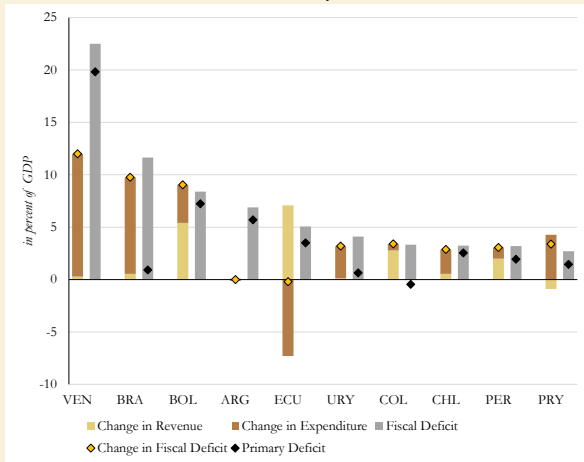
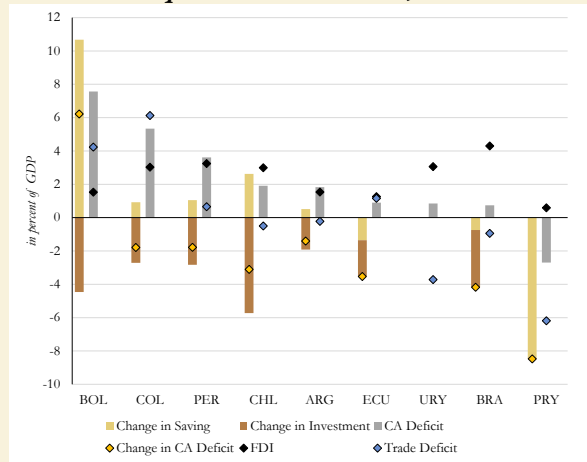
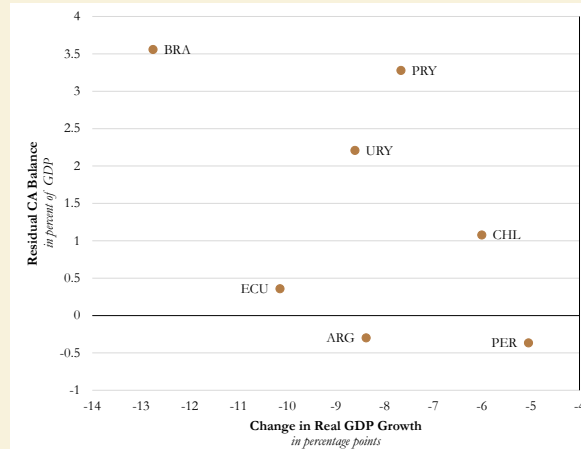
PANEL A. Real Saving Rates for SA Low Savers



PANEL B. Fiscal Expenditure for SA Subgroups and Countries



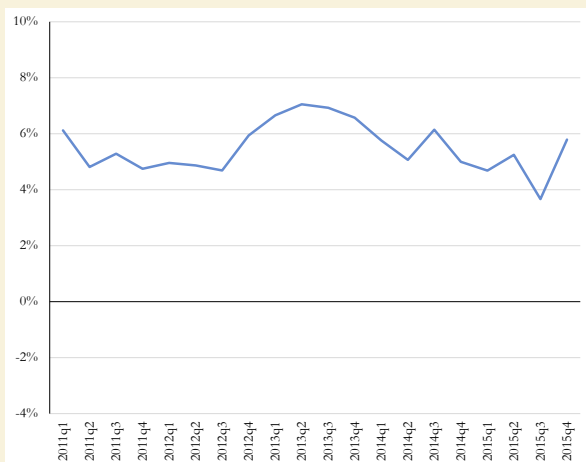
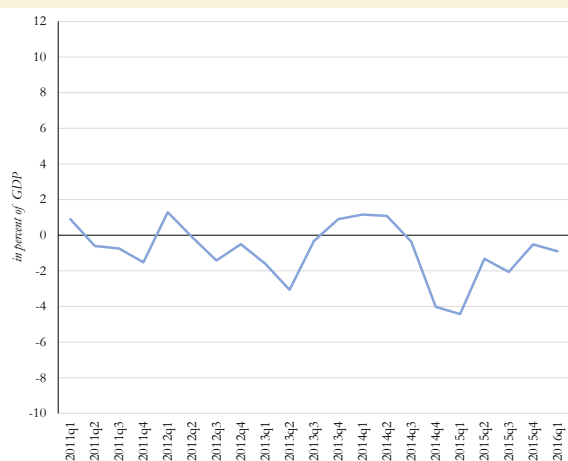
Notes: SA LS Primary Imbalance includes Argentina and Venezuela. SA LS Debt Imbalance includes Brazil, Colombia, and Uruguay. In Panel B Other SA includes Chile, Paraguay, and Peru. The series shown in Panels A and B are simple averages. Sources: World Bank staff estimates and LCRCE based on data from WDI and national sources and Balance of Payments data.

FIGURE 1.15. Fiscal and Current Account Adjustments and Gaps for SA Countries
PANEL A. Fiscal Adjustments and Gaps for SA Countries, 2016

PANEL B. Current Account Adjustments and Gaps for SA Countries, 2016

PANEL C. Residual Current Account and Growth Collapses


Notes: The data used in Panels A and B are of annual and quarterly frequencies, respectively. In Panels A and B the changes are computed between the last observation and the point in time after 2009 when the lowest fiscal and current account balances, respectively, were recorded. If the lowest balance corresponds to the latest observation, the difference was computed with respect to the point in time when the external and fiscal accounts were closest to zero. The value for the total and primary fiscal deficit (Panel A), and for the CA and trade deficit (Panel B) correspond to the latest available observation. In Panel B, FDI shows the average value for the last four available quarters. In Panel C, residual current account is the balance net of FDI (where those values are the ones shown in Panel B); and only countries with a residual current account surplus or small deficit are shown. Change in real GDP growth in Panel C shows the difference of the average of the last three available quarterly rates and that of the highest value since 2010 and those recorded immediately before and after. Sources: LCRCE based on data from World Bank staff estimates and national sources.

rate regimes) being the least hard hit (Figure 1.15, Panel C). Moreover, in many cases, the adjustment entailed deep reductions in investment, rather than consumption. Thus, the longer-term viability of these adjustments is questionable.

In some countries, measures to facilitate real exchange rate adjustments may also be called for. In all flexible regime countries real exchange rates have arguably adjusted sufficiently towards their equilibrium levels. Instead, as is apparent in Panel B of Figure 1.13, the real exchange rates in Ecuador and Bolivia have become overvalued, incurring a significant competitiveness gap with respect to their neighbors over the last 5 years. Because of different domestic demand trajectories, however, the implications of the loss of external competitiveness have differed markedly. In Ecuador, the real appreciation exacerbated the output slowdown, widening the output gap; in Bolivia, by contrast, it

FIGURE 1.16. Real GDP Growth and Current Account Balance for Selected SA Countries**PANEL A. Bolivia: Real GDP Growth****PANEL B. Bolivia: Current Account Balance****PANEL C. Ecuador: Real GDP Growth****PANEL D. Ecuador: Current Account Balance**

Sources: National sources.

contributed to the widening of the current account deficit (Figure 1.16, Panels A through D). Thus, by channeling some demand away from imports and toward home goods, a depreciation of the real exchange rate (given formal dollarization, it would have to obtain via lower prices and wages) would help restore internal equilibrium in Ecuador. In Bolivia, a real exchange rate depreciation would help restore external equilibrium, as long as fiscal adjustment measures are simultaneously put in place to reduce the excess of domestic demand over output. Among the LS countries, significant real exchange rate adjustments are likely to be called for in the case of Venezuela.

In sum, the SA region can be sub-divided into three broad groups of countries with different adjustment policy agendas (see Table 1.2). Arguably, Chile, Paraguay and Peru (three high savers with flexible exchange rates) have largely (if not fully) completed their macroeconomic adjustment. At the other end of the spectrum, Argentina, Bolivia, Ecuador and Venezuela are all likely to require (albeit to different extents) some mix of fiscal and real exchange rate (except in Argentina) adjustments to bring about domestic and external equilibrium. Finally, a third group of countries, Brazil, Colombia and Uruguay (three low savers with flexible exchange rates) are likely to require a mix of short-term

TABLE 1.2. Macroeconomic Misalignments and Policy Adjustments for SA countries

Average Saving Rate	Macro Policies		Countries	Policy Adjustments		
	Exchange Rate Regime	Fiscal		Real Exchange Rate	Fiscal	Structural Saving
High	More Flexible	Fiscal Balance	Chile			
			Peru			
			Paraguay			
	Less Flexible	Primary Imbalance	Ecuador	X	X	
			Bolivia	X	X	
Venezuela			X	X		
Low	More Flexible	Debt Imbalance	Argentina		X	
			Brazil		X	X
			Colombia		X	X
			Uruguay		X	X

Sources: LCRCE.

fiscal adjustment (to keep inflation and public debt under control) and forward-looking saving mobilization reforms (to make space for investment without straining the countries' current accounts). While the latter do not need to be completely front-loaded, up-front reforms could help get traction for the growth recovery by shaping expectations and promoting investment.

Towards a Growth Recovery for SA: Trade Structure Shifts

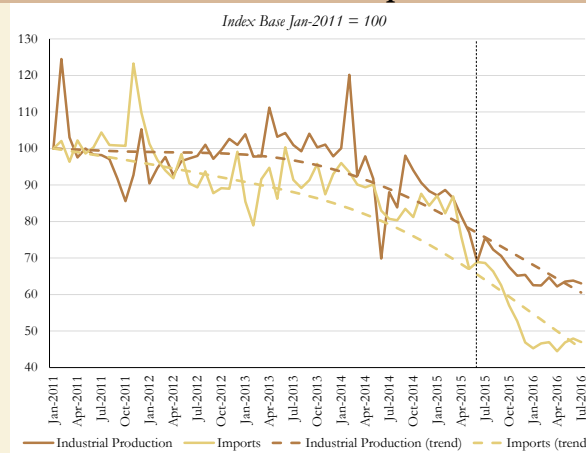
Beyond restoring macro equilibria, a sustained growth recovery for the SA region will also require raising productivity growth, which arguably entails a shift in production from non-tradable to tradable goods. At a minimum, such a switch is necessary to restore external and internal equilibrium—by compensating the terms of trade losses through an improvement in the trade account that does not widen the output gap. In a perfectly symmetric world and in the absence of fluctuations in world economic activity, the improvement in the trade account of commodity exporters should take place naturally as commodity importers (which now benefit from terms of trade gains) expand their imports, thereby contributing to restore growth to its full potential in the SA region. Yet, largely reflecting the weaker world demand, the potential (non-inflationary) growth rate in the region is at present rather mediocre—around 2.5 percent, on average. Hence, a bigger switch in production toward tradable goods could contribute to raising the region's potential growth rate via higher productivity, inasmuch as learning effects and technological spillovers are likely to be higher in tradable business activities than in non-tradable ones. However, this supply-side shift towards tradables could be achieved in various ways and touches upon a number of important issues:

- The shift could involve importables or exportables. Efficient import replacement (i.e., local production of importables that does not rely on protectionism and can compete openly in world markets) could in principle help sustain economic activity and growth even under weak external demand conditions.
- Efficient import replacement could be supported by a rise in intra-regional trade, as the more competitive real exchange rates vis-a-vis the rest of the world could allow some countries to make stronger inroads into the import markets of others.

