

The Macroeconomics of the Commodities Boom in Ecuador: A Comparative Perspective

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December 2018

Abstract

This paper assesses macroeconomic management during the Correa administration in Ecuador. It does so by systematically comparing Ecuador to South American countries that experienced a similar commodity price bonanza, and over the entire commodity cycle, boom and bust. It concludes that Ecuador's macro management of the bonanza had one important positive point—a high public sector saving rate—that was, however, overwhelmed by mismanagement in other respects: (i) a failure to take advantage during of the (dollarization-driven) competitive real exchange rate to promote export expansion and diversification; (ii) a huge procyclical expansion of government spending ; (iii) an imprudent decision not to build liquid fiscal buffers during the boom; and (iv) a reckless decision to default on its external debt based on pure “unwillingness to pay”. These epicenters of mismanagement greatly amplified the spending effects of the commodities price boom and turned against Ecuador with a vengeance starting in 2014, when commodity prices collapsed, trapping the country into deep fiscal and external imbalances and inflicting major social costs.

JEL classification codes: E23, E31, E42, E62, O40

Keywords: Ecuador, Macroeconomics, Macroeconomic Fluctuations, Macroeconomic Adjustment, Terms of Trade, Natural Resource Boom, Growth, Fiscal Policy, Terms of Trade, Dutch Disease

[®] This paper was written as a contribution to a book, sponsored by FLACSO, Ecuador, and the Universidad de Salamanca, Spain, published by Palgrave, and entitled *Assessing the Left Turn in Ecuador: 10 Years of the Correa Administration*. Augusto de la Torre (apd2151@columbia.edu) teaches at Columbia University, New York, and is the Director of the Centro de Investigaciones Económicas y Empresariales at Universidad de las Américas, Ecuador. Simón Cueva (simon.cueva@laureate.net) is an Academic Executive Director at Laureate International Universities and Director of TNK Economics, Ecuador. María Alexandra Castellanos (maria.castellanos.16@ucl.ac.uk) is a Research Associate at Universidad de las Américas, Ecuador. The authors would like to acknowledge excellent comments and suggestions from Felipe Burbano de Lara, Anna Ivanova, Pablo Lucio Paredes, Andrés Mejía Acosta, Roberto Mosquera, Abelardo Pachano, Lenin Parreño, María Laura Patiño, John Polga-Hecimovich, Juan Ponce, Iliana Olivie, María Caridad Ortiz, José Samaniego, Francisco Swett, Marco Varea, Mauricio Villafuerte, and the participants at the May 2018 Seminar organized by FLACSO Ecuador and Universidad de Salamanca.

1. Introduction

Over the 2003–2012 period, commodity exporting countries in Latin American (mainly located in South America) benefitted from a powerful boom in prices. Being a major commodity exporter—principally of petroleum but also of shrimp, banana, and cacao—Ecuador was also swept into the commodities vortex and, since the price of oil did not start falling until late 2014, it experienced a relatively longer booming phase. Largely overlapping with this commodities cycle was the administration of authoritarian President Rafael Correa (2007-2017): it coincided mainly with the upswing phase of the cycle—until 2013-2014—but also caught 2-3 years of the downswing phase.

This paper assesses macroeconomic management during the Correa administration. Given the overarching importance of the commodities cycle, such an assessment must overcome two important hurdles. The first is an identification problem: when considering macroeconomic performance in Ecuador, it is difficult to sort out between those outcomes that are due to the sheer force of an exogenous factor, one that has nothing to do with policy (namely, the commodities price bonanza), and those that can be attributed to policy. The usual approach of comparing macroeconomic developments during the Correa administration to those in prior years would not work: it would yield misleading results because of the magnitude and economic significance of the commodity boom, which was a common factor affecting all commodity exporting countries. To overcome this identification hurdle, the strategy in this paper, albeit not based on a full-fledge econometric model, is to analyze macroeconomic developments in Ecuador by systematically comparing them—in terms of outcomes, determinants, and policies—to those in relevant peer countries, namely, the South American commodity exporting countries.

The second hurdle has to do with the relevant time horizon for the assessment. To avoid distortions, the focus should be not only on the boom but also on the bust. This is because—as should become clear from the discussion in the paper—macroeconomic policies during the boom can amplify spending effects in an unsustainable fashion. Such amplifications can make contemporaneous outcomes look more impressive than they really are but, in the end, may just be of the “bread-for-today-hunger-for-tomorrow” type. The larger the policy-induced spending amplifications during the boom, the higher the economic costs during the bust. The costs take the form of greater and more protracted adjustment pains (including in terms of consumption compression, employment losses, and growth slowdown), compared to countries where macro policies mitigated or prevented unsustainable spending amplifications. To assess the Correa administration’s macroeconomic management, therefore, this paper examines macroeconomic developments in a comparative setting over the commodities cycle, boom and bust, a period goes from 2003 to the end of the Correa administration in 2017.

The analysis shows that Ecuador’s macro management of the bonanza phase of the commodities cycle had one important positive point: a high public sector saving rate, a source of strength that dampened excessive consumption expansion, but was overwhelmed by misguided macroeconomic management in other crucial respects, including the following:

- An unprecedented, highly pro-cyclical and unsustainable expansion in the size of the public sector during the boom years, from 25 to 44 percent of GDP.

- A failure to take advantage of the (dollarization-driven) competitive real exchange rate (at a time when the currencies of most other commodity exporting countries in the region were losing competitiveness) to promote export expansion and diversification.
- An imprudent decision not to build liquid fiscal buffers during the boom, even more relevant considering the high volatility of oil prices, exacerbated in recent decades. The high public-sector savings were entirely invested into illiquid local assets (mainly transport or energy infrastructure) while pre-existing liquid assets (international reserves and previously accumulated stabilization funds) were drained. Moreover, the surge in public investment was infected by an unprecedented level of corruption, seemingly orchestrated from the highest spheres of an authoritarian government that purposefully dismantled the system of checks and balances.
- A reckless decision to default on the external debt based on pure “unwillingness to pay” (the default occurred in 2008, at a time when the country had a strong “capacity to pay”), which cemented the perception of Ecuador as a rogue debtor.

These basic ingredients of mismanagement greatly amplified the spending effects of the commodities price bonanza but turned against Ecuador with a vengeance starting in 2014, when the oil price bonanza came to an end. Thus, in the downswing of the commodities price cycle, Ecuador’s economic activity took a major hit and found itself trapped between a large fiscal imbalance (ultimately driven by an unsustainable level of government expenditure) and an overvalued real exchange rate (the dollar appreciated even as the prices of Ecuadorian exports were collapsing).

There were strong incentives to postpone the fiscal correction once oil prices collapsed, given the contractionary effect on economic activity (especially with an overvalued real exchange rate) and the well-known political constraints to adjustment. In fact, adjustment was postponed until mid-2018, the time of this writing.¹ That, combined with the absence of liquid fiscal buffers, fueled a spiraling rise of debt, with the government having to pay the cost associated with its reputation of rogue debtor, in the form of very high interest rates (similar to those paid by US corporate junk bonds and around 5-6 percentage points higher than those that Chile, Colombia, or Peru would pay for similar maturities). The post-boom adjustment pains, moreover, were exacerbated by the fact that, during the boom, Ecuador’s productive structure was significantly tilted towards serving the local market (see below) and the needs of an oversized government. As a result, recovering growth (which was rather poor compared to other commodity exporters in the region and once the entire commodities cycle is considered), is particularly challenging for Ecuador, even if its macro imbalances are corrected.

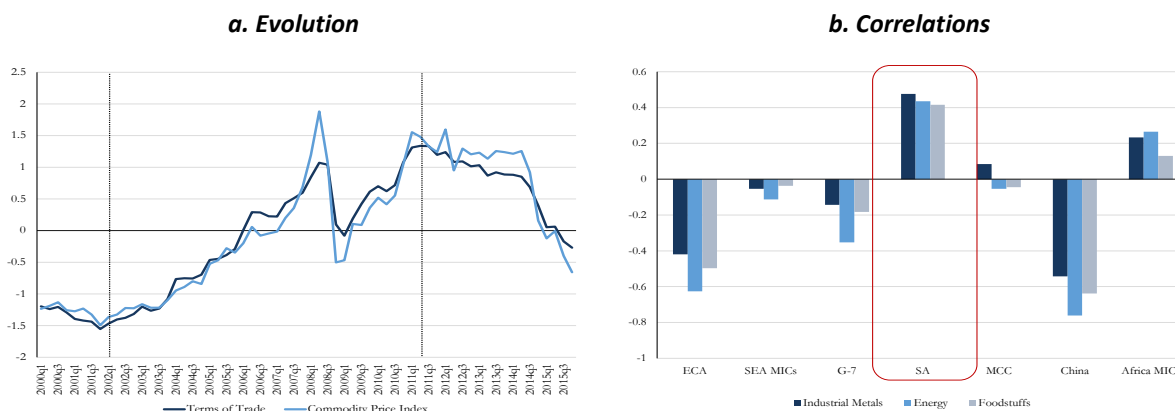
The paper is organized as follows. Section 2 discusses the historical and economic relevance of the recent commodities boom focusing on the South American commodity exporters. Section 3 presents

¹ This analysis does not include developments after May 2018, when important cabinet changes occurred under the Moreno administration, including the nomination of a new Finance Minister. These changes marked a reorientation in economic policy, greater transparency and frankness regarding the gravity of the macroeconomic situation, the introduction of some corrective fiscal measures, alongside efforts to stimulate private investment while protecting the vulnerable segments of the population, and a notable improvement in Ecuador’s relations with multilateral institutions.

a bare-bones conceptual framework to understand the macroeconomic effects of a terms-of-trade windfall, including its transmission channels and sources of amplification. Section 4 presents evidence on, and discusses, the effects of the boom and its management from a macroeconomic perspective in a comparative setting, highlighting the Ecuador-specific features.² Section 5 examines key aspects of the “hangover” during the bust (in terms of contractionary spending adjustments and macroeconomic policy constraints after the boom) and links them to the excesses of the “party” during the boom. Section 6 concludes.

2. A most powerful commodity price boom

Figure 1. Commodity Price Index and TOT in South America



Notes: Panel 1a: Terms of trade series is the average of standardized series for Argentina, Brazil, Chile, Colombia, Ecuador, and Peru, which are obtained by subtracting the mean and dividing by the standard deviation. Panel 1b: ECA: Eastern & Central Asia; MCC: Mexico, Central America & the Caribbean; SEA MICs: South East Asia & Middle-Income Countries; Africa MICs: 15 middle income countries following World Bank classification. Sources: World Bank’s GEM, Bloomberg, IMF, and national sources.

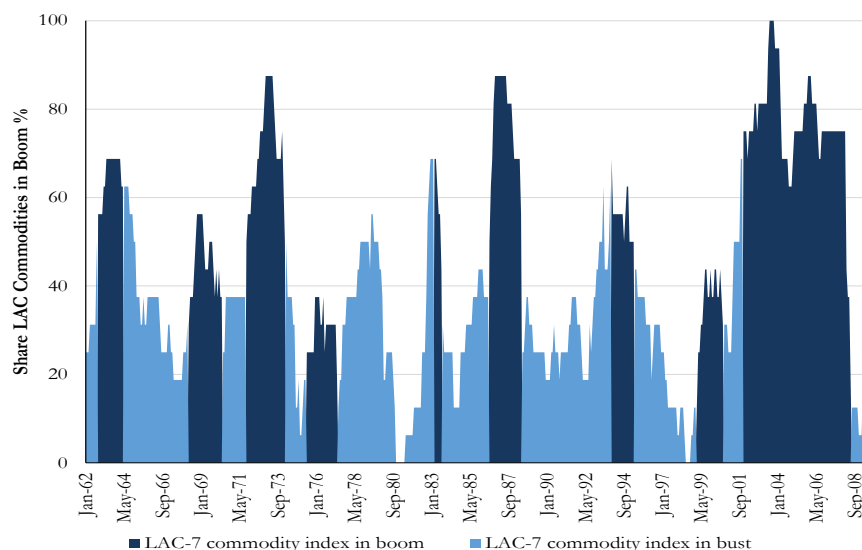
In a well-known yet often underestimated stylized fact, export commodity dependence in South America ranks among the highest in the world. In some South American countries, exports are highly concentrated on a single mineral commodity (Chile, Peru, Venezuela) or a single agricultural commodity (Argentina, Uruguay); in others, exports are still commodity dependent but concentrated in more than one commodity (Colombia, Ecuador, Brazil).³ In all South American countries, terms of trade (that is the price of exports divided price of imports) are highly and positively correlated with commodity prices (Figure 1a), which makes South America the region in the world where commodity price fluctuations have the greatest impact on the terms of trade (i.e., on the ratio of the price of exports to the price of imports), even more than in middle-income African countries (Figure 1b).

² See (Fernandez, Villar, & Sánchez, 2015) for alternative methodologies to identify commodity booms and their correlation with the business cycle and macroeconomic variables, and (Fernandez & Villar, 2015) for the negative impact on the manufacturing sector of commodity booms in South America.

³ We follow the classification of (De la Torre & Ize, 2018), where a country is classified as: (i) a “commodity exporter” if at least 55 per cent of its exports originate from the primary sector (raw or processed commodities); (ii) a “specialized” commodity exporter when its exports in any given class of commodities (agricultural, mineral, hydrocarbons) exceed 45 per cent of total exports (otherwise, it is classified as a “diversified commodity producer”); (iii) as “beyond commodities” when commodities as a whole account for between 40 and 50 percent of exports.

That South America is greatly exposed to commodity prices is immensely relevant to our analysis, given that the recent boom has been the most powerful that the region has experienced in at least half a century (i.e., since detailed trade statistics became available), if not a century. The boom was not only potent in magnitude (see below) but also the longest lasting and most comprehensive in terms of the commodities affected and countries benefiting (Sinnott, Nash, & De la Torre, 2010).⁴ The boom duration and strength was the direct result the momentous rise of China (De La Torre, Didier, Ize, Lederman, & Schmukler, 2015).⁵ Between 60 and 100 percent of the 16 commodities most relevant to Latin America experienced strong and synchronized price increases over 2003-2008 (Figure 2), in sharp contrast with prior commodity price bonanzas, which were of lesser duration and tended to cover a smaller fraction of the commodities relevant to the region.

Figure 2. Latin America: Percentage of Relevant Commodities with Rising or Falling Prices



Notes: Share of the 16 commodities most relevant for the major Latin America countries in each period whose prices increased (dark blue) or decreased (light blue). Sources: (Sinnott, Nash, & De la Torre, 2010).

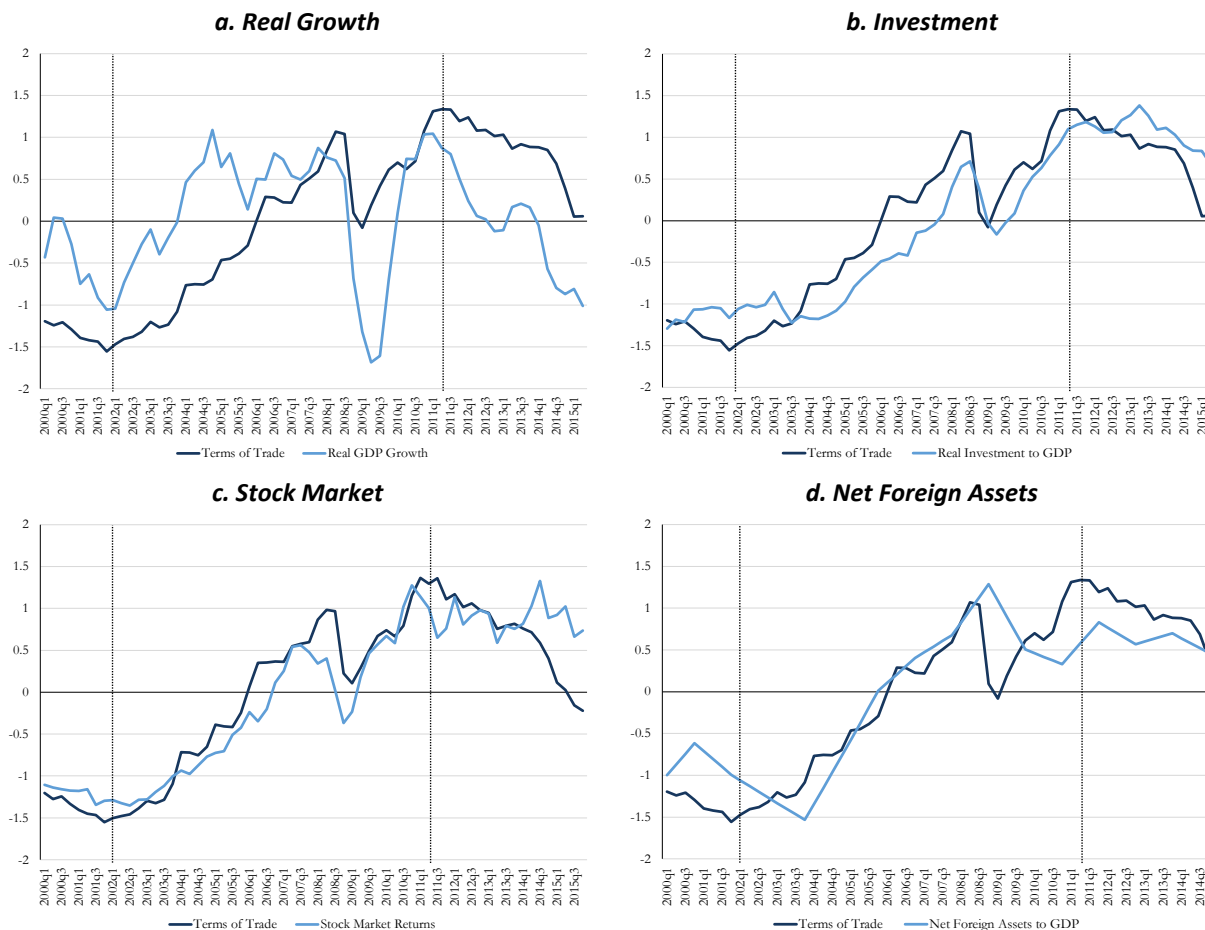
The impact of the surge in commodities prices on the terms of trade was extraordinary. The terms of trade index of South American countries (simple average) rose by nearly 65 percent between 2002 and 2012 (Figure 1a), with deep and pervasive economic effects. Indeed, terms of trade changes seem to have influenced virtually all the vital signs of the South American macroeconomies, to an unsettling degree. Figure 3 displays the tight co-movement observed during the commodities cycle for South America between, on the one hand, the evolution of the terms of trade and, on the other hand, such key variables as economic growth (Figure 3a), the investment rate (Figure 3b), the stock exchange indices (Figure 3c), and net foreign assets (Figure 3d). Since the terms of trade is a fundamental variable for the

⁴ Real prices of industrial metals and oil were higher than at any time since 1916 (Sinnott, Nash, & De la Torre, 2010).

⁵ The rise of China was an economic big bang entailing three major global shocks: a supply shock (Chinese manufacturing exports flooding the world), a demand shock (sharp rise in the demand for imports of primary products), and a financial shock (global “savings glut”, associated to huge current account surpluses in China and other emerging economies, coupled with insufficient investment demand in advanced economies). See (De La Torre, Didier, Ize, Lederman, & Schmukler, 2015).

macroeconomy, the message is sobering: an exogenous factor (commodity prices), independent of local economic policies and institutions, can vastly dominate the macroeconomic scene of a country.

Figure 3. Terms of Trade and Selected Macroeconomic Variables in South America



Notes: Panels 3a to 3d: Average standardized series for Argentina, Brazil, Chile, Colombia, Ecuador (except 3c) and Peru. Standardized series obtained by subtracting the mean and dividing by the standard deviation. Sources: Bloomberg, national sources, and the dataset constructed by (Lane & Milesi-Ferretti, 2007).

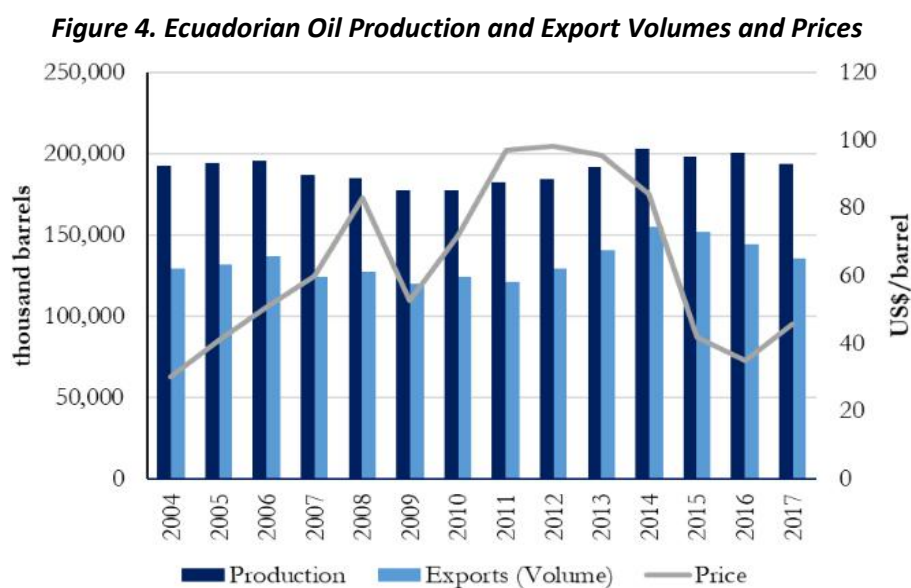
It is against the background of the commodities boom—an exogenous shock that hit the South American commodity exporting countries with comparable force and duration—that macroeconomic management during the Correa administration must be evaluated. Before delving into comparative empirics, however, it is necessary to sketch the basics of a conceptual framework on the macroeconomics of a commodity boom.⁶ To this we now turn.

⁶ The conceptual discussion in Section 3, and the comparative aspects of the empirical analysis in Sections 4 and 5, draw heavily from (De la Torre, Filippini, & Ize, 2016).

3. The macroeconomics of a commodity boom

In principle, the economic impulse from a terms of trade windfall can work through the supply or domestic demand sides. In practice, it works mainly through domestic demand effects. Let us explain.

Consider first the supply side. The rise in the price of a country's major export can lead to an increase in the volume produced of that export which, via employment effects and forward and backward linkages, can raise GDP growth. However, the volume (quantity supplied) of commodities exported rose little relatively to the rise in their price in most South American countries during the recent boom (De la Torre & Ize, 2018). In the case of Ecuador, the volume of oil production remained basically flat throughout the 2004-2014 boom (Figure 4).



Source: Central Bank of Ecuador

In practice, therefore, the impact of changes in the terms of trade on economic activity tends to be mostly channeled through domestic demand (i.e., spending) effects.⁷ The core reasoning is as follows. An increase in the terms of trade (that is, in the price of exports relative to the price of imports) raises the purchasing power of exports and, hence, the purchasing power of national income, *even if the volume of exports remains constant*. As a result, national *income* raises more than national *output* and the country perceives itself to be richer because it can now buy more imports with the same volume of exports. Simply put, the country can spend more without necessarily producing more. However, whether the country is indeed richer hinges on whether national wealth increases⁸, which is largely a function of the extent to which the terms of trade (hence, national income) improvement is permanent (rather than transitory). While it may be difficult to assess the permanence of a positive shock, that does not alter the fact that a

⁷ For classical references on the spending effect of a Dutch disease-type resource boom see (Corden & Neary, 1982), (Corden, 1983) and (Van der Ploeg & Venables, 2010).

⁸ Given that oil is a non-renewable resource, producing and exporting it depletes the country's natural wealth, unless the income thus generated is efficiently invested in projects with a high social rate of return.

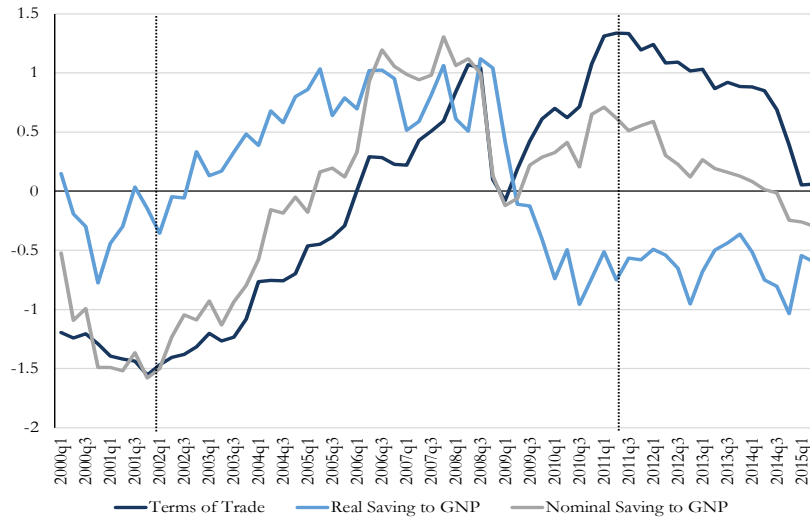
bonanza can lead to a spending binge that ends up in a bad hangover *if* the terms of trade suddenly decline to their pre-boom levels and *if* the country consumes the windfall in the interim, instead of saving and investing it efficiently over time.

Therefore, the cyclical (macroeconomic) consequences of a terms of trade improvement depend crucially on the extent to which policy actions magnify or cushion its spending (domestic demand) effects. The first and most important source of amplification or attenuation is the **saving rate**. At one extreme, spending effects would be minimized if the entire terms-of-trade windfall is saved and invested in foreign assets (the Norwegian stabilization fund would be a proxy). At the other extreme, spending effects would be maximized if the entire windfall is consumed in local goods and services. In the middle there is a continuum of outcomes depending on the fraction of the windfall that is saved and how much, how fast, and how efficiently are such savings invested locally (in machinery and equipment, infrastructure, human capital, etc.) versus abroad. Note that, from the point of view of short-run macroeconomic management, it is immaterial whether the windfall is consumed or invested locally, as both can create an excess of demand over output, with similar impacts on the external current account and the real exchange rate. However, from the point of view of wealth creation, they are not equivalent. Unlike consumption, local investment, if productive, would raise economic growth, and, hence, permanent income and wealth.

Two caveats are worth mentioning regarding the saving rate at this stage. First, what matters for the amplification or cushioning of the spending effect is the structural saving rate *as well as* the marginal propensity to save out of the windfall income. A country that enters a boom with a relatively high structural (or historical) saving rate would from the outset attenuate more of the spending effect. Also, the greater the marginal propensity to save out of the windfall, the more the spending effect would be dampened. Second, observed saving rates can be highly misleading in times of significant terms of trade changes if the distinction between nominal and real saving rates is not adequately captured in the data. The nominal saving rate (nominal saving divided by nominal GDP) can overstate the country's saving effort because the GDP deflator rises faster than the saving (or consumption) deflator in times of a terms of trade bonanza. The high share of commodity products in the country's GDP pushes up its GDP deflator during the boom faster than the average prices of its consumption or investment goods. Conversely, the GDP deflator declines faster than the average price of consumption or investment goods when terms of trade decline. To appropriately assess macroeconomic management during a commodities boom and bust, therefore, the focus should be on *real* saving rates.

South America illustrates well the importance of the distinction between nominal and real saving rates: the difference between them was not trivial and its magnitude varied significantly throughout the commodities cycle (Figure 5). Both real and nominal saving rates rose in tandem in the initial years of the boom (until 2008). In the latter years, however, especially during 2010-2011, the nominal saving rate remained high (hence, the nominal current account did not show major deficits), creating the illusion of macroeconomic strength among many a policy maker. In the bust (after 2011), however, the GDP deflator declined more rapidly than the saving deflator, thus real saving rates declined sharply, reflecting a South American spending binge, while the nominal saving rate appeared to be rather stable.

Figure 5. South America: Terms of Trade and Nominal and Real Saving Rates



Notes: Average standardized series for Argentina, Brazil, Chile, Colombia, Ecuador, and Peru. Standardized series are obtained by subtracting the mean and dividing by the standard deviation. Source: (De la Torre, Filippini, & Ize, 2016).

A second source of attenuation/amplification is the **degree of trade openness**. The more open an economy, the less would it overheat under the pressure of a spending binge because much of such spending would “leak” abroad via increased imports. Conversely, the lower the degree of trade openness, the more demand will remain, so to speak, “bottled up” inside the local economy, thereby creating more overheating and associated upward price pressures.