- Yet, even after factoring in the possible efficiency gains from returns to scale from efficient import replacement, it is not clear whether importables can do better than exportables in generating the steady productivity gains needed to support faster growth.
- Within exportables, it is also not clear whether commodities are the best suited vehicle for generating productivity spill overs.¹² Export diversification (away from commodities) would in any case be desirable as it would also help limit the potential macroeconomic volatility induced by terms of trade fluctuations and price uncertainty. Yet, commodity specialization might be hard to reverse.¹³

There are some early signs of some of these shifts starting to materialize. For example, a simple comparison of imports of consumer durables with the index of industrial production of consumer durables in Brazil suggests that some import replacement appears to be taking place, inasmuch as real imports of such goods fell faster than the corresponding index of industrial production, especially after June 2015 (Figure 1.17).¹⁴

FIGURE 1.17. Brazil: Domestic Production and Imports of Durable Consumer Goods



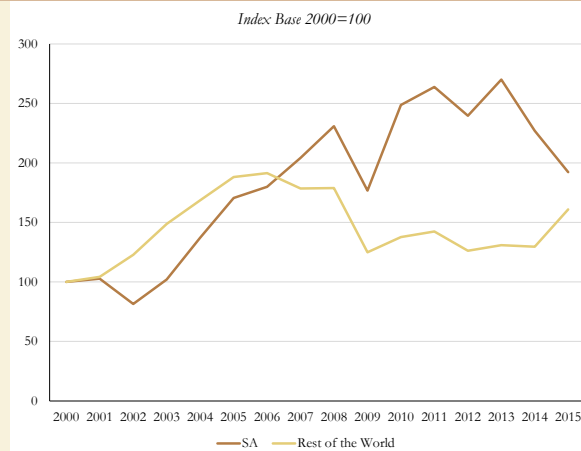
Notes: The graph shows the trends in and seasonally adjusted series of the volume indices of industrial production and imports of durable consumer goods. The trends for each series were estimated using the Hodrick-Prescott filter using the widely accepted smoothing parameter value for monthly data (14400). The other sectors that were analyzed but are not presented here as the data indicated that there were no apparent import-replacement effects include: Non-durable consumer goods and capital goods. The vertical dotted line marks June 2015 when import tariffs were raised. Source: LCRCE based on national sources.

¹² The traditional view emphasizes the Dutch disease-type implications of resource booms where commodities impact negatively the growth of other sectors (see for example Bruno and Sachs, 1982; or Neary and van Wijnbergen, 1984). However, other studies have argued that a booming resource sector can have significant positive spillover effects on non-resource sectors (Bjornland and Thorsrud; 2014). More generally, based on an extensive study of the impact on economic development of the content of current exports, Lederman and Maloney (2012) find that how countries produce what is currently exported merits more attention than what is produced.

¹³ Arguably, however, much of the longer-run future of world international trade might lie in the high-end service sector, whose development might not be much influenced, if at all, by the composition (commodity-related vs. non commodity-related) of other exports.

¹⁴ Establishing empirically whether a significant and broad process of efficient import replacement is taking place across the region (and in SA in particular) is indeed a research priority that was not undertaken for this report. While the evolution of production of consumer durables shown for Brazil is consistent with salutary effects of the real exchange depreciation on import replacement, it does not necessarily imply “efficient” import replacement because it may also reflect the effects of the increase in import duties that was approved in June 2015, including for pharmaceutical products, automobiles and machinery, and auto parts.

FIGURE 1.18. SA Export Quantum Indices of Non-commodity Related Goods, by Destination



Notes: SA includes Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Paraguay, Peru, and Uruguay. Venezuela was not included in either group because of missing data. The indices were obtained by using leaf data from the SITC Revision 3 classification. Non-commodity related goods are those products that map to chapters 4 through 7 of the Broad Economic Categories (BEC) classification. Weighted averages of year-to-year volume changes were calculated, using weights corresponding to the dollar value of each product category in last year's trade. To ensure homogeneity (thereby also avoiding jumps in the index), an upper threshold of 60 percent was imposed on changes in year-to-year unit values. Thus, all product categories exceeding the threshold in any given year were excluded from the computation of the index for the following year. Sources: UNCTAD and LCRCE based on data from UN COMTRADE.

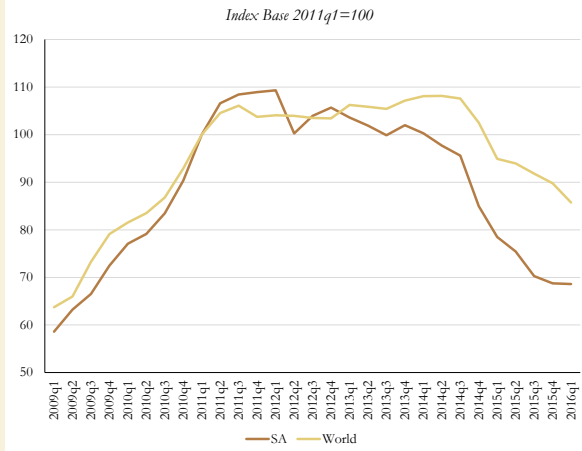
As for intra-regional trade, regional exports of non-commodity related goods appear to be largely insensitive to real exchange rate fluctuations. Unlike world exports, which declined abruptly after 2006 as exchange rates started to appreciate, regional exports continued to rise until 2013, when the decline in regional activity brought them down (Figure 1.18). Hence, most of the current account adjustment thus far seems to reflect temporary investment-driven demand collapses rather than durable import replacement pulled by competitive real exchange rates. A deeper process of import replacement would thus need to take hold for growth to resume without a strong pick up of international trade.

As regard the shift to exportables, the good news is that while SA's exports in dollar terms continue to trend downward, this trend reflects prices rather than quantities. Export volumes point instead toward a clear pick-up starting by the end of 2015 (Figure 1.19, Panels A and B). Furthermore, the export pick-up appears to be concentrated in the countries with the most flexible exchange rates (hence that have depreciated the most), such as Brazil, Chile and Colombia, rather than in the countries with less exchange rate flexibility such as Bolivia, Ecuador and Peru (Figure 1.19, Panel C). Thus, the exchange rate depreciations seem to be working. The perhaps not so good news, however, is that primary commodities account for the bulk of the recent increase in exports (Figure 1.20, Panel A). While there appears to be an incipient and important export response of non-commodity related goods in 2015, it is rather insignificant relative to total exports (Figure 1.20, Panel B).

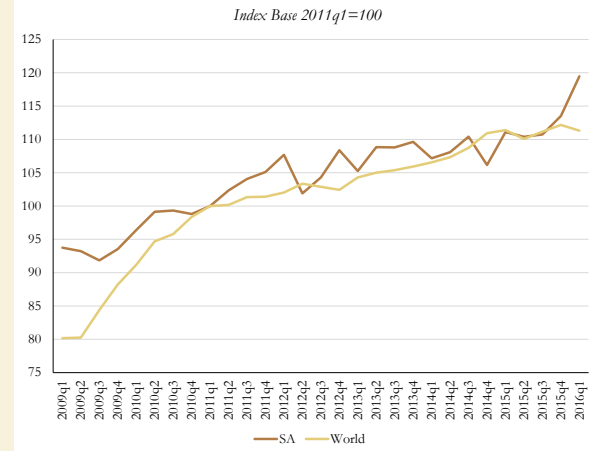
However, the long-term sustainability of the nascent export recovery in SA will ultimately depend on its *quality*, not just its quantity. This fundamentally depends on the nature of the spring shoots, whether they are mainly volume increases in existing exports or whether they largely account for new, more elaborate products that cover new grounds and reach new destinations. Chapter 2 takes a deeper look at this issue based on an extensive micro-founded statistical analysis of exports.

FIGURE 1.19. Export Volume and Value Indices for SA and the World

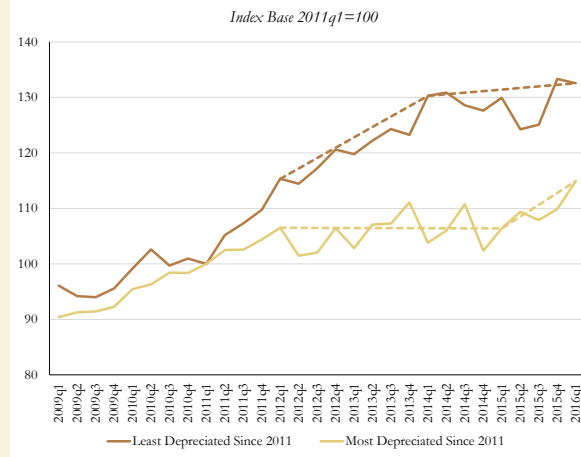
PANEL A. Export Value Indices: SA and World



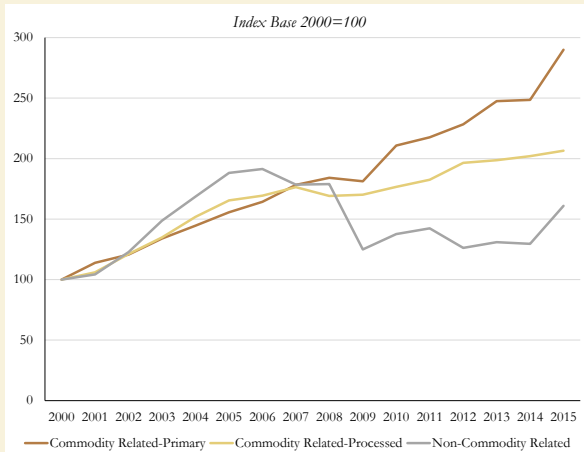
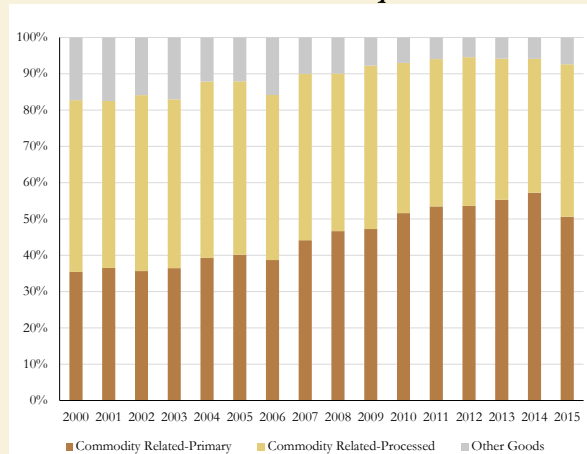
PANEL B. Export Volume Indices: SA and World



PANEL C. Export Volume Indices for SA, by Magnitude of Real Depreciation



Notes: In Panels A and B, SA includes Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Paraguay, Peru, Uruguay, and Venezuela. The series for SA in Panel A was calculated by summing the individual series in current US dollars for the countries and then computing an index. The series for SA in Panel B and Least and Most Depreciated in Panel C were calculated by weighting the individual volume indices by their weights in terms of total trade in current US dollars. In Panel C, Least Depreciated includes Bolivia, Ecuador, Paraguay, Peru, and Uruguay; Most depreciated includes Brazil, Chile, and Colombia. Sources: LCRCE based on data from UNCTAD and WTO.

FIGURE 1.20. Quantum Indices and Weights of SA's Exports to the Rest of the World
PANEL A. Export Quantum Indices, by Type of Goods

PANEL B. Nominal Share of Each Type of Goods in SA's Exports


Notes: SA includes Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Paraguay, Peru, and Uruguay. Venezuela was not included in either group because of missing data. The indices were obtained by using leaf data from the SITC Revision 3 classification. Commodity related primary goods are those products that map to chapters 11, 21 and 31 of the Broad Economic Categories (BEC) classification; Commodity related processed goods are those products that map to chapters 12, 22 and 32 of the BEC classification; Non-commodity related goods are those products that map to chapters 4 through 7 of the BEC classification. Weighted averages of year-to-year volume changes were calculated, using weights corresponding to the dollar value of each product category in last year's trade. To ensure homogeneity (thereby also avoiding jumps in the index), an upper threshold of 60 percent was imposed on changes in year-to-year unit values. Thus, all product categories exceeding the threshold in any given year were excluded from the computation of the index for the following year. Sources: UNCTAD and LCRCE based on data from UN COMTRADE.

Chapter 2:

In Search of Green Shoots in Trade during the Global Trade Slowdown

Introduction

As discussed in chapter 1, numerous economies in LAC are facing the challenge of economic adjustment as a consequence of the downturn in their terms-of-trade, particularly commodity exporters from South America. As noted in the previous chapter, to eventually achieve macroeconomic equilibrium, the current account deficit has to be reduced to a level that is sustainable at the current terms of trade, without unduly sacrificing investment and while bringing the economy to full employment or close to it. Furthermore, to raise growth rates in the medium to long runs, it is likely that economies undergoing the process of macro adjustment will need to attain external balance by, in addition, increasing the relative size of the tradable sector. This can be achieved by increasing exports, replacing imports with a more competitive domestic production (as opposed to reducing imports by domestic demand contraction), or both. Some analysts also believe that the composition of the tradable sector, particularly exports, should also change in favor of non-traditional exports (mainly non-commodity exports), high-quality exports, and export diversification more generally.

This chapter focuses on exports. Whereas chapter 1 utilized aggregate data, the analyses presented in this chapter rely on granular data of exports at the product level. We explore how the slowdown, that started in the aftermath of the Global Financial Crisis around 2010, particularly the global trade slowdown, has affected the growth and composition of exports. The objective is to assess the extent to which we can find “green shoots” in exports. The premise is that export green shoots are evident when the quantities of existing exports (the intensive margin) are growing fast, or when there is evidence of export innovations in the form of new exports (the extensive margin), particularly of high-quality exports. The former are important at least in the short run, since fast growing quantities of existing exports can help reduce trade deficits faster, while export-product innovations can bode well for future long-run growth even if their current contributions to total exports are low. In turn, the combination of a healthy pattern of growth of the quantity of exports with market or product-level export innovations can enhance export diversification. Hence we also explore the evolution and potential determinants of export diversification, which is defined as the number of export products per destination.

The analysis begins with an assessment, based on granular data, of the global trade slowdown, which seems to be driven by the decline in the growth rate of the quantity of Chinese and East Asian and Pacific (EAP, including Japan and South Korea) imports. All subsequent analyses pay attention to the role of global demand in shaping the dynamism and composition of exports. Likewise, all analyses are conducted with a highly disaggregated (at the product level) global data set, which provides not only international comparisons, but also helps assess potentially fundamental economic forces that shape an economy’s export patterns during good and bad times, particularly the trends in real-exchange rates that affect an economy’s international competitiveness.

The Slowdown in Global Trade Revisited – Evidence from Product-Level Data

The previous chapter examined the evolution of the quantity of exports of various countries and analyzed the evolution of the global economy. As is well known, it is hard to gauge the evolution of aggregate trade quantities over time in times of fluctuations in relative prices. This is because aggregate measures of quantities are influenced by the shares of product categories in the total. Since these shares are computed from data on trade values, they are, in turn, influenced by the relative prices of exports.

To search for evidence of positive supply responses, “green shoots,” in tradable goods production we do need to focus on pure export volumes and avoid being misled by price effects. To this end, it is desirable to use granular trade data, where the quantities of exports (and the number of exported products and destinations) are reported at the (highly disaggregated) product level. That allows us to focus on the evolution of quantities for *each* export product (i.e., at the 6-digit level of the Harmonized System of Trade Classification) or the distribution of export-quantity growth rates across all export products. We can also see how such distributions change over time for every country.¹⁵

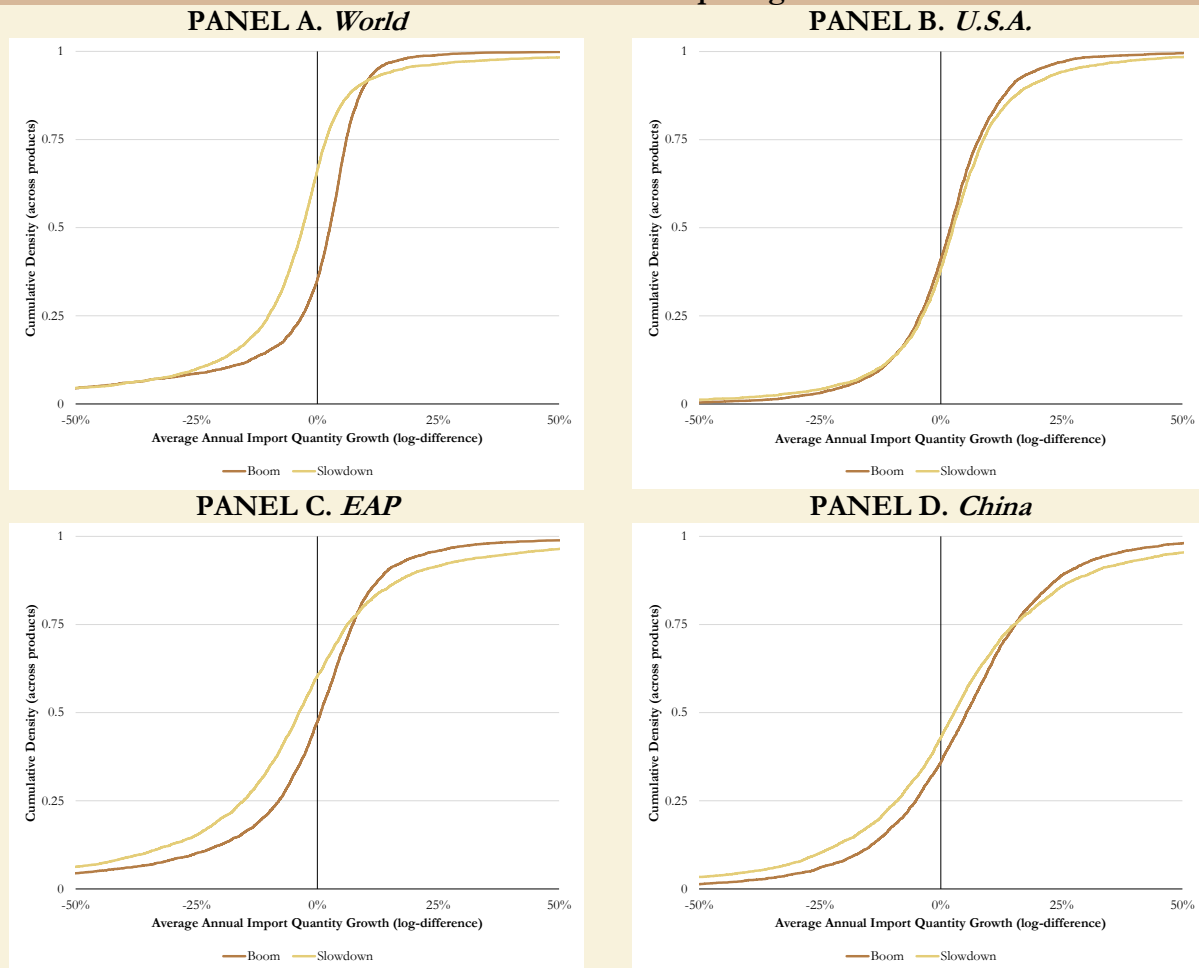
Since one country’s exports are another’s imports, we follow the standard practice in the trade literature of utilizing data on imports as reported by customs agencies and compiled in the UN COMTRADE database. This is a convenient strategy, as it also allows for a granular analysis of the extent to which global trade has slowed down since roughly 2010 by examining the import-quantity growth rates for the world as a whole, and for major global markets of importance for LAC, namely the United States and China.

Figure 2.1 shows information concerning global demand—i.e., the growth rates of import quantities in the world (Panel A), the United States (Panel B), East Asia and Pacific including China, Japan and South Korea (Panel C), and, separately, China (Panel D). Each graph contains two curves, called the Cumulated Density Function of the whole (cumulative) distribution of the annual growth rates of all individual products imported by these markets. At the margin, as one moves up the cumulative density function another product is added, until a hundred percent of the imported products is reached at the top of the curve. The median growth rates can be discerned by looking at the point of intersection between horizontal lines drawn at the 50th percentile of each distribution. The darker curve in the figure represents the average annual growth rates for import quantities during the upswing phase of the commodity cycle, the *boom* (2002-2010); the lighter line refers to the downswing phase of the cycle, the *slowdown* (2011-2015).

Figure 2.1 indicates that growth in the quantities of global imports fell substantially during 2011-15 relative to 2002-10, across the whole distribution of import-growth rates at the product level. The median import-quantity yearly growth rate fell by nearly 6 percentage points, from 2.6% to -3% per year. No such decline is observed for U.S. import growth, where the median import growth rate

¹⁵ There are tradeoffs associated with this approach. On the one hand, by focusing on quantities of exports at the product level, this approach is unaffected by relative prices, which is desirable when focusing on green shoots for growth in the medium and long run. On the other hand, precisely because all goods in a country’s existing export basket have the same weight in this analysis, an economy’s apparent export-quantity growth distribution across all exported goods could be driven by exports that have a very small impact on an economy’s overall trade balance, thus making this analysis less directly relevant for assessing the extent of an economy’s ongoing external adjustment. For this reason, the section on the extensive margin of trade, which focuses on the emergence of new export products also discusses the economic weight of these new exports as a share of the value of total merchandise exports.

FIGURE 2.1. Global Demand Trade Volumes: Comparing Boom and Slowdown Periods



Notes: The boom years are 2002 through 2010. The slowdown years are 2011 through 2015. Panels A-D compare the Cumulative Density Function (CDF) of the growth of the quantity of imports of all products in the world and each country's import basket during both periods. Median Average Annual Import Quantity Growth: World Boom 2.58%; World Slowdown -3.04%; USA Boom 2.05%; USA Slowdown 2.54%; China Boom 5.32%; China Slowdown 2.77%; EAP Boom 0.70%; EAP Slowdown -3.86%. Sources: LCRCE based on data from UN COMTRADE.

increased marginally from 2.1% during the boom compared to a median import-quantity growth rate of 2.5% during the slowdown. The substantial fall in global import demand, therefore, reflects developments outside the U.S., including, importantly, EAP and China. In effect, China's median import-quantity growth fell by 2.5 percentage points, from 5.3% to 2.8%, while the median growth rate of import quantities from EAP (including Japan and South Korea) declined by 4.6 percentage points, from 0.7 percent per year in the boom to -3.9 percent in the slowdown. From the viewpoint of Latin America, therefore, we can expect that the ability to develop new exports will be affected differentially. Commodity exporters in South America (SA) that are tightly linked to China are likely to be more tightly constrained by the weakening in import demand from South East Asia compared to Mexico, Central America and the Caribbean (MCC), whose external demand comes mainly from the U.S. The empirical exercises discussed below will thus take into account the differential role of these sources of external demand.

Regarding the composition of global demand, the data presented in Table 2.1 suggests that only the U.S. import demand changed significantly between the boom years and the slowdown period. The share of its fast-growing imports (those with above-median growth rates of import quantities)

TABLE 2.1. Composition of Fast-Growth Import Quantities: Boom versus Slowdown (Index of Share (and Percent) of HS96 6-Digit Products with Above-Median Growth that Correspond to Broad Economic Categories Chapters 1, 2 or 3)

	World	China	USA	EAP
Boom	1.06 (67.0%)	0.97 (61.2%)	0.97 (60.9%)	1.06 (66.9%)
Slowdown	1.05 (66.0%)	0.94 (59.2%)	1.05 (66.3%)	0.86 (54.2%)
Difference: Slowdown - Boom	-0.01 (-1.0%)	-0.03 (-2.0%)	0.08 (5.4%)	-0.20 (-12.7%)

Notes: Fast-growth products are those with above median growth in import quantity. Commodity related goods are those HS96 6-digit products that map to Chapters 1 through 3 of the BEC classification. The displayed Index is the ratio between the share of commodity related goods in the export quantity growth top 50th percentile and the total share of commodity related goods in HS 6-digits (63% of all HS6 products map to BEC Chapters 1 through 3). A commodities index larger than one shows an overrepresentation of commodity related goods. The actual share of commodity related goods in fast-growth products is between parentheses. The boom period corresponds to years 2002 through 2010; the slowdown period corresponds to years 2011 through 2015. EAP is East Asia and the Pacific, including China, Japan, and South Korea. Sources: LCRCE based on data from UN COMTRADE.

accounted for by agricultural and mining commodities *and* processed commodities (these products are classified under the Broad Economic Categories (BEC) trade classification, chapters 1 through 3) went up by 5.4 percentage points between the boom and the slowdown periods. By contrast, China's declined modestly, by 2 percentage points, while EAP's (including Japan and South Korea, as well as the rest of EAP) declined by a whopping 12.7 percentage points. Hence, there may have been differential effects on SA and MCC, particularly the latter, in light of the relatively large change in the pattern of U.S. import demand compared to China, and especially EAP.