A third and important source of amplification is the **extent of real exchange rate appreciation** during the boom. The real exchange rate will appreciate if a surge in spending falls on goods and services not internationally traded (i.e., nontradables) creates excess demand in the nontradable sector (where imports cannot alleviate supply). That would raise the price of nontradables relative to that of tradables, thereby appreciating the real exchange rate—a Dutch Disease-type of problem that discourages the production of non-commodity tradables.⁹

Another windfall is generated in the process: a strong currency in real terms makes people feel richer because their local earnings can now buy more tradable goods and services, including consumer imports, more and better tourism packages, etc. The magnitude of the amplification will depend not just on the extent of the real exchange rate appreciation but also on the marginal propensity to consume out of the windfall it generates. In societies with high poverty, that propensity is likely to be higher (a Kaldor-type effect), given that the consumption of lower-income groups would tend to be repressed. Thus, an appreciated real exchange conveys the perception of an increased purchasing power across all segments of the population which, combined with a higher propensity to consume among the poor, exacerbates the consumption boom. However, as with the terms of trade, a mirage can also occur with the real exchange rate appreciation: if not eventually backed by higher productivity, it will not be sustainable—the real exchange rate will depreciate towards its longer-run equilibrium once the boom is over, and the

⁹ The real exchange rate is the ratio of a price index of tradables price to the price index of nontradables, with all prices expressed in the local currency.

mirage will quickly disappear. For a given rise in spending, furthermore, the extent of real exchange rate appreciation is not independent of the exchange rate regime: the more inflexible the regime (with formally dollarized systems like Ecuador's at the extreme), the more prices will be set in dollars, and the lesser the extent of real appreciation during a boom.

A fourth amplifying/attenuating factor relates to **who appropriates the terms of trade windfall**: the private or the public sector. Whether one sector would induce a greater amplification of the spending effect than the other depends on the differences in myopia and impatience. It may be that a well-run government with strong fiscal institutions and properly-designed stabilization mechanisms would likely save more out of the windfall than a liquidity-constrained or myopic private sector.¹⁰ In any case, for those economies where the initial extent of spending out of the terms of trade windfall is mostly channeled via the public sector, the quality of fiscal institutions is a critical determinant of the amplification or attenuation impact of the windfall.

A fifth and quite crucial source of amplification is the **extent of procyclical response in fiscal expenditures**. A major procyclical fiscal spending (for consumption or investment) during a terms of trade boom would greatly magnify the expansion in aggregate domestic demand in relation to its sustainable long-term level, thereby intensifying the local economy overheating and the surge in imports. That would require a greater and more painful fiscal retrenchment once commodity prices decline. By contrast, a countercyclical fiscal response would imply saving a large share of the windfall into a stabilization fund or a sovereign wealth fund (as in Chile or Norway). The saved resources would be invested in foreign assets and used either to stabilize fiscal spending once commodity prices fall or to finance long-term public goods (in education, health, pensions, infrastructure, etc.) over prolonged time periods.

A sixth channel of amplification is **the credit system**. Barring the presence of strong macroprudential/anti-cyclical regulations, a terms of trade bonanza could well unleash a credit boom that could greatly magnify spending effects, especially if the expansion is mainly concentrated on consumer credit. In the extreme, a credit bubble could end up in tears as nonperforming loans rise once the terms of trade reverse, potentially adding a financial crisis to a difficult spending adjustment.

The conceptual considerations above will guide the cross-country empirical analysis of the Ecuadorian boom and bust phases of the commodities cycle in the next two sections.

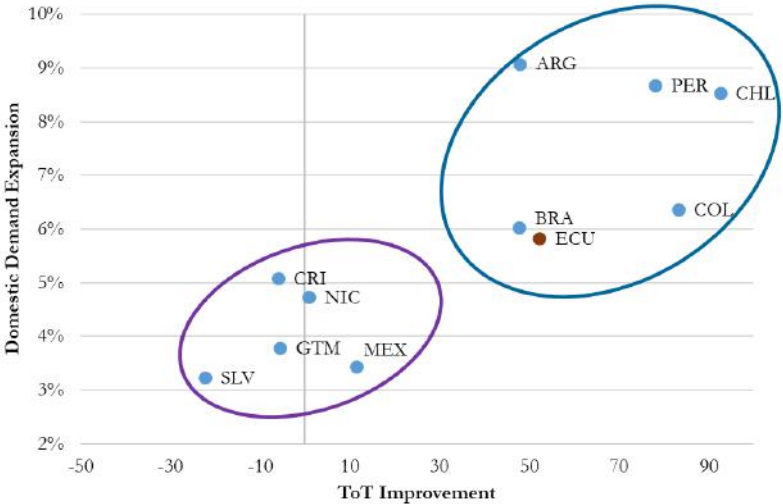
4. The empirics of the commodity boom: Ecuador in a comparative perspective

The contrast in the trajectory of domestic demand changes between commodity exporters and commodity importers in the region was stark. The marked improvement in the terms of trade for the commodity exporting countries (virtually all located in South America) was associated to a significant expansion in aggregate domestic demand (consumption plus investment) as a share of GDP (Figure 6). In

¹⁰ Actually, (De la Torre, Filippini, & Ize, 2016) argue that the marginal propensity to spend out of the windfall is very high for all the private sector in the region but depends heavily on fiscal institutions for the public sector. The response to different booms may also be dependent on the commodities involved: some commodities may have more limited links to other economic sectors and the public vs. private sector ownership of commodities may amplify or reduce the public spending channel.

commodity importing countries (Mexico and most of Central America), the terms of trade did not increase (or decreased) while any increase in their domestic demand ratio was comparatively subdued. In the case of Ecuador, while its terms of trade improvement were close to the South American average, its domestic demand expansion was below the South American average. Note that the link between the terms of trade windfall and the increase in aggregate spending varies considerably across the South American commodity exporting countries (Figure 6). Ecuador appears with a rate of domestic demand expansion similar to that of Colombia and Brazil. That the size of the windfall did not map one to one to the extent of domestic demand expansion highlights the crucial role played by amplifying or attenuating policy-related factors, explored below.

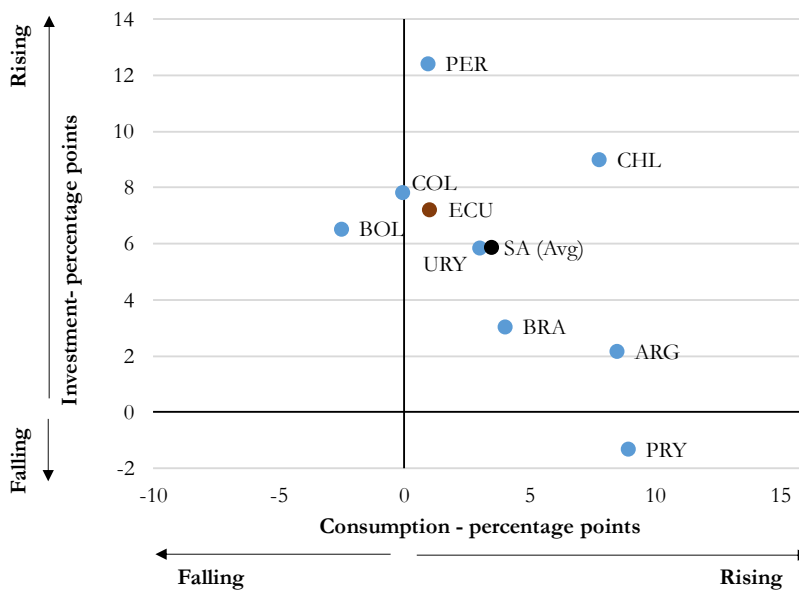
Figure 6. Latin America: Changes in Domestic Demand and the Terms of Trade during the Boom



Notes: Domestic demand expansion measured as the average annual growth rate of real domestic demand during the boom years for each country. The Terms of Trade Improvement measures the percentage points increase of the terms of trade between 2003 and the end of the boom for each country. The end of the boom varies from country to country between 2011 and 2013. Sources: ECLAC, UN National Accounts.

Note also that there was considerable cross-country heterogeneity regarding the relative importance of investment versus consumption in the aggregate domestic demand (spending) expansion (Figure 7). When comparing 2004, at the onset of the commodity boom, with 2012 (near the peak for several countries), at one extreme are Paraguay, Argentina and Brazil, with a large share of the demand increase accounted for by consumption, at the other are Bolivia or Peru, where investment played the dominant role (consumption as percent of GDP declined for Bolivia). Ecuador is in an intermediate position, similar to that of Colombia, with investment still playing a key role in the domestic demand expansion. (However, as explained below, Ecuador’s savings and investment rates are likely to be overestimated—see footnote 18—given that reported government capital spending includes some expenditures treated as current according to international protocols.)

Figure 7. Distribution of Domestic Demand Increases between Consumption and Investment

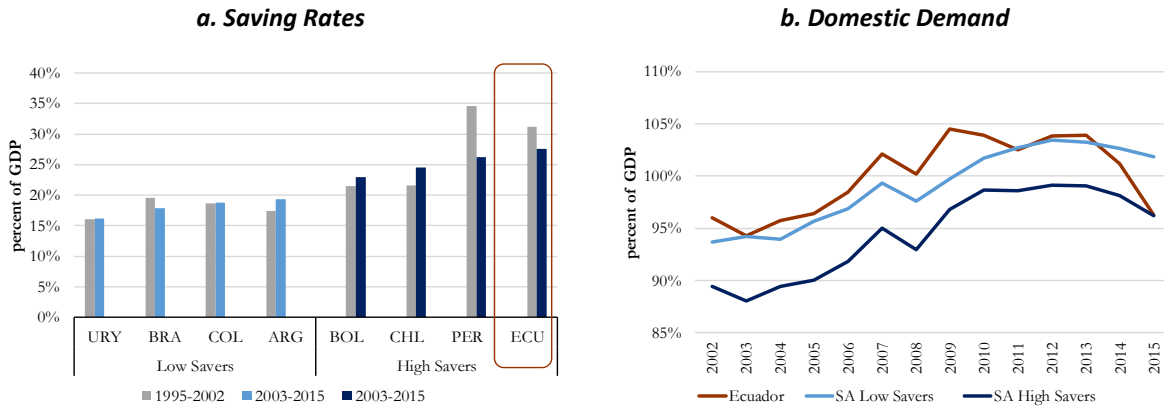


Notes: Real Investment and Consumption in percent of real GDP. Percentage points increase of each variable between 2004 and 2012. Sources: UN National Accounts.

Let us consider now the sources of amplification behind the increases in domestic demand, starting with the **real saving rate**. Figures 8a and 8b show a clear inverse relation between real saving rates and the extent of domestic demand expansion: South America countries with higher saving rates experienced a less vigorous increase in spending. Ecuador has historically been a high saving country comparatively speaking, in the 1990s as well as in the boom period (Figure 8a). However, Ecuador differentiates itself from other South American high saving countries (Peru, Chile, Paraguay, and Bolivia) in three aspects: (i) a relatively higher domestic demand level (Figure 8b); (ii) a faster expansion over 2003-2009 of domestic demand, even larger than that of the structurally low-saving countries in South America (Venezuela, Brazil, Colombia, Uruguay and Argentina); (iii) a much larger collapse of domestic demand in the bust period, after 2013. Thus, these figures suggest that, while one would expect from a high saving country to be comparatively less procyclical in terms of domestic demand expansion, Ecuador fiscal policies were such that, during the Correa administration, domestic demand procyclicality was exacerbated¹¹.

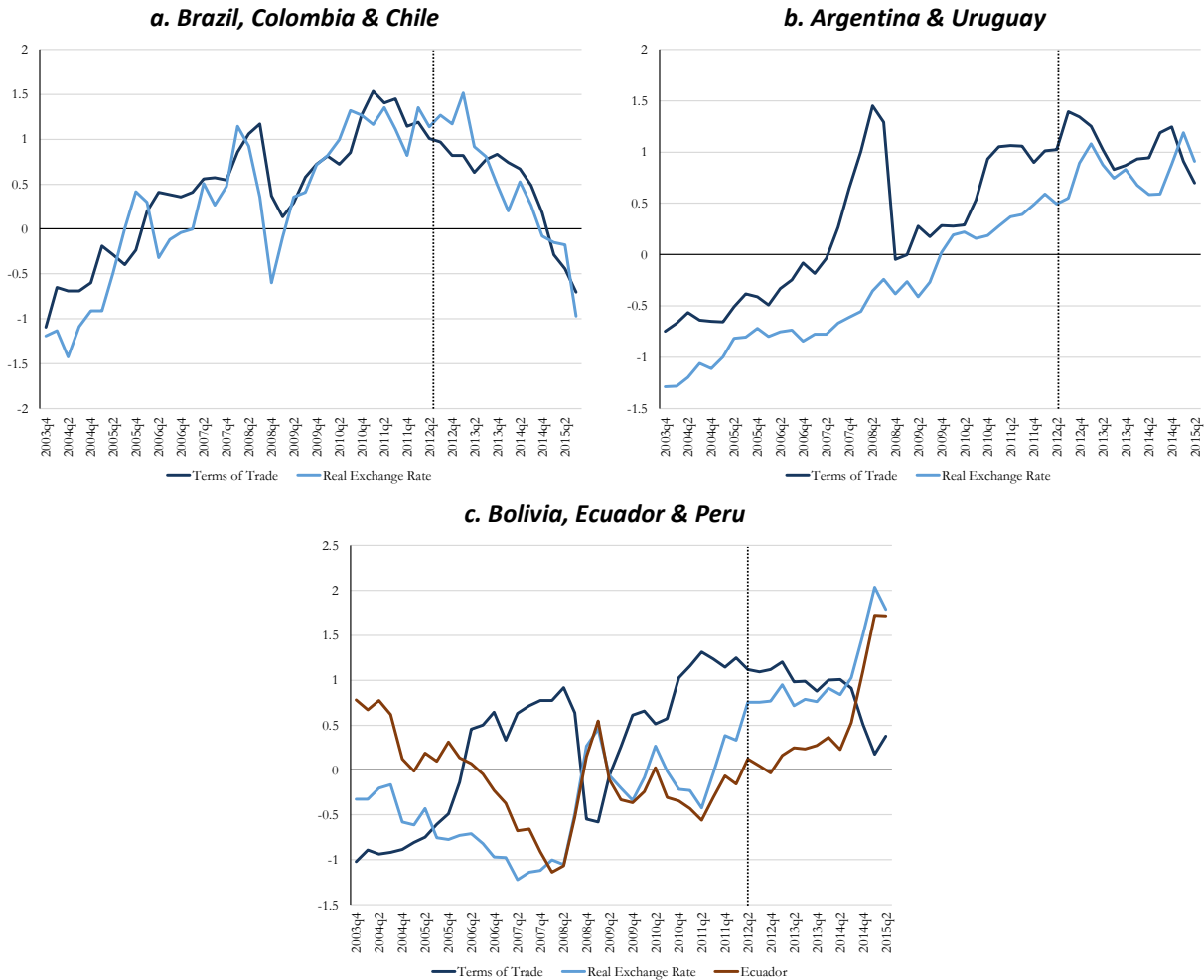
¹¹ Note that Figure 6 refers to domestic demand annual average expansion while Figure 8b refers to domestic demand levels. For a recent analysis of fiscal procyclicality in Ecuador see (Cueva, Mosquera, & Ortiz, 2018).

Figure 8. Saving Rates and Domestic Demand in South American Countries



Notes: Real Savings are period averages. Real saving is calculated as real GDP minus real consumption plus real net primary and secondary income. Sources: UN National Accounts IMF, and authors' elaboration.

Figure 9. South America: Terms of Trade and Real Exchange Rates

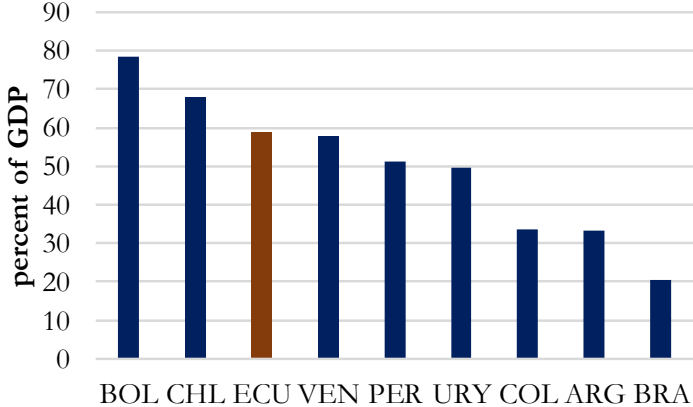


Notes: An increase of the real exchange rate means an appreciation. Panel 10a: Average standardized series for Brazil, Chile, and Colombia (9a), for Argentina and Uruguay (9b) and for Bolivia, Ecuador, and Peru (9c). Standardized series are obtained by subtracting the mean and dividing by the standard deviation. Sources: Bloomberg, national sources, and IMF.

Consider now the **extent of real exchange rate appreciation** across South American countries. It was clearly greater and more tightly and positively correlated with the evolution of the terms of trade in countries with more flexible exchange rate regimes (Brazil, Chile, Colombia) (Figure 9a). Real appreciation was particularly stronger in countries where the expansion of aggregate domestic was dominated by consumption, with Brazil being the salient case (Figure 6).¹² Interestingly, in countries with less flexible (heavily managed or formally dollarized) exchange rate regimes, the extent of real appreciation was linked to their inflation rates: in higher inflation countries (Argentina, Uruguay), the real exchange rate appreciated more and in tandem with the terms of trade improvement (Figure 9b), mostly through an adjustment in the denominator (i.e., inflation). By contrast, in low inflation countries with heavily managed or dollarized regimes (Bolivia, Peru, Ecuador), the correlation between terms of trade and real exchange rate was negative, reflecting mainly the fact that these countries' nominal exchange rates closely tracked (or were) the US dollar, which depreciated relative to other major currencies during the booming phase of the commodities cycle and appreciated in the downswing phase (Figure 9c).

The **degree of trade openness** played a sort of bimodal function across countries in amplifying or attenuating the spending effect of the terms of trade boom (Figure 10). It clearly favored amplification in the case of Argentina, Brazil, and perhaps Colombia, which are the relatively less open and larger South American economies. Openness played a more neutral role in the rest of South America, where countries are more open relative to regional standards (although substantially less than in other emerging regions, particularly South East Asia). Ecuador ranks somewhere in the middle of this latter group: it is more open than Uruguay and Peru, but less than Chile and Bolivia. However, countries highly dependent on one product (such as Venezuela) can be more sensible to foreign currency availability under a terms of trade shock, with the consequent trickle-down effects in other economic activities.

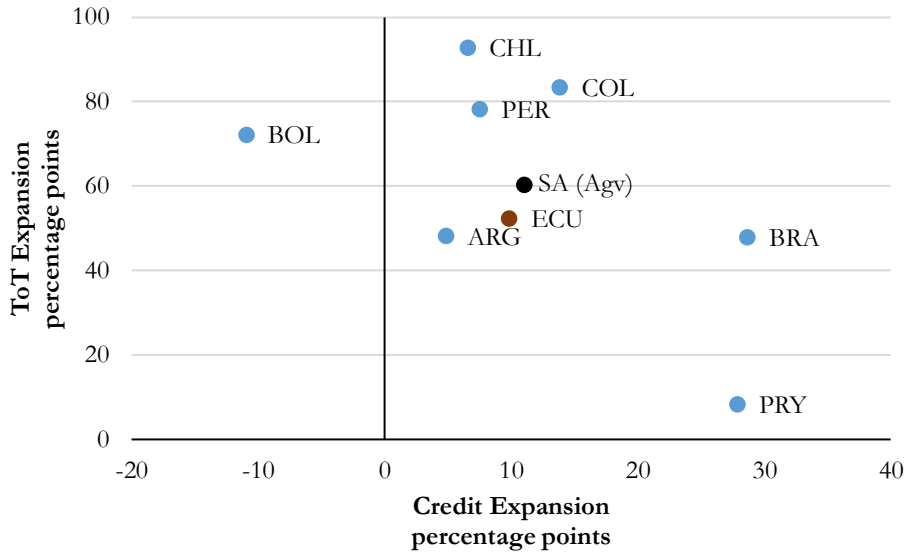
Figure 10. South America: Degree of Trade Openness



Note: The degree of trade openness is measured as the sum of exports and imports of goods and services as percent of GDP, in constant 2010 dollars. Source: UN National Accounts.

¹² (De la Torre, Filippini, & Ize, 2016) estimate that the marginal propensity to consume out of a real appreciation in South American countries during the commodities boom was close to 1.

Figure 11. South America: Credit Expansion and Terms of Trade Improvement



Notes: Credit expansion measures the percentage point increase of the private bank credit to GDP ratio between 2003 and the end of the commodity boom (2011-2013). The Terms of Trade Improvement measures the percentage points increase of terms of trade for the same period. Sources: ECLAC and FinStats.

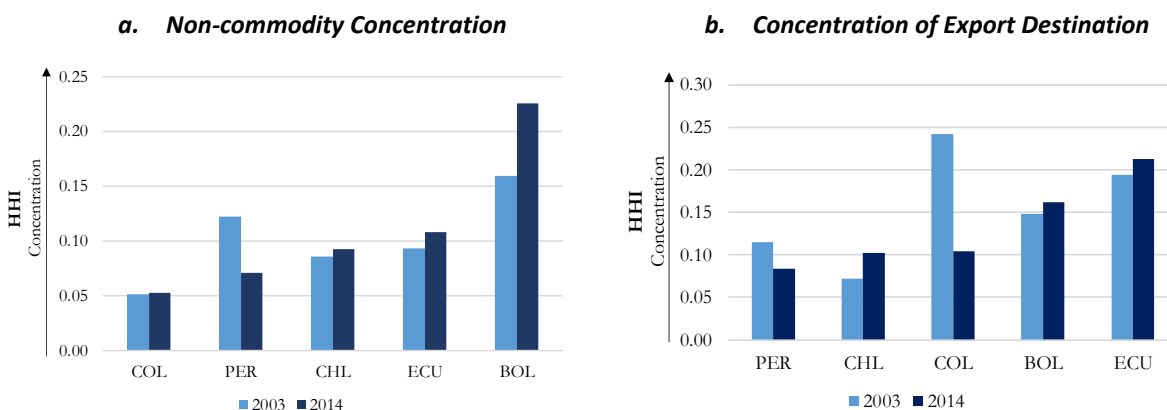
The **credit system** tended to act in a significantly pro-cyclical fashion throughout South America during the boom, with the notable exception of Bolivia where credit over GDP decreased (Figure 11). At one extreme are Brazil and Paraguay, with an increase of near 30 percentage points in bank credit to the private sector as a percent of GDP, which greatly amplified the spending effect. Like Argentina, Chile, Colombia or Peru, Ecuador is in an intermediate position. The credit/GDP ratio increased by near 10 percentage points during the boom, suggesting it did not have significant amplification or attenuation effects. Policy changes in Ecuador likely had an ambiguous impact on credit, as rules limiting bank fees and setting interest rates ceilings probably dampened it, while measures forcing banks to repatriate liquid assets held abroad may have expanded it.

So far, Ecuador gets relatively good marks in terms of its comparative macroeconomic management of the boom. Its relatively open economy was not a major source of amplification compared to Brazil and Argentina. Credit in Ecuador was procyclical but not more than the South American average and clearly not as much as in Brazil. Most importantly, Ecuador maintained a high saving rate (in real terms) during the bonanza, mainly due to an increase in the public sector saving rate. Ecuador also avoided a real exchange rate appreciation, although this was due to being formally dollarized, rather than to policies undertaken by the Correa administration. Ecuador's real exchange rate actually depreciated between 2003 and 2008 and remained quite competitive until 2013, thanks largely to the US dollar depreciation against major currencies (Figure 9c). Ecuador was thus able to avoid the headache of real exchange rate appreciation faced by central bankers in neighboring countries during the boom. The

combination of a high saving rate and a competitive real exchange rate dampened the spending effects of the terms of trade bonanza.¹³

The competitive real exchange rate combined with low international interest rates created a unique window of opportunity for Ecuador to promote export expansion and diversification. Unfortunately, however, the Correa administration wasted that unusually favorable historical juncture by pursuing an acute version of state *dirigisme* in the economy, entailing a strong anti-private sector bias accompanied by policies that discouraged investment in the tradable sector, including as a result of revising oil contracts, establishing a tax on foreign remittances, cancelling investor-protection agreements, postponing free trade negotiations, and confronting investors in a number of international arbitration procedures.¹⁴ Indeed, the value of non-commodity exports hardly increased during the boom while FDI levels remained particularly subdued, consistently below 1½ percent of GDP.

Figure 12: Exports diversification for selected economies



Note: Concentration is measured by the Herfindhal-Hirschman index. Non-commodity exports exclude raw commodity exports. Source: Comtrade and authors' elaboration.

One of the stated goals of the Correa administration was to engineer a “big push” towards economic diversification away from oil dependency, a big push to breaking free from the economic matrix of natural resource exploitation and oil and mineral rents. However, compared to other commodity exporters in South America, Ecuador did not perform better in that regard, neither in terms of non-commodity export product diversification (Figure 12a) nor in terms of export destination diversification (Figure 12b). In fact, concentration increased in both dimensions for Ecuador as it did for Chile.

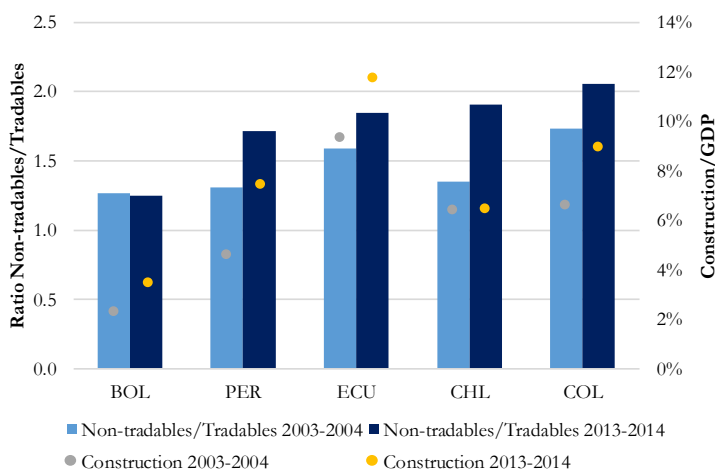
¹³ Formal dollarization, adopted in 2000, worked especially well for Ecuador during the booming phase of the commodity cycle. But, as discussed in Section 5, it added to the stress once the boom ended and the dollar appreciated internationally. Typically, rising commodity prices are associated with a weak (more competitive from the export perspective) dollar, and vice versa.

¹⁴ Over 2006-2010, legal changes introduced extraordinary charges on oil companies and migrated oil risk-shared contracts into service-provision ones. While some companies agreed, others engaged in international arbitration procedures, which resulted in Ecuador having to compensate Occidental, Repsol and Burlington for a combined total of US\$1.4 bn, with other procedures pending. In 2008, a tax on foreign remittances was introduced, initial set at 0.5 percent but that gradually increased to 5 percent in 2012. Following the 2008 constitutional ban on arbitration procedures in foreign jurisdictions, investor-protection agreements with 17 countries were cancelled until 2017. In 2009, Ecuador quit negotiations with Colombia and Peru on a Free Trade Agreement with the European Union. That agreement was signed in 2011 and Ecuador foolishly missed the opportunity. It took until 2016 for Ecuador to finally get an agreement with the European Union on similar terms. Some timid incentives for FDI were introduced belatedly, in 2012.

Meanwhile, Peru managed to raise diversification on both counts, while Colombia diversified its export destinations.

Similarly, Ecuador was unable to shift its productive structure towards the tradable sector. Like in other commodity South American exporters, the Ecuadorian ratio of non-tradable to non-tradable sectors increased (Figure 13). It is worth noting the construction sector in Ecuador, which accounts for a very high share of GDP, comparatively speaking, rose significantly during the boom. Hence, the rhetoric on productive matrix change does not seem supported by facts.

Figure 13: Relative Importance of Tradable versus and Non-tradable Value Added



Notes: Non-tradable GDP includes Construction, Wholesale and Retail Trade, Restaurants and Hotels, Transport, Storage and Communication and Other Activities. Tradable GDP includes Agriculture, Hunting, Forestry & Fishing, Mining & Utilities, and Manufacturing. Source: UN National Accounts.