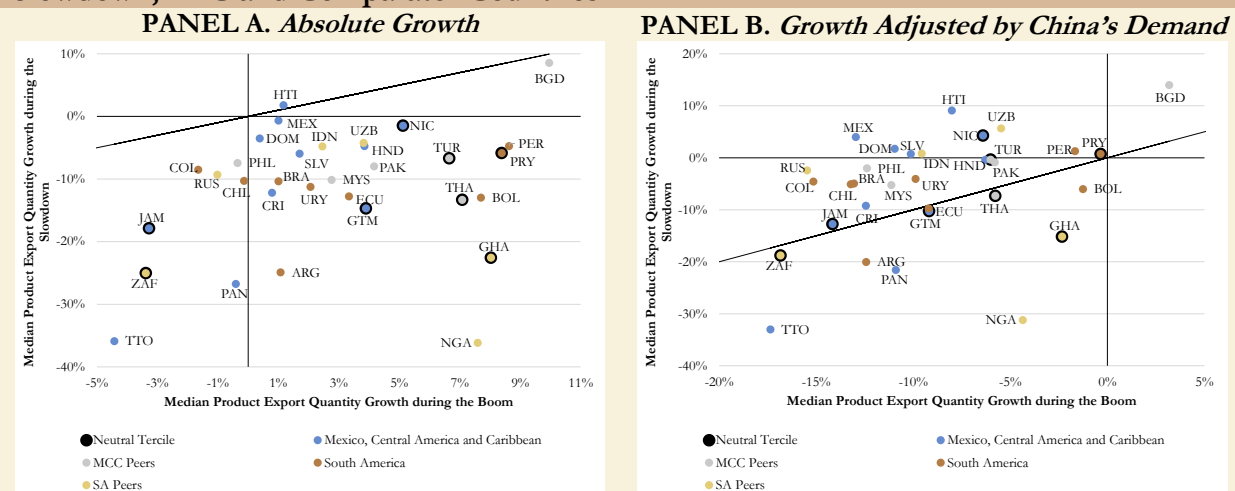
The Slowdown of Export Quantities Growth Rates in LCR - How the Global Context Is Affecting the Intensive Margin of Latin American Exports

By "intensive margin" of exports we mean the growth in quantities of *existing* export products. For most countries in Latin America and the Caribbean (LAC), whether in MCC or SA, the growth of existing export quantities declined during 2011-2015 relative to the observed growth rates during 2002-2010. The relevant evidence is presented in Figure 2.2. Panel A shows the median growth rates of export quantities during the boom years along the horizontal axis, and the corresponding growth rates during the slowdown years along the vertical axis. The data in this graph cover most LCR economies, as well as the comparator countries for MCC and SA. Observations highlighted with a grey circle are economies that experienced only moderate declines in their terms-of-trade growth trends between the boom and slowdown years. (Please see appendix for a detailed discussion of how the global sample of countries was split into terciles based on the evolution of their terms of trade.) The graph also shows the 45-degree line. All observations, except Haiti, included in the analysis are below the 45-degree line, which implies that the growth of export quantities during the boom years was higher than during the slowdown. Nonetheless, it is also apparent that the mass of observations that is closest to the 45-degree line are economies from MCC or its comparators (which are coded in blue, and grey, respectively), while those that are farthest away tend to be from SA or its comparators. Yet there is also substantial overlap, as Trinidad & Tobago, Guatemala and Panama, from MCC, are quite far from the 45-degree line. Also, countries from the comparator group for MCC, such as Thailand, are located close to Bolivia. Still, the main point is that the slowdown years have not been characterized by fast export quantity growth rates relative to the boom years. The issue is whether the observed decline in export quantity growth rates was related to the global slowdown in import quantity growth rates reported in the previous section.

Figure 2.2 Panel B. provides evidence concerning the role of external demand in shaping the decline in the observed median export-quantity growth rates. It focuses on the role of China. The graph is organized in the same way as Panel A, but in this case the export quantity growth rates of each country are adjusted for the growth of Chinese imports at the product level. That is, we subtracted the Chinese import growth rate of a given product from each country's export growth rate at the product level. Since Chinese import growth rates were typically positive in both periods (recall Figure 2.1 above), the resulting differential export quantity growth rates tend to be negative. But this variable is just a proxy for the external demand adjusted export growth rates. The negative rates reported in the graph should not be interpreted as the adjusted growth rates of export quantities; they do tell us that most countries' export quantity growth rates were lower than the import growth rate of China. The analysis presented focuses on the role of China, but results for adjustments to U.S. and global demand are available upon request. The key point is that the decline in the import quantity growth rates of China have played a key role in shaping the slowdown of typical export quantity growth rates.

The determinants of the slowdown in export quantities growth rates are explored econometrically in Table 2.2. The dependent variable of every specification is (roughly) the difference between the export quantity growth rates during the boom years minus the export quantity growth rates in the slowdown years. (See Figure A2.2 in Appendix 2.2 for an illustration of the distribution of export quantity growth rates at the product level for selected LCR economies.) It presents three sets of results. The first three columns examine the determinants of the differential export quantity growth rates between the boom and slowdown years without subtracting the import quantity growth rates of major export markets. The second three columns report the results for the export quantity growth rate differentials after taking into account the patterns of global demand; the third set of columns control for Chinese import quantity growth rates. Regarding the explanatory variables, the first specification of each set of results shows the effect of the country groups, as defined in the Appendix 2.1 in accordance with each country's terms-of-trade trends. The second specification includes the trends in the real exchange rate. The last specification adds trends in two key macroeconomic variables, namely the rate of capital accumulation (investment) and aggregate consumption.

FIGURE 2.2 Median Growth Rates of Export Quantities during the Boom and the Slowdown, LAC and Comparator Countries



Notes: Boom is 2002-2008 and Slowdown is 2008-2014. The black line marks 45 degrees. Sources: LCRCE based on data from UN COMTRADE.

TABLE 2.2. Determinants of the Growth of Export Quantities: Boom Years versus the Slowdown

	Export Quantity Growth Differentials (relative to the World)			Export Quantity Growth Differentials (relative to China)		
	(1)	(2)	(3)	(4)	(5)	(6)
Top Commodity Exporters (Dummy)	0.0885** (0.0418)	0.0722* (0.0422)	0.0623 (0.0536)	0.0933** (0.0417)	0.0774* (0.0422)	0.0673 (0.0531)
Top Commodity Importers (Dummy)	-0.0125 (0.0421)	-0.0108 (0.0439)	-0.0183 (0.0554)	-0.00878 (0.0419)	-0.00781 (0.0438)	-0.0203 (0.0548)
Top LAC Commodity Exporters (Dummy)	0.142** (0.0697)	0.154** (0.0689)	0.150* (0.0787)	0.144** (0.0695)	0.157** (0.0688)	0.153* (0.0778)
Top LAC Commodity Importers (Dummy)	0.0200 (0.0699)	0.0294 (0.0776)	0.0418 (0.100)	0.0300 (0.0696)	0.0367 (0.0775)	0.0494 (0.0993)
2011 to 2015 - 2002 to 2011 Average Annualized REER Growth Difference		0.633** (0.317)	0.876** (0.429)	0.694** (0.316)	0.932** (0.425)	0.932** (0.425)
2011 to 2015 - 2002 to 2011 Average Gross Fixed Capital Formation (% of GDP) Difference			0.00312 (0.00417)		0.00299 (0.00413)	
2011 to 2015 - 2002 to 2011 Average Annualized Fixed Consumption Expenditure Growth Difference			0.575 (0.767)		0.547 (0.758)	
Constant	0.117*** (0.0279)	0.120*** (0.0281)	0.145*** (0.0333)	0.0545* (0.0278)	0.0564** (0.0280)	0.0808** (0.0329)
Observations	194	177	137	194	177	137
Adjusted R-squared	0.0621	0.0713	0.0766	0.0661	0.0805	0.0884
				194	177	137
				0.0720	0.0933	0.110

Notes: Standard errors in parenthesis. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Top Commodity Exporters and Importers and Top LAC Commodity Exporters and Importers are defined in Table A2.1. The dependent variable Export Quantity Growth Differentials is defined as the difference in the distribution of the average export quantity growth across products between the boom and slowdown period (2002-2011 and 2011-2015 respectively). Columns 4 through 6 and 7 through 9 assess the Export Quantity Growth Differentials relative to the World's and China's demand respectively. Venezuela is excluded from this regression due to Terms of Trade missing data. Regressions were run across specifications with a constant sample (the sample found in columns 3, 6 and 9) and results were qualitatively similar. Sources: LCRCE based on data from UN COMTRADE, IFS and WDI.

The results in Table 2.2 suggest that, unsurprisingly, economies that were the winners of the terms-of-trade windfalls during the boom years are also the countries that are experiencing the most severe slowdown in their export-quantities growth rates (i.e., the coefficients for the dummy variables that identify the countries that experienced terms-of-trade windfalls during the boom are positive and statistically significant). While this was the case for both the winners in the global sample and in LAC, the coefficient for LAC is consistently larger, which indicates that the expansionary effects on export volume of the terms of trade windfall was greater for net commodity exporting countries in LAC than elsewhere. The estimates suggest that being a typical boom (terms of trade) winner in the world was associated with nearly a 9% faster export-quantity growth during the boom than during the slowdown compared to economies that did not experience a strong terms of trade windfall. In turn, the boom winners in LAC experienced an even harsher slowdown in export quantities, about 14.2% deeper than the other commodity exporters from around the world. Further, the results reported in columns 4 and 7 of Table 2.2 indicate that LAC's boom winners confronted a more pronounced slowdown even after controlling for the evolution of global or Chinese demand for imports.

Interestingly, after controlling for external demand, Table 2.2 also suggests (in columns 2, 3, 5, 7, 8 and 9) that, for the sample as a whole, more competitive real exchange rates are significantly associated with faster export-quantity growth rates. In this respect, LAC is not different, and the estimated effect of a one percent depreciation during the slowdown (relative to the real-exchange-rate trends during the boom) is associated with approximately a 0.6% increase in the growth rate of the quantity of exports during the slowdown relative to the growth rates of exports quantities during the boom years. This estimate rises to 0.8% after controlling for aggregate investment and consumption. Perhaps more importantly, the estimated response of export quantity growth rates rises across the three sets of estimates reported in Table 2.2. As we move to the right in the table, the estimated coefficient reaches 0.9 after controlling for global demand patterns, and to almost 1.1 after controlling for Chinese demand. We interpret these variations in the estimates as evidence that external demand blurs the impact of real exchange rate adjustments on export quantities. Simply put, depreciations stimulate the growth of export quantities (across the whole distribution of export-product growth rates) but this estimated effect is notably larger when we control for external demand.

Finally, it is noteworthy that after controlling for changes in real exchange rate trends, domestic investment does not have statistically significant effects on the growth rate of export quantities. This is arguably due to the fact that investment tends to rise and the real exchange rate tends to appreciate in times of rising terms of trade (as amply illustrated in the April 2016 report in this series) but the exchange rates effects on export quantity growth tend to dominate, particularly to the extent that investment is focused on non-tradable activities.

The slowdown is also having an impact on the composition of the fast-growing export products, as illustrated by the results in Table 2.3. It reports the median of share of commodities plus processed commodities (products classified under chapters 1-3 of the Broad Economic Sectors classifications) in the number of fast-growing exports (defined as those growing at rates that are above the median product export growth rate of each country) divided by the share of such products in the trade nomenclature. When this ratio is greater than one, it indicates that BEC 1-3 products are over-represented among the fast-growing products in each time period. Table 2.3 reports this index for the three groups of countries listed in Table A2.1, namely countries that were the winners of the commodity boom, an intermediate group, and countries that have benefitted from the slowdown in commodity prices. The table reports these statistics for both the global sample (Panel A) and for the sample of LCR economies (Panel B).

TABLE 2.3. Composition of Fast-Growth Export Quantities by Country Group: Boom versus Slowdown

PANEL A. All Countries – Index of Share (and Percent) of HS96 6-Digit Products with Above-Median Growth that Correspond to Broad Economic Categories Chapters 1, 2 or 3

	Median Index Boom	Median Index Slowdown	Median Difference (Slowdown - Boom)
Top Commodity Exporters	0.88 (56%)	0.84 (53%)	-0.04 (-3%)
Neutral Tercile	0.95 (60%)	0.94 (59%)	-0.02 (-1%)
Top Commodity Importers	0.90 (57%)	0.80 (50%)	0.11 (-7%)

PANEL B. LAC Countries - Index of Share (and Percent) of HS96 6-Digit Products with Above-Median Growth that Correspond to Broad Economic Categories Chapters 1, 2 or 3

	Median Index Boom	Median Index Slowdown	Median Difference (Slowdown - Boom)
Top Commodity Exporters	0.95 (60%)	0.87 (55%)	-0.08 (-5%)
Neutral Tercile	0.95 (60%)	0.98 (62%)	0.02 (2%)
Top Commodity Importers	0.88 (56%)	0.83 (52%)	-0.05 (-3%)

Notes: Fast-growth products are those with above median growth in exports. Commodity related goods are those HS96 6-digit products that map to Chapters 1 through 3 of the BEC classification. The displayed Index is the ratio between the share of commodity related goods in the export quantity growth top 50th percentile and the total share of commodity related goods in HS 6-digits (63% of all HS6 products map to BEC Chapters 1 through 3). A Commodities index larger than one shows an overrepresentation of commodity related goods. The actual share of commodity related products in fast-growth products between parentheses. The boom period corresponds to years 2002 through 2010; the slowdown period corresponds to years 2011 through 2015. Sources: LCRCE based on data from UN COMTRADE.