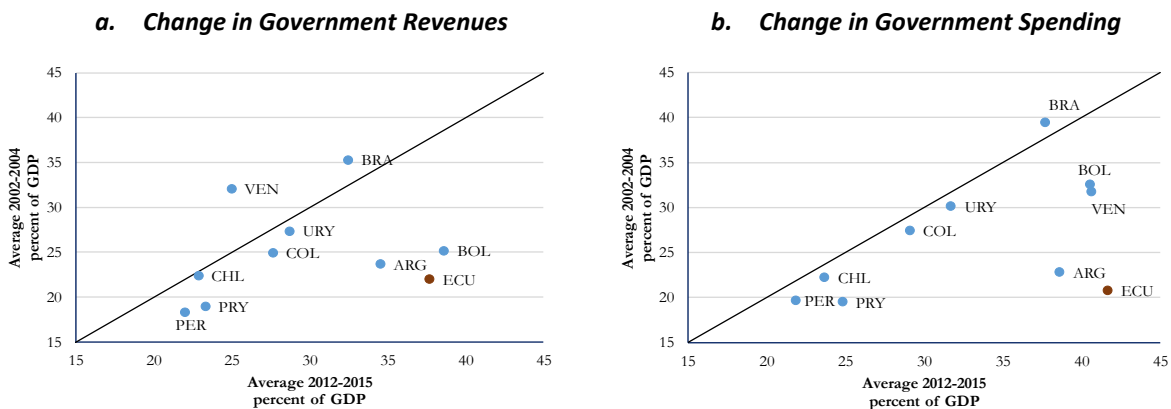
In any case, the good evaluation that Ecuador may get because of its high saving rate and competitive real exchange rate is more than offset by the low grades it gets referring to its fiscal profligacy, its imprudent decision not to build liquidity cushions during the good times, and its reckless decision to default of the debt despite having plenty of capacity to pay. To these aspects we now turn.

Consider the comparative empirics of the fiscal process. For starters, Ecuador is among the South America countries where the bulk of the **windfall was appropriated by the public sector**, instead of the private sector. One measure of this is given by the rather extraordinary increase in fiscal revenues in Ecuador during the boom, which is the highest among South American countries (Figure 14a).¹⁵ Whether the government-appropriated windfall led to amplification effects hinged, of course, on how much of the revenue increase was spent. In this respect, Ecuador was an extreme case of **fiscal profligacy and procyclicality**. It became a South American outlier (and even a world outlier) in terms of the expansion of total government expenditures during the bonanza (Figure 14b). The size of Ecuadorian government

¹⁵ That the windfall mostly accrued to the private sector in other South American countries did not guarantee less amplification effects. Especially where the real exchange rate appreciated significantly, as in Brazil, the private sector seems to have used the windfall to go on spending binges.

leaped dramatically from less than 25 percent of GDP in 2002-2004 to around 43 percent in 2012-2015, the highest in the country’s post-WWII history, even including the 1970s oil bonanza episode.¹⁶

Figure 14. South America: Change in Government Revenues and Spending During the Boom



Source: IMF.

An estimate of the procyclicality of Ecuadorian fiscal policy is given by the correlation between the business cycle and the structural fiscal balance or the fiscal impulse. It was relatively low during 2000-2006, when the country adopted some prudent fiscal rules and stabilization mechanisms, but it rose sharply (implying a highly procyclical fiscal policy) over 2007-2016 (Cueva, Mosquera, & Ortiz, 2018).¹⁷ The procyclicality of Ecuador fiscal policy is also evidenced by studies based on the non-oil primary fiscal balance, which do not require assumptions on the definition of structural revenues or long-term oil prices, see (Villafuerte, Lopez-Murphy, & Ossowski, 2010).

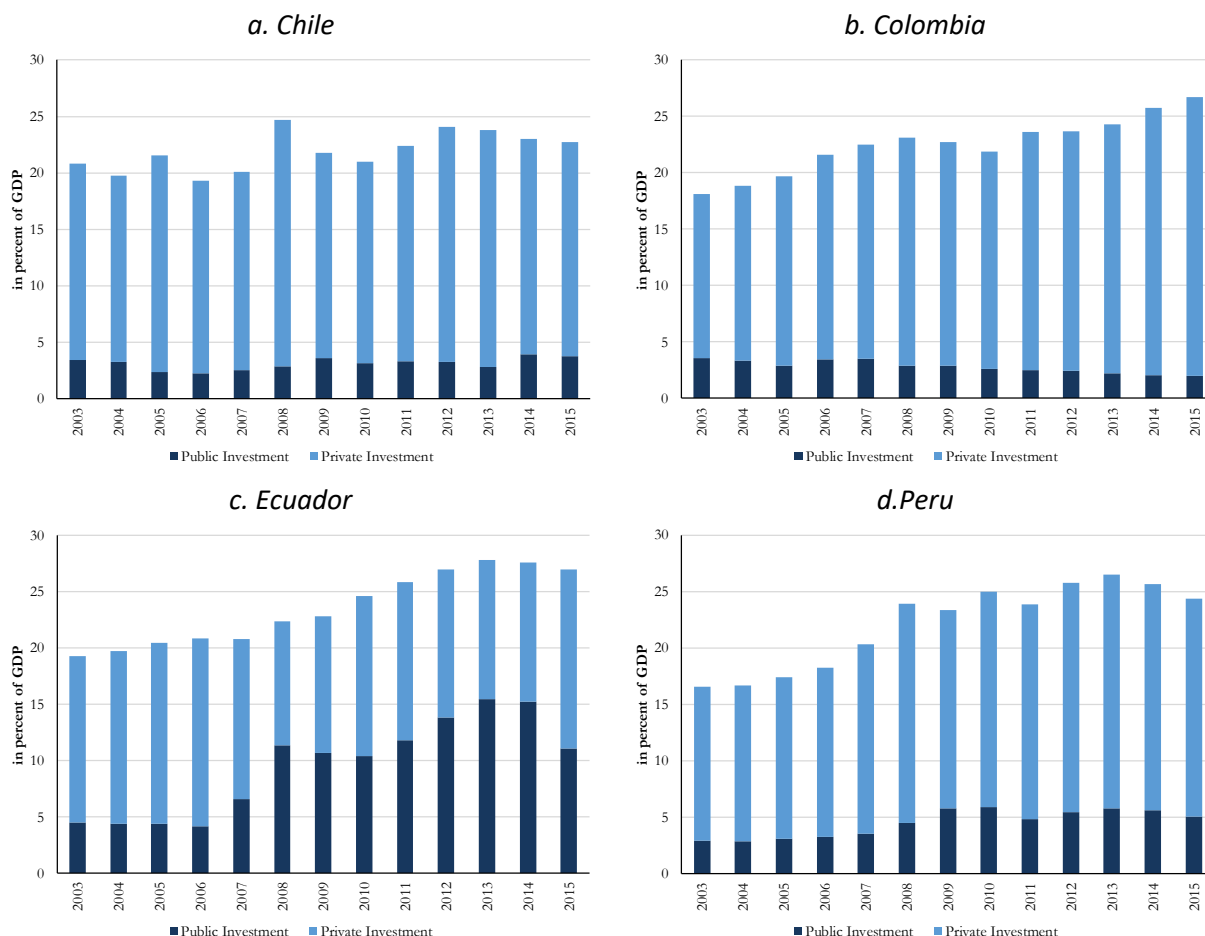
Although public consumption increased vigorously in Ecuador during the boom (non-financial public sector current spending increased on a comparable basis from 15 percent of GDP in 2004-2005 to 28½ percent of GDP in 2013-2014), much of the massive procyclical expansion of government spending took the form of increased **public investment**, which went from less than 5 percent of GDP in 2004-2005 to over 15 percent of GDP in 2013-2014. While most likely overestimated, public investment in Ecuador drove a remarkable increase in total investment from around 20 percent of GDP to a peak of 27 percent of GDP in 2013 (Figure 15).¹⁸

¹⁶ Historically, the size of the Ecuadorian public sector had hovered around 25 percent of GDP. Prior to the record high 44 percent of GDP achieved in 2013, public sector spending in Ecuador had never exceeded 30 percent of GDP, except in 1977, when the spending effects of the oil bonanza of the 1970s hit a cusp and public-sector expenditure reached the equivalent of 32½ percent of GDP (De la Torre A. , 1987).

¹⁷ After formally adopting the dollar as its formal currency in 2000, Ecuador implemented policies to reinforce prudent fiscal management (primary fiscal expenditures annual growth limited to 3.5 percent, non-oil fiscal deficit targeted to decline by 0.2 percentage points of GDP annually until becoming a surplus, debt-to-GDP ratio set to decline until 40 percent of GDP and stay below afterwards). Most fiscal rules were weakened in 2005 (allowing higher capital spending growth rates) and subsequently eliminated over 2007-2012, allowing a massive expansion of fiscal spending. The sole fiscal rule left calls for “permanent” fiscal spending not to exceed “permanent” fiscal revenues, but it did not prevent Ecuador from reaching fiscal deficits between 4 and 7 percent of GDP since 2014. (Cueva, Mosquera, & Ortiz, 2018).

¹⁸ The definition of public investment was modified during the Correa administration, to include any spending or transaction with public funds aimed at maintaining or increasing the State wealth or social capacities to fulfill the national planning objectives,

Figure 15. Selected South American Countries: Public, Private and Total Investment



Sources: WDI and national sources.

During the same period, by contrast, private investment declined to 13-14 percent of GDP after peaking at 16 percent in GDP in 2005-2006. This reflected the aggressive state *dirigisme*, which asphyxiated private innovation and investment in the tradable sector, tilted whatever was left of private investment in favor for the non-tradable sector (particularly residential and commercial construction), and turned Ecuador into a regional outlier in yet another respect, namely, a very high share of public investment in total investment, of around 50 percent, compared to Chile, Colombia, and Peru, where that share is less than 20 percent (Figure 15). Moreover, the efficiency of such a large wave of public investment in Ecuador is highly questionable, not just because it failed to crowd in, and even crowd out,

including salaries for staff associated to public investment projects, beyond the traditional international standard of net investment in non-financial assets. As a result, several spending items that would otherwise be considered public consumption were reported as public investment. According to data assembled by Jaime Carrera and the Observatorio de Política Fiscal, should those expenditures be reclassified as current, the Central Government would report about 1 percent of GDP less in capital expenditures per year.

private investment but also, and perhaps more importantly, because it was infected by extraordinarily high and pervasive corruption.¹⁹

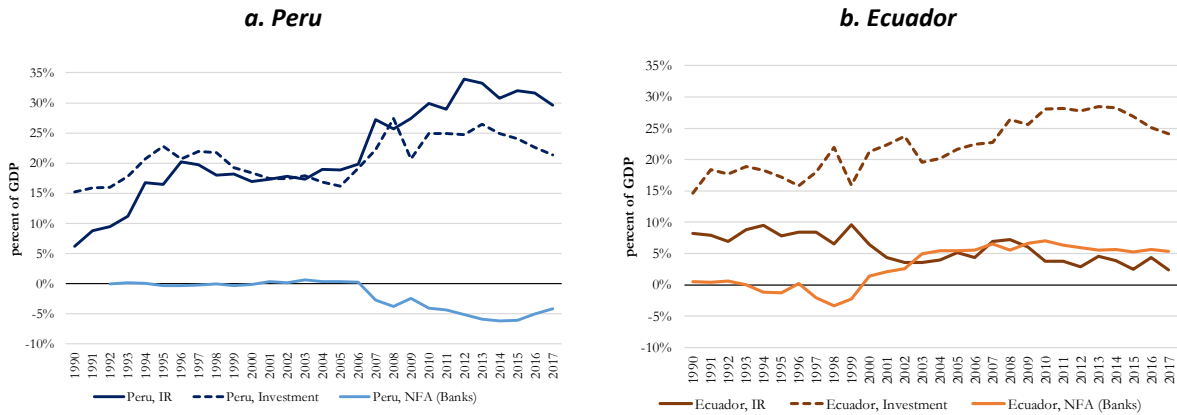
The vulnerability built by the Ecuadorian bout of fiscal profligacy was exacerbated by a highly imprudent decision not to accumulate **liquid fiscal buffers** in the good times (to protect the budget in the bad times). Instead, the Correa administration eliminated the existing macroeconomic stabilization funds in April 2008 (and transferred the accumulated resources therein, equivalent to about 2.3 percent of GDP to the Treasury spending accounts).²⁰ Hence, while the public sector indeed raised its saving rate significantly (and that boosted the real national rate saving rate), it invested those savings solely in illiquid assets (mainly infrastructure). This is a third dimension in which Ecuador appears as an outlier: while other commodity exporters, having in mind the high volatility and oil and other commodity prices, like neighboring Peru, invested the windfall in both liquid (financial and external) and illiquid (physical and local) assets, Ecuador actually reduced its holdings of foreign liquid assets (international reserves declined while preexisting stabilization funds were eliminated and the liquid assets of the bank deposit guarantee fund were channeled to public bonds²¹) and put all the eggs of its windfall into illiquid investment (Figure 16). This decision is even more misguided for a fully dollarized economy, where the countercyclical role of monetary and exchange rate policy is nonexistent, leaving all the burden of any countercyclical policy to the fiscal side. This highlights the limits of the Correa administration view that public investment could be the main buffer for shocks instead of stabilization funds or other liquid assets.

¹⁹ Triggered in part by the Odebrecht scandal, evidence has been piling up since the end of the Correa administration on the extent and depth of corruption in Ecuador. The main episodes are related to Odebrecht, the Esmeraldas oil refinery, and Panama Papers accounts, which resulted in the former Vice President and his uncle, the former Comptroller, a former Central Bank President, three former Ministers, and the former Petroecuador general manager to be in jail or subject to arrest warrants. A corruption machinery organized at the highest levels of the government was able to operate with great impunity in part because of major weaknesses in the procurement and control mechanisms, legal and regulatory changes limiting the preventive role of the Comptroller Office and its ability to assess the efficiency of public spending, and the widespread use of exceptional procedures (such as emergency decrees that scrapped traditional competitive and transparent procedures).