The results reported in Table 2.3 can be summarized as follows. For the global sample (Panel A), the typical economy that benefitted from the boom, reduced its share of fast-growing exports that belong to the BEC 1-3 chapters by 3 percentage points, the intermediate group's composition barely shifted, while the composition of the economies that benefitted from the commodity slowdown exhibited the largest decline of about 7 percentage points. Among the economies of LCR (Panel B), the boom winners' fast-growth exports reduced their dependence on BEC 1-3 products by about 5 percentage points, while those that benefitted from the commodity slowdown decreased the share of BEC 1-3 products in the fast-growing export basket by about 3 percentage points. Hence, it seems that overall, the fast-growing portion of exports due to growth in commodity-related products has fallen across most LCR economies. Indeed, this is true for most countries from around the world. This is consistent with the previously discussed finding that the slowdown in world trade is due to a large extent to the decline in import quantity growth rates of EAP and China.

New Exports and the Quality of New Exports– the Extensive Margin of Latin American Exports during the Slowdown

Table 2.4 shows that most LAC economies introduced more new products during 2002-2007 than during the slowdown years of 2010-2015. (The periods were redefined for these exercises in order to have the same number of years for the boom and the slowdown and allow windows of time prior to each period, which is required to identify new products relative to those that were already exported by each country during the pre-sample window.) The disaggregated export data allows us to identify

a maximum of potential new products, which is given by the difference between the maximum number of products in the trade nomenclature and the number of pre-existing products in the previous time period. Table 2.4 thus reports the number of new products that appeared in each time period as percentage of the maximum number of potential new products, which varies across countries depending on their economic size and past export performance. The evidence suggests that most LAC economies experienced reductions in the number of new products during the slowdown relative to the boom years. These results are reported in the first block (new product penetration) of Table 2.4, which also indicates that the changes in the performance of LAC commodity exporting countries were similar to that of commodity exporters elsewhere in the world.

It is also noteworthy that the contribution of new products to total merchandise exports tend to be quite low. The bottommost panel of Table 2.4 shows that for the top commodity exporting countries in the global sample, as of 2015, the share of the value of new products over total merchandise exports was, on average, 1.8%. The median was even lower, at 0.2%. The corresponding shares for the neutral tercile of countries were 1.5% on average, and 0.3% was the median; for the top commodity importers, the average share was higher at 4.8%, but the median was 0.8%. The average ratios for LAC countries in 2015 were 2.6% for the top commodity exporters, 1.6% for the middle tercile, and 3.3% for the top commodity importers. As with the global sample, the median ratios were for the LAC countries were even lower, at 0.1% for the top commodity exporters, 1.1% for the middle tercile, and 0.5% for the top commodity importers. Hence it is clear that export product innovations might bode well for long-term growth, but they do not seem to grow fast enough to help with the ongoing process of external adjustment.

Regarding the composition of new export products, the second panel of results in Table 2.4 shows the changes in the share of new products that belong to BEC 1-3. For all reported country groups, except for the intermediate group of LAC economies, the share of BEC 1-3 new products increased in the slowdown years relative to their share observed during the boom years. But these increases were modest. This suggests, however, that as the commodity price cycle entered the downswing phase, commodity exporting countries in LAC were more able to boost the number of *new* commodity and commodity-related products than the number of new non-commodity-related exports, arguably because installed capacity for the former was readily available and could be adapted easily, whereas capacity for the latter needed to be built. In this sense, green shoots along the extensive margin so far do not point to a clear process of diversification *away* from commodities and commodity-related products. (See the next section for a discussion of overall export diversification, which takes into account both the extensive and intensive margins of trade.)

There is more encouraging evidence of green shoots along the extensive margin when we focus on the *quality* composition of new exports. We use two proxy measures for the relative quality of a new exporting product. These measures use detailed data on the distributions of unit values (prices) of U.S. imports, with import categories defined, again, at the 6-digit level of the Harmonized System of Trade Classification. The idea is that higher quality products tend to have higher unit values (higher prices) compared to other products in the same import category. The first measure of the quality of new exports that we use is the number of products whose unit value is above the median unit value in the corresponding category of U.S. imports—the basket of new exports rises in quality with the number of products in this category. The second measure is the number of new export products within a given US import category where the variance of unit values is greater than the median variance in all US import categories—the wider the variance of unit values, the greater the scope for a new export to move up in the quality ladder. The evidence presented in the 3rd and 4th groups of Table 2.4 suggests

that the quality of new export products rose during the slowdown years relative to the boom. This is true across the board for the three groups of LAC economies. Hence the data indicate that while the number of new products declined during the slowdown, their quality improved.

TABLE 2.4. New Product Indicators by Country Groups: Boom versus Slowdown

		Boom	Slowdown	Difference (Slowdown - Boom)
New Product Penetration (%)	Top Commodity Exporters	2.83%	1.80%	-1.03%
	Neutral Tercile	3.79%	2.40%	-1.39%
	Top Commodity Importers	2.28%	1.66%	-0.61%
	Top LAC Commodity Exporters	3.16%	1.92%	-1.24%
	LAC Neutral Tercile	1.34%	0.93%	-0.40%
	Top LAC Commodity Importers	1.86%	1.55%	-0.31%
% of Commodity Related Goods in New Products	Top Commodity Exporters	58.60%	61.29%	2.69%
	Neutral Tercile	67.32%	67.67%	0.34%
	Top Commodity Importers	60.75%	61.77%	1.01%
	Top LAC Commodity Exporters	61.30%	61.67%	0.37%
	LAC Neutral Tercile	56.01%	55.58%	-0.43%
	Top LAC Commodity Importers	58.14%	61.32%	3.18%
% of New Products Above the Median UV	Top Commodity Exporters	35.42%	50.47%	15.05%
	Neutral Tercile	34.80%	54.85%	20.06%
	Top Commodity Importers	37.57%	55.57%	18.00%
	Top LAC Commodity Exporters	39.04%	59.34%	20.30%
	LAC Neutral Tercile	37.00%	52.41%	15.41%
	Top LAC Commodity Importers	37.65%	49.24%	11.59%
% of Products Above the Median in UV Variance	Top Commodity Exporters	45.62%	45.66%	0.04%
	Neutral Tercile	45.58%	42.06%	-3.53%
	Top Commodity Importers	45.60%	43.60%	-1.99%
	Top LAC Commodity Exporters	46.03%	52.09%	6.06%
	LAC Neutral Tercile	41.48%	41.67%	0.19%
	Top LAC Commodity Importers	41.40%	50.76%	9.37%
		Mean	Median	
% of New Product Export Value over Total Export Value (2015)	Top Commodity Exporters	1.8%	0.20%	
	Neutral Tercile	1.5%	0.30%	
	Top Commodity Importers	4.8%	0.80%	
	Top LAC Commodity Exporters	2.6%	0.10%	
	LAC Neutral Tercile	1.6%	1.10%	
	Top LAC Commodity Importers	3.3%	0.50%	

Notes: This table reports averages across countries for a series of indicators for the boom and slowdown as well as the difference between both periods. 'New Product Penetration' is the number of new products exported as a share of the total potential number of new products. The '% of Commodity Related Goods in New Products' is the percentage of HS96 6 digit new products that map to BEC 1-3 (note that out of the total number of HS96 6 digit products, 63% map to BEC 1-3). '% of New Products Above the Median UV' displays the percentage of the new products whose unit value in exports is above the US's median import unit value of each product. The '% of Products Above the Median UV Variance' is the percentage of new export products whose UV variance in US imports is above the median. Country groups are defined in Table A2.1. We define new products in the boom (slowdown) period as those that were exported in a value exceeding \$500,000 in at least two years of the period 2002-2007 (2010-2015) and were not exported in a value exceeding \$500,000 in two or more years in the period 1996-2001 (2004-2009). Sources: LCRCE based on data from UN COMTRADE.

TABLE 2.5. Determinants of New Export Products during 2010-2015

	# of New Products			# of New Products above the median UV in U.S.A imports			# of New Products whose UV variance is above the median in U.S.A. imports		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Top Commodity Exporters (Dummy)	0.0984 (0.155)			0.0629 (0.149)			0.118 (0.163)		
Top Commodity Importers (Dummy)	-0.144 (0.157)			-0.0999 (0.150)			-0.148 (0.165)		
Top LAC Commodity Exporters (Dummy)	0.00666 (0.261)			0.199 (0.250)			0.0418 (0.273)		
Top LAC Commodity Importers (Dummy)	0.0579 (0.251)			0.0638 (0.241)			0.0468 (0.263)		
# of Potential New Products (log)	0.000178*** (4.45e-05)	0.000181*** (4.18e-05)	0.000164*** (4.21e-05)	0.000152*** (4.21e-05)	0.000152*** (3.99e-05)	0.000138*** (4.02e-05)	0.000188*** (4.68e-05)	0.000194*** (4.43e-05)	0.000176*** (4.47e-05)
World Median Import Quantity Growth		2.770*** (1.051)	1.072 (1.098)		2.210** (1.004)	0.873 (1.059)		2.639** (1.153)	0.955 (1.244)
China Median Import Quantity Growth		-4.071*** (1.098)	-4.199*** (1.121)		-3.622*** (1.143)	-3.666*** (1.145)		-4.510*** (1.399)	-4.499*** (1.340)
U.S.A. Median Import Quantity Growth			3.084*** (1.026)			2.461** (0.976)		3.059*** (1.178)	
Constant	-0.443*** (0.0970)	-0.479*** (0.0970)	4.530*** (0.144)	-0.541*** (0.137)	-0.567*** (0.100)	-0.584*** (0.139)	-0.361*** (0.150)	-0.390*** (0.102)	3.799*** (0.101)
Observations	193	193	193	193	193	193	193	193	193
Alpha	0.642	0.619	0.606	0.582	0.567	0.558	0.697	0.677	0.667
Alpha SE	0.0622	0.0601	0.0586	0.0585	0.0569	0.0558	0.0709	0.0688	0.0675

Notes: Standard Errors in Parenthesis. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Top Commodity Exporters and Importers and Top LAC Commodity Exporters and Importers are defined in Table A2.1. We define new products as those that were exported in a value exceeding \$500,000 in at least two years of the period 2010-2015 and were not exported in a value exceeding \$500,000 in two or more years in the baseline period 2004-09. Venezuela is excluded from this regression due to Terms of Trade missing data. Sources: LCRCE based on data from UN COMTRADE and WDI.

Table 2.5 summarizes the results of regressions aimed at ascertaining the determinants of the number of new products and of the number of new high-quality exports. For all countries in the sample, the average quality of the new export products rose during the slowdown relative to the boom years. This is consistent with the view that it is the high-quality (high price) products which can best survive in export markets in periods of stagnant global demand. The main drivers behind such quality changes seem to be related to global demand, particularly the behavior of U.S. and Chinese import growth, but with contrasting effects. New export products of higher quality or with greater potential for quality upgrading were more likely to emerge in products where U.S. demand was growing and less likely to emerge in products in which Chinese demand was growing. This suggests that quality gains in new exports may be more difficult to achieve in commodity exporting countries that intensified their links with China over the past decade.

Export Diversification across Products and Destinations

The previous section studied the emergence of new export products. Although related, the introduction of new products does not necessarily imply diversification writ large. The latter is about not just the overall number of export products but also about the number of export destinations. Recent research suggests that a rise in the number of both products and export destinations tend to reduce macroeconomic volatility, whereas the introduction of new products *per se* does not necessarily have such an effect (Lederman and Maloney 2012; Lederman, Pienknagura and Rojas 2016; Lederman and Lesniak 2016). Here we abstract from the links between export diversification, macro volatility, and long-run growth and focus on a much more modest question: whether we can detect green shoots in trade along the dimension of the number of export products and destinations, regardless of composition across industries. While we recognize that the determinants of the emergence of new products can be different than the determinants of the rise in export destinations, it is still worthwhile exploring the evolution of the overall basket of exports, taking into account the number of both products and destinations.

Thus, a measure of diversification that adds up pairs of new product-new destination suggests that most economies in LAC experienced an increase in their number of export product-destinations during the boom years. This process of diversification, however, tended to stall in the midst of the upswing of the commodities cycle (around 2006-2007) in several of the commodity exporting countries of the region, such as Brazil and Chile. In contrast, in countries such as Costa Rica and Mexico that did not benefit from the commodity boom, the process of diversification continued well into the slowdown years. These trends are illustrated in Figure 2.3. Interestingly, the trends for the number BEC 1-3 products and destinations appear to track closely the trends of the number of other products. This is the case for the four countries showcased in Figure 2.3.

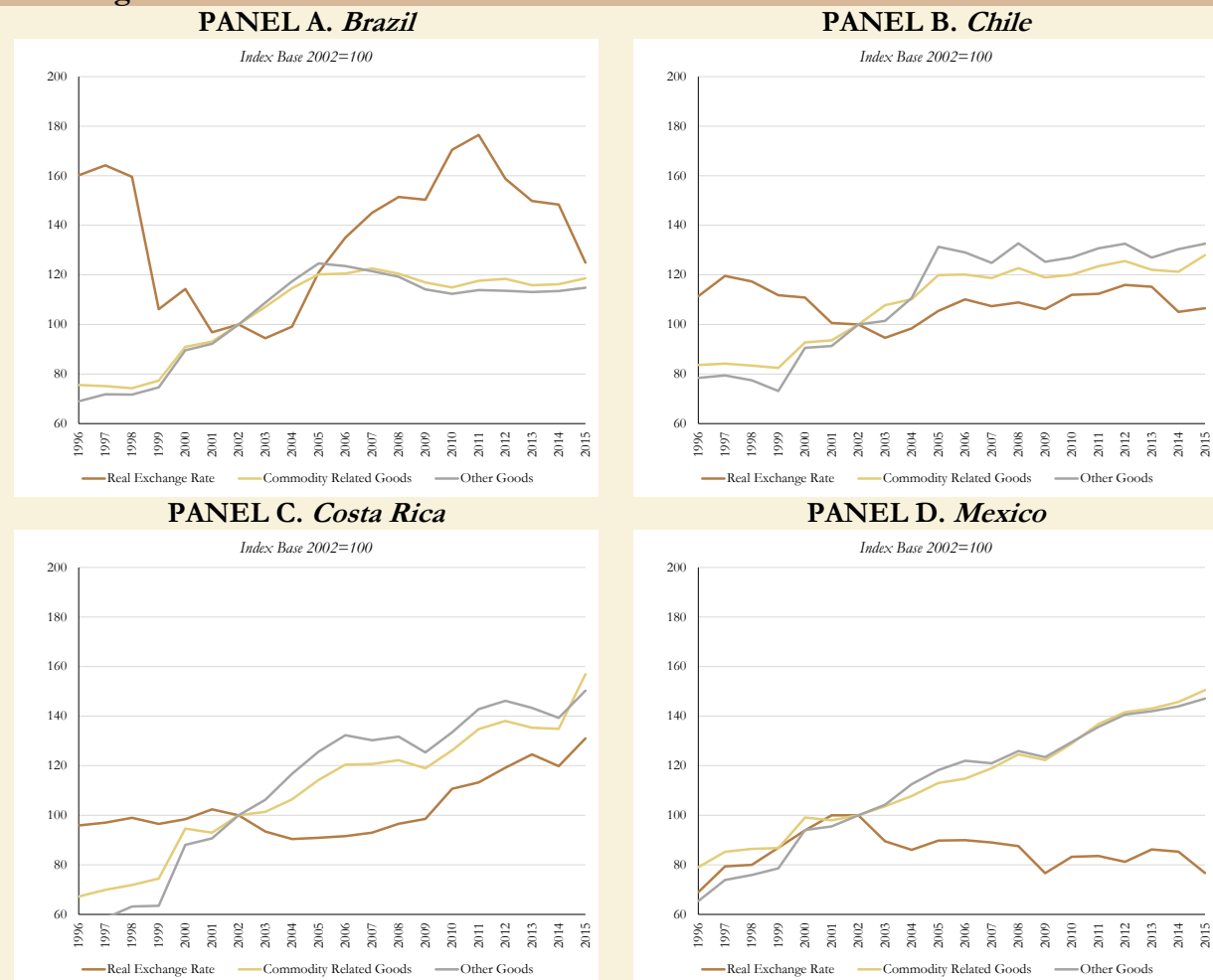
What can explain the differences in export diversification across countries? Econometric evidence based on the global sample suggests that trends in real exchange rates are key determinants of export diversification, after controlling for external demand and domestic supply (productivity) shocks, as well as the geographic distance between trading partners, and other bilateral explanatory variables. In fact, the econometric results indicate that a one percent real exchange rate depreciation is associated with an increase of about 50% in the probability of exporting an additional (random) product to a given export destination. This effect is not different across countries; LAC has the same estimated effect as the rest of the world, and economies that benefited from the commodity boom also have the same estimated effect – see the regression results reported in Table A2.2 of Appendix 2.2. The

elasticities reported in Table 2.6, however, differ systematically across countries, depending on their average number of exported varieties, which in turn vary systematically with economic size.

Summary: Yes, there are green shoots, but they are difficult to detect during a global trade slowdown

We found green shoots in exports. On the intensive margin of the exports, real export growth seems constrained mostly by declining external real demand, particularly from China. After controlling for global or Chinese demand, the behavior of LCR export quantities has been conditionally superior during the slowdown than during the boom years. The econometric evidence indicates that this superior performance is probably due to the depreciations of real exchange rates, particularly among the economies that benefitted the most from the commodity boom.

FIGURE 2.3 Diversification (Number of Product-Destination Pairs) and Real Effective Exchange Rate for Selected Countries



Notes: The Commodity Related Goods series corresponds to products mapped to the chapters 1 through 3 of the BEC classification while the Other Goods series corresponds to products mapped to the chapters 4 through 7. Both aforementioned series depict the index of the number of product-destination combinations in the country's exports for the respective types of goods. Sources: LCRCE based on data from UN COMTRADE and IFS.

TABLE 2.6. Product Diversification Elasticity with Respect to Real Exchange Rates: Regression Results

	All Countries		LAC Countries	
	Average Number of Products per Destination	Product Diversification Elasticity	Average Number of Products per Destination	Product Diversification Elasticity
Top Commodity Exporters	187	0.28%	125	0.42%
Neutral Tercile	323	0.16%	47	1.14%
Top Commodity Importers	353	0.15%	161	0.33%
Small Countries	65	0.81%	38	1.41%
Medium Countries	223	0.24%	61	0.87%
Large Countries	530	0.10%	295	0.18%

Notes: Country groups are defined in Table A2.1. Small, Medium and Large Countries are defined as the result of grouping by terciles of the size distribution of economies, where size is proxied by the size of the labor force in 2010. The estimated effect of a one percent real exchange rate depreciation on the probability of exporting one more product variety to a given export destination is equal across all country groups and it is equal to approximately 0.53. This estimate does not vary across countries: LCR has the same coefficient as the rest of the world; boom winners have the same coefficient as the rest of the world; the effect is the same when exchange rates appreciate as when they depreciate, etc. This estimate is statistically significant at the 1%, based on the econometric estimator proposed by Santos Silva, Terneyro and Wei (2014). Please see Table A2.2 in the Appendix for the econometric estimates of the impact of a 1% real-exchange-rate depreciation on the probability of exporting a new product. Sources: LCRCE based on data from UN COMTRADE, IFS, and WDI.

On the extensive margin, we found green shoots mostly in the quality of the new products that have emerged during the slowdown years, although the composition of new exports became even more dependent on commodity-related exports (i.e., those belonging to BEC chapters 1-3). On average, the new products in LAC exports tend to be of higher quality than the new products that were introduced during the boom years. They have tended to appear at higher relative prices and in product categories that have long quality ladders. These green shoots are more the result of exporting during a period of attenuated external demand than of variations in real exchange rates. Only high-quality products tend to emerge in tough times. In addition, emerging new products seem to be tilted towards the products that U.S. is importing intensively, and less on products that China continues to import at a fast clip. Hence, at the margin, LAC exports are slowly becoming associated with the U.S. recovery.

Real exchange rate depreciations do seem to create opportunities for overall export diversification across products and destinations. This conclusion comes out of the econometric evidence, after controlling for demand and supply shocks. And the corresponding effect measured by elasticities declines with economic size, but it is unaffected by the degree of dependence on net exports of commodities or by the extent to which an economy enjoyed a terms-of-trade boom in the early years of the 2000s.

Notwithstanding the evidence of green shoots in the quality of new products driven by U.S. import demand, and of the power of exchange adjustments to help both raise export-quantity growth rates and diversify the basket of exports and destinations, it is likely that such hopeful signs are not large enough or substantial enough to quench the concerns of Latin American policy makers about the muddled response of exports to the ongoing macroeconomic adjustments. This unease about lack of apparent green shoots in exports has been the result of attenuated global demand, which makes the (unconditional) detection of these green shoots difficult. After all, the power of the real exchange rate to help both the growth of export quantities and to sustain trends toward diversification of product-destination export baskets required a bit of econometrics to see them.

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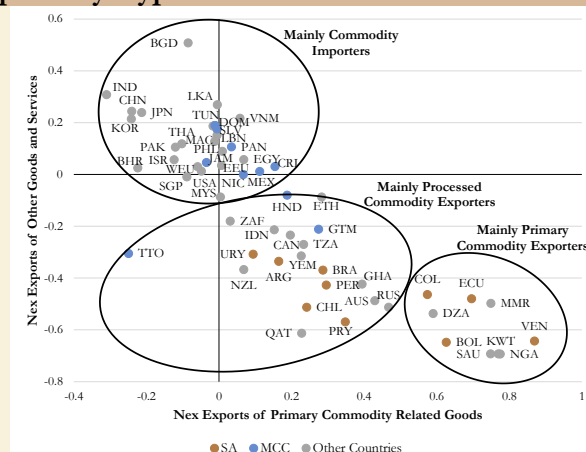
Appendix 1. Trade Structure and Dynamics in LAC Countries

The Broad Economic Categories (BEC) classification of goods provides a convenient framework to measure the importance of commodities in LAC's trade. Breaking down BEC's first three categories of products (food and beverages, industrial supplies and fuels and lubricants) into primary (11, 21 and 31) and processed (12, 22 and 32) provides a rough approximation to *primary commodities* and *processed commodities*. The other four BEC categories (capital goods, transport equipment, consumer goods and others), plus services, can then be lumped together as *other goods and services*.

Within each of the three above categories, net exports can be calculated as the difference between gross exports (expressed as a ratio to total gross exports) and gross imports (expressed as a ratio to total gross imports). Expressed in this way, the three net export ratios (primary commodities, processed commodities and other goods and services) must sum up to zero. Thus, in a scatter diagram with primary commodities on one axis and other goods and services on the other, an increase in net exports of processed commodities (which, because it is the residual, affects the other two ratios equally) must manifest itself as a downward shift along the first diagonal (Figure A1.1). Three clusters of countries thereby emerge from this scatter plot, with some SA countries (Bolivia, Colombia, Ecuador, Venezuela) belonging to a group that could be defined as mainly primary commodity producers, other SA countries (Argentina, Brazil, Chile, Paraguay, Uruguay) to a second group of mainly processed commodity producers and most MCC countries (including Mexico) belonging to a group of mainly commodity importers.

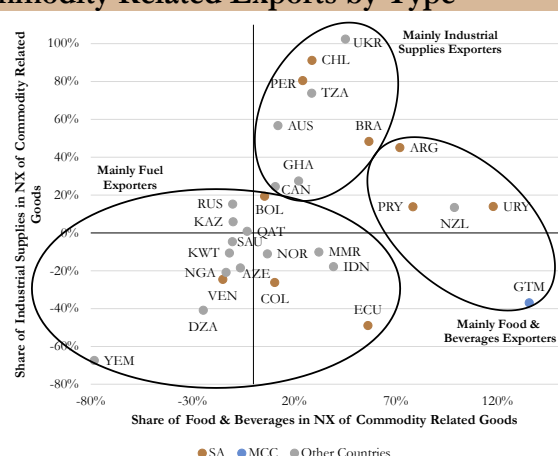
Within the group of commodity producers, a further breakdown can be obtained by decomposing net commodity exports by type of commodity (food, industrial, fuels), as shown in Figure A1.2. SA countries cover a fairly broad spectrum, with Brazil, Chile and Peru forming a first cluster of mainly industrial commodity-oriented producers, Colombia, Bolivia, and Ecuador a second cluster of mainly oil-oriented commodity producers, and Argentina, Paraguay and Uruguay a third cluster of mainly food producers.