²⁰ The Oil Stabilization Fund (FEP), created in 2000 to save oil revenues above budgeted levels, was complemented by the Fund for Stabilization, Social and Productive Investment and Public Debt Reducing (FEIREP), fed from heavy oil exports, and replaced in 2005 by a Special Account for Economic, Productive and Social Reactivation (CEREPS) and a Contingency Savings Fund (FAC). In 2006, an Investment Fund for Electric and Hydrocarbon Sectors (FEISEH) was created to manage the revenues from oil fields previously managed by US Occidental oil company. All these funds aimed at saving at least part of oil-related windfalls, which could be used in the future either to stabilize budgetary spending, repurchase onerous debt, or provide financing in case of natural disasters or other contingencies (Cueva & Ortiz, 2013).

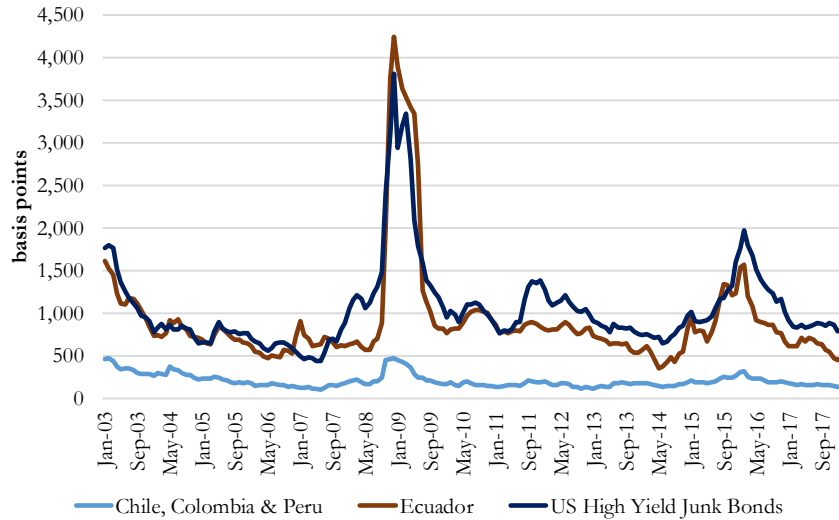
²¹ For a dollarized economy as Ecuador, international reserves are not exactly comparable to those of Peru. The central bank role for sterilizing foreign inflows and building international reserves is in Ecuador mostly fulfilled by private banks, thus the inclusion of both international reserves and bank net foreign assets in Figure 16. While the Ecuadorian government imprudently got rid of liquid assets, the banking system prudently built its holdings of liquid assets abroad. Regulatory actions by the government, however, forced banks to repatriate foreign assets.

Figure 16. Real Investment and International Reserves in Peru and Ecuador



Notes: International reserves are Official Reserve Assets published by the IFS, in percent of current prices GDP. Sources: IFS and WEO.

Figure 17. EMBI Spreads: Ecuador, Junk Bonds and the Average of Colombia, Chile and Peru



Sources: Bloomberg and Reuters.

A final component in the Correa administration’s mismanagement of the boom—and one that significantly boosted the fiscal spending binge—was the **reckless decision to default in its bonded debt**. In December 2008, Ecuador declared a moratorium on US\$3.2 billion of sovereign bonds alleging that they represented an “illegitimate and illegal” debt. It was a remarkable act of hubris—the first and only case in the region’s post-WWII history where a default is based on “unwillingness to pay”, instead of “lack of capacity to pay”. Subsequently, Ecuador bought back at highly depressed prices its own bonds in the market.²² Since it was obvious to local and international observers that Ecuador had ample liquidity and capacity to pay, such an irresponsible decision earned the country the reputation of a rogue debtor, raising

²² This strategic default led to a reduction in the stock of public debt from US\$10.3 bn (20.3 percent of GDP) at end-2007 to US\$8.4 bn (13.7 percent of GDP) by end 2008, with the consequent large reduction in interest payments freeing up considerable spending room in the budget.

significantly and durably Ecuador’s country risk premium to the second highest in the region (after that of Venezuela), comparable to that paid by the so-called junk bonds. The consequences of this reckless default came back to hunt Ecuador after 2013, when the decline in oil prices forced it to pay extraordinarily high interest rates to borrow in the markets (Figure 17).

Table 1 summarizes the key quantitative elements of the above discussion, comparing Ecuador with several South American countries. It shows estimates of the terms of trade windfall, which not only give a sense of the power of the bonanza but also of the *potential* spending effect. The table also presents estimates of the actual expansion of domestic demand as well as of main channels through which the spending effect was *actually* amplified or attenuated. The light blue color in the cells indicates an amplification direction, the white a neutral or attenuating direction. Brazil appears at one extreme, as the country that mismanaged the boom in most dimensions, with its low saving rate, low degree of trade openness, high real exchange rate appreciation, and expansionary credit arguably playing a dominant amplification role. Peru appears at the other extreme, as the country that seems to have managed the boom most prudently, with all factors suggesting that macro policies attenuated (rather than amplified) the spending effects of the terms of trade bonanza.

Table 1. From Terms of Trade to Domestic Demand: Amplifiers and Dampeners

Country	ToT Windfall	Domestic Demand Response	Multipliers/Dampeners					
			Real Savings Rate	Trade Openness	RER Windfall	Pub. Sector Revenue Capture	Pub. Sector Expenditure Expansion	Credit Expansion
Argentina	2.9%	13.1	19.3%	33.0%	2.3%	9.9	14.1	4.9
Bolivia	6.9%	3.6	22.9%	78.0%	-3.6%	12.1	3.4	-10.9
Brazil	2.1%	6.4	17.9%	21.0%	2.0%	-0.7	-3.5	28.7
Chile	13.2%	15.6	24.5%	68.0%	1.6%	2.2	0.3	6.6
Colombia	5.6%	7.2	18.8%	34.0%	3.2%	1.6	0.9	13.9
Ecuador	5.3%	7.8	27.6%	59.0%	-1.6%	17.9	23.4	9.8
Peru	6.0%	9.9	26.2%	51.0%	-0.2%	3.7	0.1	7.6
Average	6.0%	9.1	22.5%	49.1%	0.5%	6.7	5.5	8.7

Notes: Terms of Trade Windfalls calculated using the Courbis-Kurabayashi methodology, with constant 2003 volumes of trade flows and GDP. Demand Response corresponds to the percentage point increase of the Domestic Demand to GDP between 2003 and the peak year for each country. Real Savings calculated as real GDP minus real consumption plus real net primary and secondary income. Trade Openness measured as the sum of exports and imports of goods and services as percent of GDP, in constant 2010 dollars. Real Exchange Rate Windfalls obtained from De la Torre, Filippini, & Ize (2016). Public Sector Revenue Capture and Public Sector Expenditure Expansion measure the percentage point increase of the Public Sector Revenue and Expenditure (as percent of GDP) between 2003 and the peak year. Credit expansion measures the percentage point increase of the private banks credit to GDP ratio between 2003 and end of the commodity boom (2011-2013). Source: (De la Torre, Filippini, & Ize, 2016) and authors’ elaboration based on UN National Accounts, ECLAC, IMF and FinStats data.

It is clear from Table 1 that Ecuador’s Correa administration management of the boom was a lopsided. The attenuating effects of a high saving rate and a (dollarization-induced) competitive real exchange rate were swamped by big-time macroeconomic mismanagement in terms of a huge procyclical expansion of government spending. The perverse effects of fiscal profligacy were greatly exacerbated by Ecuador’s imprudent decision not to build liquid fiscal buffers, and the reckless decision to default on its external debt at a time of high capacity to pay. These were the basic ingredients of mismanagement that turned against Ecuador with a vengeance starting in 2014, when the oil price bonanza came to an end.

5. The commodity bust and comparative adjustment pains

The end of the commodity price boom was not synchronized across South American commodity exporting countries. The downward price swing began earlier, at the end of 2011, in the case of industrial metals (Figure 18a). While the prices of cereals (such as soy, wheat and corn) started weakening around the same time, they registered a short-lived rebound before entering a marked downward path as from early-2013. The decline in the price of oil started later, in 2014, but came with a fury. As a result, the terms of trade reached a peak at different times for different South American countries, depending on how specialized or diversified is the commodity export concentration, and whether the main commodity export is mineral, agricultural, or oil. Therefore, this section uses the peak of the terms of trade index as the dividing line between boom and bust. For each country in our comparative analysis, the “boom years” are defined to span from 2003 to the peak, and the “bust years” from the peak to 2016.²³ To eliminate the distortion caused by the global financial crises, when calculating annual averages for the “boom years” the values corresponding to 2009 are excluded.²⁴

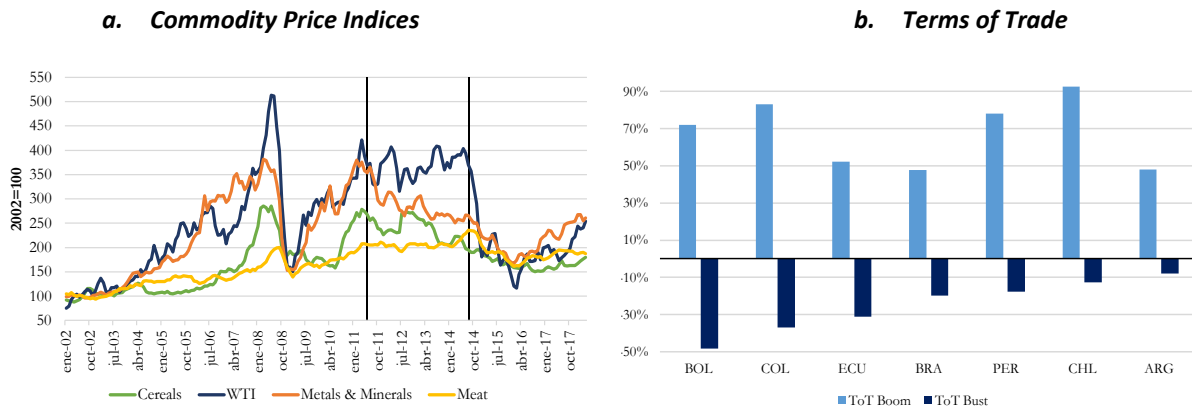
While the terms of trade reversal swept through all South American economies, the magnitude of the reversal (from the peak year to 2016) varied considerably (Figure 18b). Bolivia, Venezuela, Colombia, and Ecuador experienced greater terms of trade deteriorations (in the 30-50 percent range); Argentina, Chile, and Peru milder ones (in the 10-20 percent range). That negative shock introduced considerable macroeconomic stress and confronted countries with policy challenges whose difficulty depended on the magnitude of the needed spending adjustment. This was not the time to solely rely on countercyclical fiscal and monetary policy since the collapse in commodity prices was *not* transitory. Although the terms of trade and oil price did not decline all the way to the pre-boom years, they declined significantly and durably. In that sense, the decline was here to stay; hence, the current account and fiscal imbalances it created called for adjustment. The key short-run macroeconomic policy challenge for Ecuador and other commodity exporting countries was, therefore, to reduce aggregate domestic spending in line with the lower export income while minimizing inflation and unemployment.

This section again uses a comparative approach to assess the macroeconomics of the bust in Ecuador. It focuses on the fiscal and external adjustment processes, as well as on public debt trajectories and economic growth patterns. The underlying argument (in line with the conceptual discussion in Section 3) is that the adjustment pain (the intensity of the “hangover”) during the bust years was not independent of the extent of spending excesses during the boom years.

²³ Specifically, the terms of trade peak years used in this section (based on ECLAC data) are the following: 2011 for Bolivia, Brazil, Chile, Colombia, and Peru, 2012 for Argentina and Venezuela, and 2013 for Ecuador.

²⁴ Only the values for 2009 are excluded because, as is well known, after a brief downturn in that year, the emerging economies, including those in South America, and led by China, registered a robust recovery in 2010, well ahead of the advanced economies.

Figure 18. Commodity Prices and Terms of Trade Boom and Bust in South America



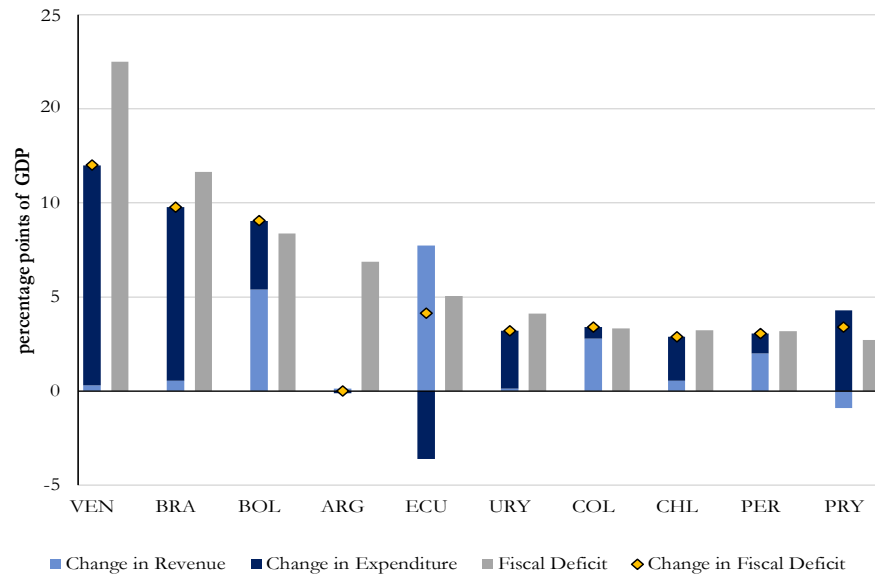
Notes: Panel 17b compares the percentage change of the terms of trade in the boom years (2003 to the peak) and the bust years (peak to 2016). Sources: ECLAC, FAO, World Bank.