FIGURE A1.1. Net Exports by Type



Notes: The values in the figure are for 2014 or the latest available year. Net exports were obtained by using leaf data from the SITC Revision 3 classification. Commodity related primary goods are those products that map to chapters 11, 21 and 31 of the Broad Economic Categories (BEC) classification; Other goods and Services are those products that map to chapters 12, 22, 32 and 4-7 of the BEC classification, plus total services. Net exports for a type of good are gross exports of that type of good divided by total gross exports, minus gross imports of that type of good divided by total gross imports. Only countries with a GDP in current US dollars of 30 billion (and 10 billion for MCC countries) are shown. Sources: LCRCE based on data from UN COMTRADE.

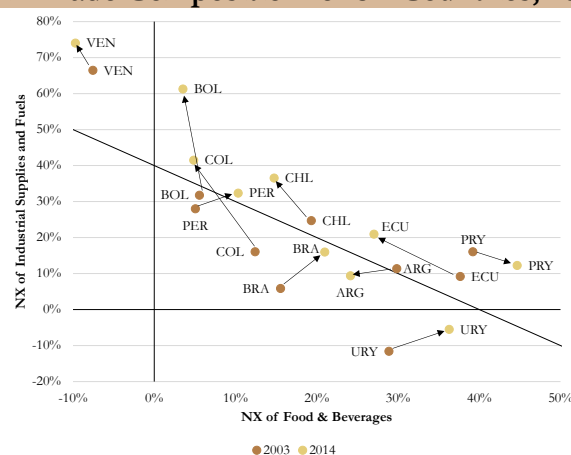
FIGURE A1.2. Net Commodity Related Exports by Type



Notes: The values in the figure are for 2014 or the latest available year. Net exports were obtained by using leaf data from the SITC Revision 3 classification. Food & Beverages are those products that map to chapter 1 of the Broad Economic Categories (BEC) classification; Industrial Supplies are those products that map to chapter 2 of the BEC classification. Net exports for a type of good are gross exports of that type of good divided by total gross exports, minus gross imports of that type of good divided by total gross imports. Only countries with a GDP in current US dollars of 30 billion and net exports of commodity related goods (products that map to chapters 1-3 of the BEC classification) of more than 20 percent are shown. Sources: LCRCE based on data from UN COMTRADE.

The evolution over time of the region's trade structure can be conveniently visualized with a scatter diagram similar to the one in Figure A1.1 but putting net exports of food and beverages on one axis, net exports of other commodities (industrial and fuel) on the other. In this case, an upward shift (that crosses the second diagonal from below) represents a reduction in the participation of other goods and services into total exports, i.e., a further specialization toward the production of commodities, away from other goods and services. As shown in Figure A1.3, based on the changes in trade composition that took place over the whole cycle (from 2003 to 2014), all SA countries (except Argentina) have become more specialized in the production of commodities (they have moved upward toward the second diagonal, rather than downward).

FIGURE A1.3. Change in Trade Composition for SA Countries, 2003-2014

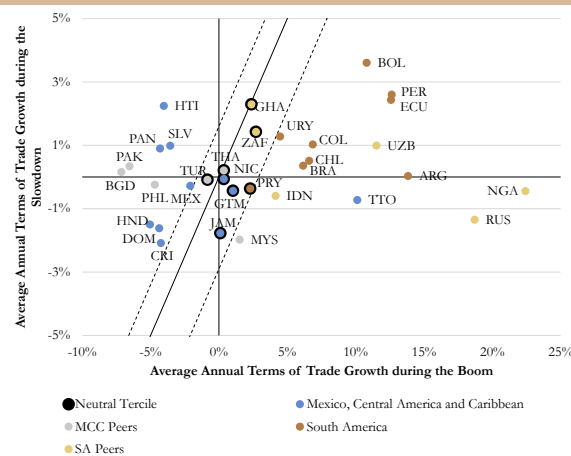


Notes: Net exports were obtained by using leaf data from the SITC Revision 3 classification. Food & Beverages are those products that map to chapter 1 of the Broad Economic Categories (BEC) classification; Industrial Supplies are those products that map to chapter 2 of the BEC classification; Fuels are those products that map to chapter 3 of the BEC classification. Net exports for a type of good are gross exports of that type of good divided by total gross exports, minus gross imports of that type of good divided by total gross imports. Because of missing data, the change for Venezuela is for 2003-2013. Sources: LCRCE based on data from UN COMTRADE.

Appendix 2.1. Country Groups Based on Changes in Terms-of-Trade Trends

Econometric analyses presented in chapter 2 utilize a country classification based on where each economy stood in terms of the evolution of their terms of trade during the boom and slowdown years. Figure A2.1. shows where the sub-sample of MCC, SA and their comparator countries fell in terms of their average annual growth rates of their terms of trade. The solid black line that crosses the origin is a 45-degree line. Observations that fall far from the 45-degree line are economies whose terms of trade growth rates differed the most between the two periods of time being analyzed. All observations that fell between the dotted lines, which are parallel to the 45-degree line, are economies that were ranked in the middle tercile of the distribution of the magnitude of the change in the trends of their terms of trade. It is evident that this group, labelled the “neutral tercile” in the graph, includes a mixture of MCC, SA, and their comparator countries (as per chapter 1). The full list of countries classified under each tercile are listed in Table A.1 below. The key issue here is to classify countries according to the severity of the change in the trends in their terms-of-trade, which is a suitable proxy for the magnitude of the macroeconomic adjustments that each economy faced during the slowdown. The neutral tercile countries are, in effect, economies that faced less adjustment pressures than the economies that are further to the right of the 45-degree line in Figure A2.2., but more adjustment pressures than economies that appear to the left of the 45-degree line.

FIGURE A2.1. Average Annual Terms of Trade Growth Rates during the Boom and the Slowdown: Identifying the Neutral Tercile of the Distribution



Notes: Boom is 2002-2008 and Slowdown is 2008-2014. A solid diagonal marks the 45 degree line. The dotted lines mark the bounds of the neutral tercile division. Sources: LCRCE based on data from WDI.

TABLE A2.1. Country Groups Based on Changes in Terms-of-Trade Trends (2002-2008 versus 2008-2014)

LAC: Countries with Sharpest Turnaround in Terms-of-Trade Trends (Top LAC Commodity Exporters): Antigua and Barbuda, Argentina, Aruba, Barbados, Bolivia, Brazil, Chile, Colombia, Ecuador, Peru, Suriname, Trinidad and Tobago, Uruguay.

World: Countries with Sharpest Turnaround in Terms-of-Trade Trends (Top Commodity Exporters): Top LAC Commodity Exporters + Algeria, American Samoa, Angola, Australia, Azerbaijan, Bahrain, Bhutan, Brunei Darussalam, Burundi, Cameroon, Canada, Chad, Dem. Rep. Congo, Rep. Congo, Arab Rep. Egypt, Equatorial Guinea, Gabon, Georgia, Guinea, Indonesia, Islamic Rep. Iran, Iraq, Jordan, Kazakhstan, Kuwait, Libya, Malaysia, Mauritania, Mongolia, Mozambique, Myanmar, Namibia, New Caledonia, Niger, Nigeria, Norway, Oman, Papua New Guinea, Qatar, Russian Federation, Rwanda, Saudi Arabia, Sudan, Syrian Arab Republic, Togo, Tunisia, Turkmenistan, Ukraine, United Arab Emirates, Uzbekistan, Vietnam, Rep. Yemen, Zambia.

LAC Neutral Tercile: The Bahamas, Cuba, Dominica, Grenada, Guatemala, Guyana, Jamaica, Nicaragua, Paraguay, St. Vincent and the Grenadines.

Neutral Tercile: LAC Neutral Tercile + Armenia, Austria, Belarus, Belgium, Benin, Bosnia and Herzegovina, Bulgaria, Central African Republic, China, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Ethiopia, Finland, France, Gambia, Ghana, Greece, Iceland, India, Ireland, Kenya, Dem. People's Rep. of Korea, Kyrgyz Republic, Lao PDR, Latvia, Lebanon, Liberia, Lithuania, Luxembourg, FYR Macedonia, Mali, Marshall Islands, Moldova, Morocco, Netherlands, New Zealand, Poland, Romania, Serbia, Slovak Republic, Slovenia, Somalia, South Africa, Spain, Sweden, Switzerland, Tajikistan, Tanzania, Thailand, Turkey, Uganda, United Kingdom.

LAC: Countries with Smallest Turnaround in Terms-of-Trade Trends (Top LAC Commodity Importers): Belize, Bermuda, Cayman Islands, Costa Rica, Dominican Republic, El Salvador, Haiti, Honduras, Mexico, Panama, St. Kitts and Nevis, St. Lucia, Turks and Caicos Islands.

World: Countries with Smallest Turnaround in Terms-of-Trade Trends (Top Commodity Importers): Top LAC Commodity Importers + Albania, Bangladesh, Botswana, Burkina Faso, Cabo Verde, Cambodia, Comoros, Côte d'Ivoire, Djibouti, Eritrea, Faroe Islands, Fiji, French Polynesia, Germany, Greenland, Guam, Guinea-Bissau, Hong Kong SAR, Hungary, Israel, Italy, Japan, Kiribati, Rep. Korea, Lesotho, Macao SAR, Madagascar, Malawi, Maldives, Malta, Mauritius, Fed. Sts. Micronesia, Nepal, Northern Mariana Islands, Pakistan, Palau, Philippines, Portugal, Samoa, São Tomé and Príncipe, Senegal, Seychelles, Sierra Leone, Singapore, Solomon Islands, Sri Lanka, Swaziland, Tonga, United States, Vanuatu, Zimbabwe.

Notes: Slowdown Winners consist of countries that are in the third whose Terms of Trade growth difference between the Slowdown and Boom is highest; Neutral are the countries found in the middle third; and Boom Winners are the countries whose Slowdown ToT growth are smallest compared to ToT growth of the boom period. Sources: LCRCE based on data from WDI.

Appendix 2.2. Additional Figures and Tables

FIGURE A2.2. The Distribution of Product-Level Export-Quantity Growth Rates during the Boom and the Slowdown

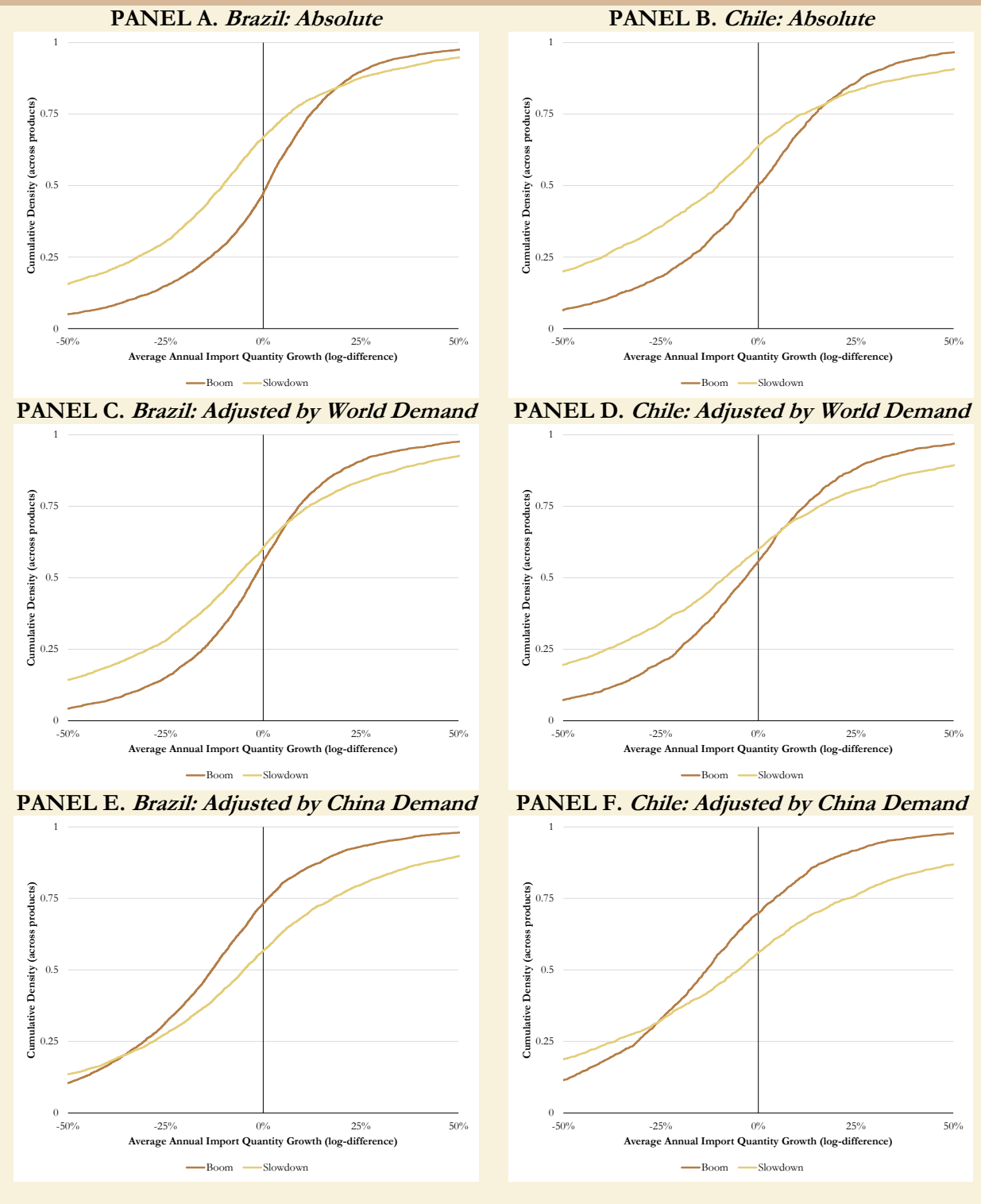
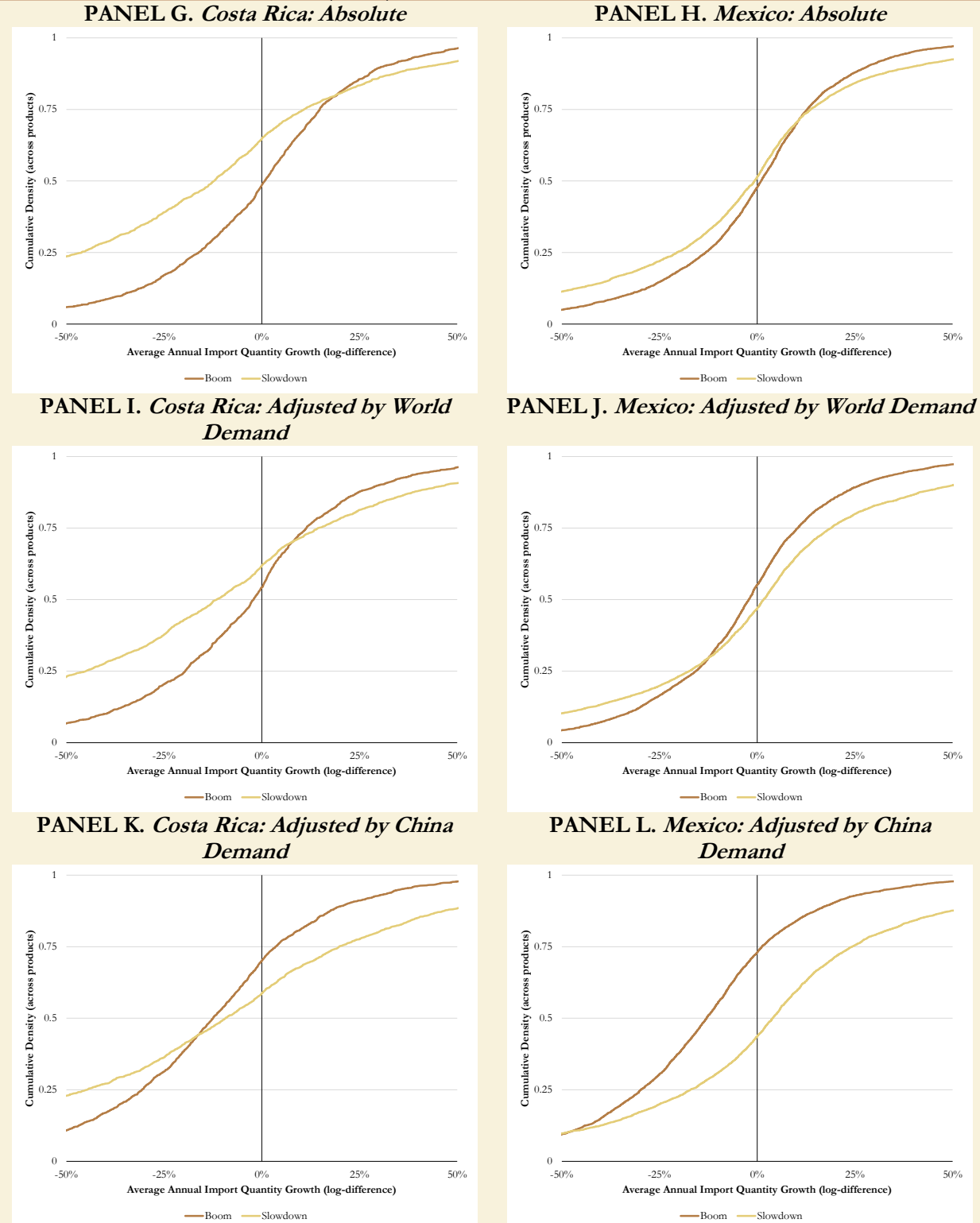


FIGURE A2.2. The Distribution of Product-Level Export-Quantity Growth Rates during the Boom and the Slowdown (cont.)



Notes: Boom is 2002 through 2010 and slowdown is 2011 through 2015. Panels A-D compare the Cumulative Density Function (CDF) of the growth of the quantity of each country's exports during both periods. Sources: LCRCE based on data from UN COMTRADE.

TABLE A2.2. Determinants of Export Product Diversification

	(1)	(2)	(3)
Effective Exchange Rate - CPI (log)	0.530*** (0.0250)	0.528*** (0.0256)	0.525*** (0.0256)
Top Commodity Exporters x Effective Exchange Rate - CPI (log)		0.00631 (0.0126)	0.0189* (0.0113)
Top Commodity Importers x Effective Exchange Rate - CPI (log)		0.00839 (0.0174)	0.0114 (0.0182)
Top LAC Commodity Exporters x Effective Exchange Rate - CPI (log)			-0.0430* (0.0253)
Top LAC Commodity Importers x Effective Exchange Rate - CPI (log)			-0.0205 (0.0234)
Distance (log)	-1.334*** (0.0577)	-1.334*** (0.0578)	-1.331*** (0.0576)
Currency Union (loose criteria) x Effective Exchange Rate - CPI (log)	-0.0559* (0.0327)	-0.0554* (0.0330)	-0.0517* (0.0314)
Currency Union (loose criteria)	0.594*** (0.224)	0.591*** (0.226)	0.604*** (0.221)
Regional Trade Agreement	0.266*** (0.0796)	0.266*** (0.0796)	0.266*** (0.0795)
Constant	1.212*** (0.401)	1.203*** (0.407)	1.179*** (0.409)
Omega (Skewness Parameter)	4.112*** (0.309)	4.110*** (0.308)	4.098*** (0.307)
Observations	102,352	102,352	102,352
R-squared	0.905	0.905	0.905

Notes: Standard Errors in Parenthesis. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Estimates are calculated using the flex methodology proposed by Santos Silva, Tenreiro & Wei (2014). Omega's (Skewness Parameter) significance indicates a skewed distribution. Dependent variable is the number of products exported between two country pairs at a given year. Sources: LCRCE based on data from UN COMTRADE, WDI, and WTO.

TABLE A2.3. Anatomy of New Export Products during 2002-2007

	# of New Products	# of Potential New Products	New Product Penetration (%)	% of New Products in BEC 1, 2 or 3	% of New Products Above the Median UV	% of Products Above the Median in UV Variance
Aruba	70	4752	1%	40%	56%	53%
Argentina	37	839	4%	84%	30%	54%
Antigua & Barbuda	51	4711	1%	53%	29%	45%
Bahamas	53	4437	1%	47%	49%	43%
Belize	60	4601	1%	40%	30%	52%
Bermudas	15	4818	0%	47%	53%	40%
Bolivia	73	4195	2%	42%	33%	49%
Brazil	33	438	8%	79%	33%	45%
Barbados	72	4096	2%	63%	60%	42%
Chile	59	1336	4%	73%	37%	47%
Colombia	62	1462	4%	77%	26%	39%
Costa Rica	64	2142	3%	64%	33%	45%
Cuba	49	4109	1%	47%	29%	37%
Cayman Islands	29	4887	1%	41%	34%	52%
Dominica	32	4308	1%	72%	28%	31%
Dominican Republic	102	3343	3%	60%	48%	41%
Ecuador	85	2714	3%	71%	48%	40%
Grenada	25	4919	1%	40%	40%	52%
Guatemala	67	2009	3%	64%	24%	39%
Guyana	46	4645	1%	70%	24%	41%
Honduras	70	2929	2%	70%	30%	36%
Haiti	39	4683	1%	67%	28%	51%
Jamaica	68	3888	2%	50%	51%	44%
St. Kitts and Nevis	19	4936	0%	42%	37%	47%
St. Lucia	33	4758	1%	64%	61%	24%
Mexico	17	414	4%	71%	29%	41%
Nicaragua	91	3923	2%	55%	30%	38%
Panama	71	1818	4%	83%	30%	23%
Peru	119	2255	5%	58%	38%	53%
Paraguay	34	4167	1%	53%	41%	47%
El Salvador	71	2661	3%	62%	32%	38%
Suriname	45	4684	1%	47%	42%	44%
Turks and Caicos	48	5023	1%	46%	44%	48%
Trinidad and Tobago	85	3099	3%	55%	44%	38%
Uruguay	94	2858	3%	64%	36%	46%
St. Vincent and the Grenadines	24	4770	1%	63%	54%	42%
Venezuela	49	2212	2%	53%	35%	49%

Notes: We define new products as those that were exported in a value exceeding \$500,000 in at least two years of the period 2002-2007 and were not exported in a value exceeding \$500,000 in two or more years in the baseline period 1996-2001. Consider that 63% of all HS6 products map to BEC Chapters 1 through 3. Sources: LCRCE based on data from UN COMTRADE.

TABLE A2.3. (cont.) Anatomy of New Export Products during 2010-2015

	# of New Products	# of Potential New Products	New Product Penetration (%)	% of New Products in BEC 1, 2 or 3	% of New Products Above the Median UV	% of Products Above the Median in UV Variance
Aruba	31	4333	1%	48%	55%	52%
Argentina	18	737	2%	61%	56%	67%
Antigua & Barbuda	86	4164	2%	65%	37%	38%
Bahamas	28	4304	1%	46%	61%	50%
Belize	18	3720	0%	78%	28%	61%
Bermudas	14	4758	0%	50%	57%	57%
Bolivia	44	3831	1%	43%	66%	50%
Brazil	11	356	3%	64%	73%	64%
Barbados	38	3535	1%	53%	66%	50%
Chile	39	1291	3%	72%	54%	56%
Colombia	42	1199	4%	67%	69%	57%
Costa Rica	56	2005	3%	70%	50%	36%
Cuba	30	4104	1%	60%	53%	40%
Cayman Islands	29	4774	1%	52%	55%	52%
Dominica	28	4320	1%	36%	64%	36%
Dominican Republic	57	2788	2%	56%	53%	42%
Ecuador	45	2290	2%	71%	60%	47%
Grenada	17	4811	0%	59%	59%	47%
Guatemala	43	1871	2%	84%	53%	37%
Guyana	18	4468	0%	50%	44%	39%
Honduras	64	2883	2%	66%	39%	44%
Haiti	24	4501	1%	38%	33%	63%
Jamaica	38	3696	1%	53%	58%	39%
St. Kitts and Nevis	17	4808	0%	65%	65%	65%
St. Lucia	14	4623	0%	50%	36%	50%
Mexico	20	450	4%	75%	50%	40%
Nicaragua	59	3519	2%	69%	42%	44%
Panama	56	1543	4%	80%	57%	45%
Peru	52	1678	3%	71%	62%	54%
Paraguay	51	3985	1%	49%	47%	51%
El Salvador	48	2474	2%	71%	48%	50%
Suriname	49	4415	1%	59%	47%	43%
Turks and Caicos Islands	23	4637	0%	48%	70%	57%
Trinidad and Tobago	29	2775	1%	55%	55%	55%
Uruguay	36	2640	1%	58%	67%	42%
St. Vincent and the Grenadines	12	4724	0%	50%	42%	33%
Venezuela	29	2408	1%	76%	66%	55%

Notes: We define new products as those that were exported in a value exceeding \$500,000 in at least two years of the period 2010-2015 and were not exported in a value exceeding \$500,000 in two or more years in the baseline period 2004-2009. Consider that 63% of all HS6 products map to BEC Chapters 1 through 3. Sources: LCRCE based on data from UN COMTRADE.



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