Consider first the adjustment in the fiscal front, as summarized in Figure 19. The deficits of most South American governments rose significantly between the terms-of-trade peak year and 2016. The most pronounced deficit increases, of about 10 percentage points of GDP, took place in Venezuela, Brazil, and Bolivia. Ecuador was in the middle of the pack: its fiscal deficit widened by about 4.5 percentage points of GDP, whereas milder deficit increases—of about 3 percentage points—were recorded in Chile, Colombia, Paraguay, Peru, and Uruguay. What is perhaps most notable about Ecuador, comparatively speaking, is that the widening of its central government deficit was driven by a huge reduction in revenues (see light blue segment of the bar in Figure 19), which was only partly offset by a non-trivial reduction in government spending. Ecuador is indeed the only country in Figure 19 that visibly cut fiscal expenditures.²⁵

Two other important messages emerge from Figure 19. The first is that virtually all South American countries postponed their fiscal adjustment after being hit by the terms of trade reversal. The pending fiscal adjustment as of 2016 was particularly large for Venezuela, Brazil and Bolivia; of intermediate magnitude for Argentina and Ecuador; and of milder but still significant magnitude for Colombia and Uruguay. Chile, Peru, and Paraguay, by contrast, which managed their fiscal affairs more prudently during the boom years, did not face the need for fiscal adjustment as of 2016. The second message concerns Ecuador. It is the country where the deterioration of the terms of trade jolted the fiscal accounts with the greatest force. Given the massive overextension of the size of the Ecuadorian government and failure to build liquid fiscal savings during the boom, the hit to fiscal revenues in the bust created such a significant fiscal problem that the Correa administration was compelled to curtail expenditures more than in neighboring countries.

²⁵ However, that feature from Ecuador would be different if the chosen peak year was 2012 instead of 2013. In that case, the fiscal deterioration would be larger by about 3 percentage points of GDP, mostly explained by a fall in revenues. See Table 2 and the related footnote for more details.

Figure 19. South America: Fiscal Deficits and Sources of Change in the Bust Years



Notes: The changes for each variable are calculated as the difference between its value in 2016 and the value in the year when the smallest fiscal deficit was reported, prior to the terms of trade bust. Sources: (De la Torre, Filippini, & Ize, 2016).

Table 2. Ecuador: Non-Financial Public Sector Accounts as Percent of GDP

	2004	2012	2016	Boom Period	Bust Period
	Percentage points				
Total revenue	22%	39%	31%	17	-9
Oil revenue	6%	14%	5%	8	-8
Tax revenue	10%	14%	14%	4	0
Other revenue	6%	9%	10%	2	2
Public Ent. net operational result	1%	3%	1%	2	-2
Total expenditure	20%	40%	38%	20	-2
Current expenditure	16%	28%	27%	12	-1
Salaries	7%	9%	10%	2	1
Good and services	3%	4%	5%	1	1
Interest payments	2%	1%	2%	-1	1
Other	4%	14%	10%	10	-3
Capital expenditure	4%	12%	11%	8	-1
Overall balance	2%	-1%	-7%	-3	-6

Source: Central Bank of Ecuador.

Table 2 provides greater detail on Ecuador’s fiscal dynamics during the boom and bust, based on non-financial public sector figures.²⁶ It shows that the large increase in the fiscal deficit during the bust (from 1 percent of GDP in 2012 to 7 percent of GDP in 2016) resulted mainly from a sharp fall in oil revenues (8 percentage points of GDP, nearly half of additional revenues over the boom period) while public spending (which had doubled, increasing 20 percentage points of GDP, during the boom) was reduced only marginally by 2 percentage point of GDP combining current and capital expenditure, with salaries and goods and services outlays even growing.

During the bust, Ecuador postponed fiscal adjustment by resorting to big-time borrowing, including traditional and more creative sources (Figure 20a).²⁷ Ecuador returned to international markets in 2014, issuing sovereign bonds for a total of US\$11.75 bn over 2014-2017, with 5 to 10 years maturity and yields in the 7.95 -10.75 percent range. The high financing costs by international standards (see Figure 17) reflected not only the effects of the 2008 “strategic” default episode but also lower oil prices, high fiscal imbalances, and growing debt levels. In addition to international debt issuances by public oil companies, Ecuador also used external financing linked to either future oil sales contracts (especially with China) or oil fields exploitation contracts to cover its liquidity needs. Locally, the central government placed bonds with the Social Security Institute and obtained growing financing from the Central Bank, reaching almost 6 percent of GDP in April 2017.²⁸ Combined with a buildup of public sector payment arrears to suppliers and contractors, all these operations allowed Ecuador to postpone much of the fiscal adjustment needed to deal with the permanent revenue reduction. The situation was further compounded by obligations related to international arbitration sentences against Ecuador, arising in most cases from previous decisions of misguided showmanship taken by the Correa administration.

As a result, government debt rose fast, whether officially calculated as “aggregate” debt (i.e., including obligations to other public-sector institutions, such as the central government debt with the Central Bank or the Social Security) or as “consolidated” debt (where intra public sector debt is excluded). The latter statistic was preferred by the government given the 40 percent of GDP legal limit set for public debt. However, official debt figures underestimate actual debt, as several liabilities are not included in the official definition.²⁹ Official estimates indicate that the debt of the Central Government rose from 24

²⁶ While the boom peak year for Ecuador is 2013 from the terms of trade standpoint, 2012 could be considered the peak year from a fiscal perspective, as 2013 was characterized by stable revenues. But growing capital expenditures equivalent of 3 percent of GDP in 2012 signaled the start of several years with fiscal deficits, ranging from 4.5 to 7.5 percent of GDP.

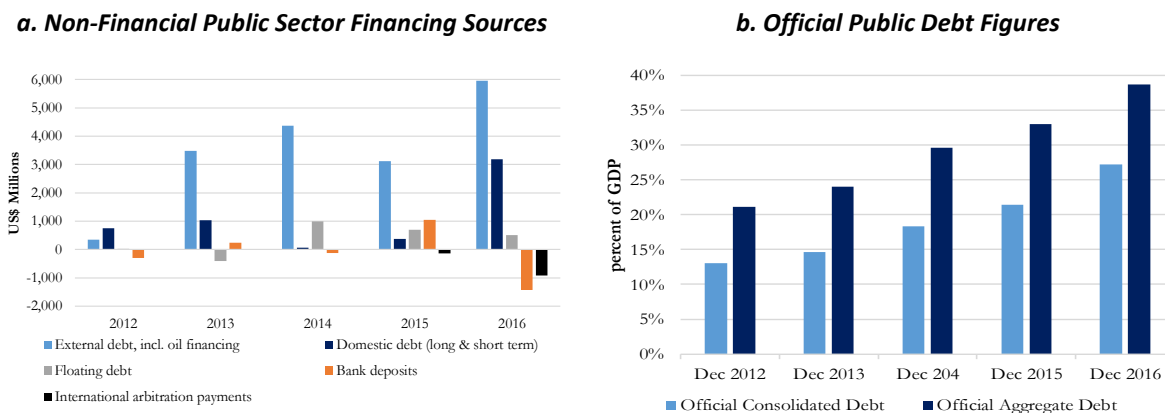
²⁷ Economic dependence on oil or minerals has been found to be correlated with authoritarian regimes (Frankel J. A., 2012). (Sala-i-Martin & Subramanian, 2003) and (Bulte, Damania, & Deacon, 2005) find that the resources that undermine institutional quality include oil and some minerals, but not agricultural resources. (Barro, 2000), (Wantchekon, 2002), (Jensen & Wantchekon, 2004) or (Ross, 2006) point to a link between natural resources and weak democracy.

²⁸ The Social Security faces daunting actuarial imbalances but continues to benefit from short term liquidity thanks to Ecuadorian demographics. The government’s debt with the Central Bank was formally reduced by about 2 percentage points of GDP in April 2017, as the government repaid it with stocks of publicly controlled banks (valued at non-market prices). In the process the Central Bank’s balance sheet was severely weakened.

²⁹ These include, depending on the definition and institutional coverage, liabilities linked to future sales of oil or to oil field operations, liabilities arising from international arbitration decisions, floating debt/arrears, public institutions’ obligations with third parties, historical central government debt liabilities with the Social Security Institute, short-term obligations to cover long-term financing needs, central government obligations with public banks, and the mismatch between Central Bank enforceable obligations with third parties and its available liquid assets. In 2018, both a special debt Audit by the Comptroller Office and IMF reports included some of these items in their assessments.

percent of GDP as of end-December 2013 to 45 percent as of end-December 2017 (Figure 20b). Meanwhile, other obligations not included in the debt figures (excluding contingent liabilities) were estimated at about 10 percent of GDP by the Ministry of Finance.

Figure 20. Ecuador: Financing of Fiscal Imbalances During the Bust



Sources: Central Bank of Ecuador and Ministry of Economics and Finance.

While Ecuador fiscal imbalances mostly reflect a permanent fall in oil related revenues and the difficulty to reduce expenditures that exploded during the boom, recent fiscal developments also reflect the temporary impact of a major earthquake that hit the Northern Coastal areas in April 2016. Following it, the government announced several fiscal measures³⁰ that temporarily boosted revenues (by about 1.5 percentage points of GDP, of which 1.1 percentage points GDP materialized in 2016) and, combined with exceptional external financing for the earthquake, provided some liquidity relief in the short run.³¹

Consider next the adjustment in the external front, as summarized in Figures 21a and 21b. Except for Bolivia, current account deficits shrank considerably. By 2016, most South American countries, including Ecuador, had managed essentially to eliminate their current account deficits (or keep them below 2 percent of GDP), but Bolivia and, to a lesser extent, Colombia still had a pending external adjustment of considerable magnitude (their current account deficits exceeded 5 percent of GDP) (Figure 21a). Peru had a current account deficit in 2016 of nearly 4 percent of GDP but it did not pose a major threat because it was entirely being financed by FDI.

The adjustment of the current account, where it happened, was not as healthy as it could have been. For starters, excepting Paraguay, it relied mainly on reductions in investment (instead of increases in saving)—not a good omen for future growth (Figure 21a). In addition, there was a significant difference in the quality of the current account adjustment between, on the one hand, countries with strong monetary policy frameworks (based on inflation targeting cum exchange rate flexibility), like Chile and Colombia, which were able to achieve a more efficient (less contractionary) external correction by relying

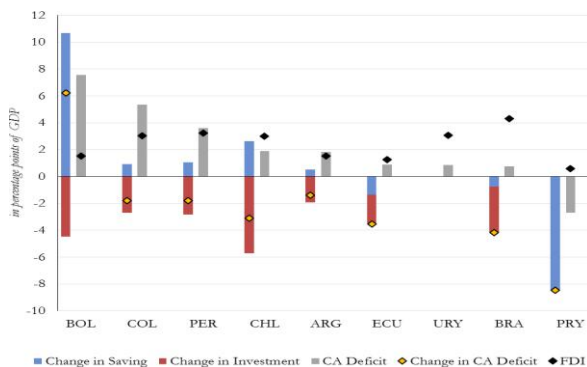
³⁰ Including delaying the reduction in exceptional import tariffs, a 2-percentage points value added tax increase, and exceptional taxes (one-day salary for high wages, a charge on net wealth over a US\$1 million, and a 3 percent tax on corporate profits).

³¹ Regarding growth impact, the earthquake likely had a much larger impact on the stock of infrastructure than on the flow of goods and services production.

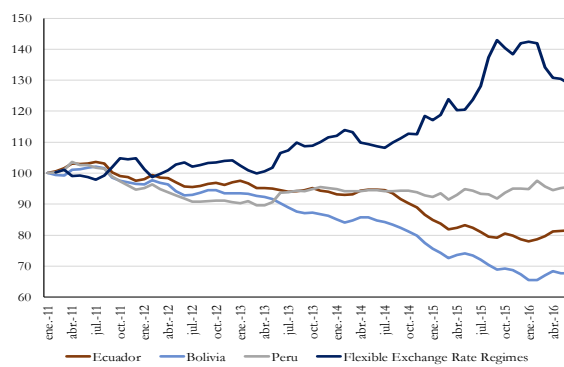
more on real exchange rate depreciation (Figure 21b)³² and, on the other hand, Ecuador, which, being formally dollarized, experienced an appreciation of its real exchange rate at the worst time (i.e., when the terms of trade deterioration called for a depreciation); hence, absent a greater reduction in fiscal spending, the narrowing of Ecuador’s current account deficit was driven by a recession (GDP contracted by 1.6% in 2016) and a rather desperate resort by the Correa administration to a barrage of distortive (and export discouraging) import restrictions.³³

Figure 21. South America: Current Account Deficits and Real Exchange Rate in the Bust Years

a. Current Account Deficits and Sources of Change



b. Real Effective Exchange Rate



Notes: Panel 20a: changes for each variable calculated as the difference between its value in 2016 and the value in the year when the current account balance was the lowest, prior to the terms of trade bust. Panel 20b: flexible exchange rate regimes series is the average of the real effective exchange rate for Brazil, Chile and Colombia. Sources: (De la Torre, Filippini, & Ize, 2016) and IFS.

That Ecuador’s current account has been nearly balanced does not imply that external adjustment is complete. Ecuador continues to face a pending external adjustment because its real exchange rate is overvalued. This can be easily gleaned by comparing the evolution of the terms of trade (Figure 18b) with the evolution of the real exchange rate (Figure 21b). In countries with flexible exchange rate regimes and low inflation (mainly Chile and Colombia but also, to a lesser extent, Brazil and Uruguay), the real exchange rate moved swiftly towards its more depreciated equilibrium level following the deterioration of the terms of trade. In Peru, a country with a heavily managed exchange rate regime, the real exchange rate did not need to adjust because it did not appreciate during the boom—impressive evidence of Peru’s prudent macroeconomic management of the boom. At the other end of the spectrum are Ecuador (a dollarized system) and Bolivia (a hard peg to the dollar), where the real exchange rate moved in the wrong direction—i.e., away from its equilibrium level—by appreciating as the terms of trade collapsed.

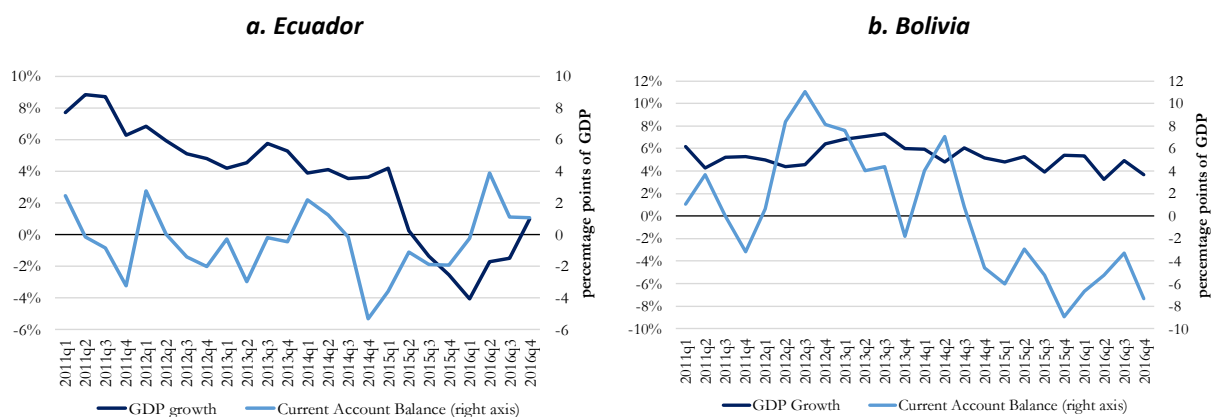
The underlying external disequilibrium embedded in their overvalued real exchange rates was handled very differently in Ecuador and Bolivia (Figure 22). Bolivia relied on the liquid savings it accumulated during the boom to postpone adjustment and maintain (and even increase) the rhythm of aggregate spending during the bust. That enabled it to prolong GDP growth through the bust, which is unlikely to be sustainable, however. Given the overvaluation rate in Bolivia, growth has been maintained

³² Brazil’s external adjustment was also helped by the depreciation of its currency.

³³ Exceptional tariffs were imposed in 2015 on near 3,000 imported items; the tariffs planned expiration was postponed in 2016 after the Coastal earthquake and finally enacted by mid-2017.

at the expense of a widening current account deficit that will need to be corrected sooner or later. In Ecuador, by contrast, the reduction of aggregate spending and the introduction of high import restrictions combined to put a lid on the current account deficit but, given the overvalued real exchange rate, it did so at the expense of a major growth deceleration. Thus, *in the absence of real exchange rate adjustment*, Bolivia will likely be unable to reduce its external current account deficit without a growth slowdown, whereas Ecuador will likely be unable to restore growth without generating a current account deficit. To facilitate macroeconomic adjustment while preventing a growth collapse, Ecuador will likely need to finance a temporary current account deficit by attracting foreign direct investment and finance on the strength of a credible economic program. Given its reputation of rogue debtor in international financial markets, it would be difficult for Ecuador to do so without resorting to longer-term low-cost financing from multilateral institutions in the context of an IMF-supported program.

Figure 22. Growth and the Current Account



Sources: ECLAC and national sources.

Figure 23 and Table 3 jointly summarize the state of macroeconomic adjustment in a selected set of South American countries as of 2016. Three country groupings can be identified. The first comprises Chile and Peru, which can be said to have completed the required adjustment to the terms of trade reversal in both the fiscal and external fronts (Table 3). By 2016, their fiscal position was sound, their real exchange rates were not out of equilibrium, and their current accounts featured small deficits (or FDI-financed manageable deficits). These are precisely the countries that displayed the most prudent macroeconomic management of the boom, avoiding undue amplifications (see Section 4). Partly as a result, they also experienced a relatively mild growth deceleration during the bust (Figure 23). The rates at which their economies have been growing since the terms of trade reversal are acceptable and, most importantly, their growth is not constrained by macroeconomic imbalances.

The second group comprises Brazil and Colombia. They seem to have completed their external adjustment, particularly considering that their real exchange rates have moved to a new equilibrium, although they need to raise their structural saving rates. Moreover, and especially in the case of Brazil, they face a pending fiscal adjustment. Brazil underwent a prolonged recession (2014-2016) and is only now recovering. The protracted adjustment pains in Brazil are of course not independent of the amplification of spending effects that occurred in the boom years. From the macroeconomic perspective, Colombia did not mismanage the boom, nor did it manage it as well as Chile and Peru. That has allowed

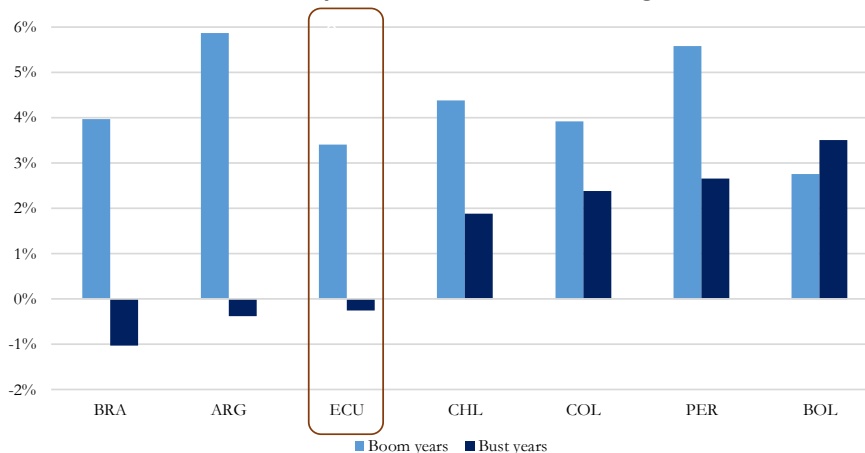
Colombia to maintain reasonable growth rates in the bust, which nonetheless may be tested somewhat as Colombia completes its fiscal adjustment.

Table 3. Selected South American Countries: Macroeconomic Balances and Pending Adjustment

Average Savings	Macro Policy			Policy Adjustment		
	Exchange Rate Regime	Fiscal Balance	Country	Real Exchange	Fiscal	Structural Savings
High	More Flexible	Fiscal Equilibrium	Chile			
			Peru			
	Less Flexible	Primary Imbalances	Bolivia	X	X	
Primary & Debt Imbalances		Ecuador	X	X		
Low	More Flexible	Debt Imbalances	Argentina	X	X	
			Brasil		X	X
			Colombia		X	X
			Uruguay		X	X

Source: (De la Torre, Filippini, & Ize, 2016) and authors' elaboration.

Figure 23. South America: Per Capita Income Growth During the Boom and Bust Years



Source: WDI.

The third group comprises Argentina, Bolivia and Ecuador. They face significant pending adjustments in the fiscal *and* external fronts. Bolivia is unlikely be able to sustain the current rhythm of GDP growth simply because the correction in its external current account and real exchange rate cannot be postponed indefinitely. Argentina confronts, in addition, the challenge of bringing inflation down. Its current strategy of a *very* gradual fiscal adjustment is tantamount to betting on “growing out” of the fiscal and external deficits. However, the credibility gap that is naturally associated with too gradual a correction of fiscal fundamentals exposes the Argentinian macroeconomic program to derailment due to investor mood swings and attacks. In both Argentina and Bolivia, the macro situation therefore remains as a binding constraint on medium-term growth.

Macro imbalances are also a binding constraint on growth in the case of Ecuador. So far, growth has been kept barely alive in an unsustainable fashion: via an aggressive resort to costly debt finance

geared at postponing fiscal adjustment. The macro situation in Ecuador is further and dramatically complicated by the overvaluation of its real exchange rate. Absent fiscal adjustment and given the overvalued real exchange rate, to close the current account deficit and staunch the drain of international reserves (which in a dollarized economy can produce a credit crunch), the Ecuadorian government introduced import barriers and capital controls in 2015-2016, which shifted the burden of adjustment to the private sector and generated a significant collapse in growth in 2016. The economy recovered mildly in 2017, however, pumped by the surge in foreign borrowing and the continued avoidance of fiscal adjustment. In all, with large fiscal and external adjustments pending, the country's macroeconomy remains caught up in a sort of trap.³⁴ The needed fiscal correction is likely to exert contractionary pressures on economic activity, especially considering the overvalued currency, which constitutes a major disincentive to reorienting production towards international markets. But, given dollarization, the restoration of real exchange rate equilibrium will require a period of painful deflation and wage containment/reduction which, in turn, will likely debilitate the political incentives to proceed ahead with the fiscal correction. This trap is, of course, the direct consequence of the macroeconomic mismanagement incurred during the boom years and discussed in Section 4.

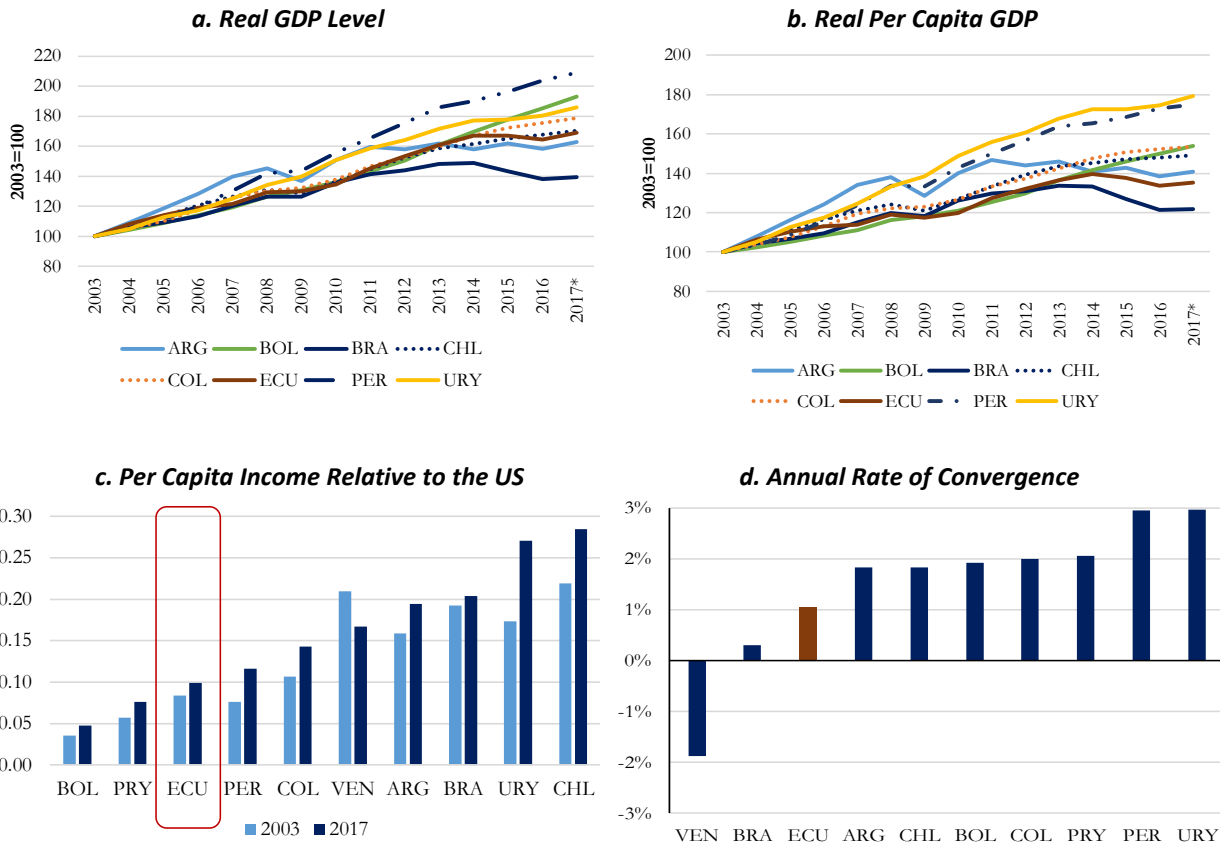
Macroeconomic policy is of course not an end in itself, but a means to the achieve the goal of raising social welfare. Such a goal is commonly assessed in terms of economic growth with social equity.³⁵ To conclude the section, we present comparative growth performances across the South American commodity exporters, as well as comparative "convergence" performances over the entire commodities cycle, that is, the 2003-2017 period (Figure 24). "Convergence" measures the extent to which a country is able to sustainably close the gap between its per capita income and that of the advanced economies.

In Figure 24a, which excludes Venezuela, Ecuador appears as the third worst performer (after Argentina and Brazil) over the commodities cycle (2003-2017): its real GDP expanded by around 65 percent, slightly above Argentina's and more than 20 percentage points over Brazil's. That expansion, however, pales relative to the ones registered by the best performers: Peru (where GDP increased by around 110 percent) and Bolivia and Uruguay (were GDP expanded in the 80-90 percent range). Figure 24b, which also excludes Venezuela, incorporates population growth and thus compares growth performances in terms of real per capita income. Ecuador emerges as the second worst performer (after Brazil), losing ground relative to Argentina, where population growth was lower. Taken by itself, the cumulative rise in Ecuador's real per capita GDP by nearly 40 percent over the 2003-2017 period looks impressive, but it dwarfs when compared, again, to that in Peru and Uruguay, where real income per person rose more than twice as much, by around 80 percent.

³⁴ For a detailed and systematic analysis of the "trap that asphyxiates the Ecuadorian economy" see (De la Torre & Hidalgo, 2017).

³⁵ The considerable social progress registered in Latin America since 2003 is well known and has been amply documented in numerous World Bank, IDB and CAF publications. What is perhaps less well known is that social progress was substantially more pronounced in the region's commodity exporting countries. In particular, the commodities boom had a progressive impact on income distribution via its effects on labor market dynamics: it raised the wages of unskilled workers proportionately more than the wages of skilled workers, and that accounted for the lion share of the decline in household income inequality, see (De la Torre A. , Ize, Beylis, & Lederman, 2015); and (Messina & Silva, 2017). As discussed and documented in the Appendix of (De la Torre & Hidalgo, 2017), while social progress in Ecuador (measured by poverty reduction, expansion of the middle class, and decrease in income inequality) was impressive, it was not more so than in other South American commodity exporting countries.

Figure 24. South America: Convergence Performance During the Commodities Cycle



Notes: Panel 24d: convergence ratio defined as average annual rate of change of the ratio of a country's per capita GDP to the US per capita GDP, both measured in constant 2010 dollars. Sources: WDI and WEO (IMF).

Finally, Figures 24c and 24d present comparative statistics on convergence during 2003-2017. Clearly, countries entered the commodities boom at different levels of economic development. Two groups can be distinguished: the first comprising Bolivia, Ecuador, Paraguay, Peru and Colombia, where per capita income in 2003 was no greater than 10 percent of the US per capita income; the second of relatively richer countries, comprising Venezuela, Brazil, Argentina, Uruguay and Chile, which entered the boom with per capita incomes in the range of 15-22 percent of that of the US. Convergence performances varied considerably over the commodities cycle. At one extreme is Venezuela, which lost considerable ground relative to US standards of living, diverging at a rate of about 2 percent per year. At the other extreme are Uruguay and Peru, which converged towards the US at a rate of around 3 percent per year. Paraguay, Colombia, Bolivia, Chile, and Argentina lie in the middle of the pack, with convergence rates of around 2 percent per year. Ecuador is among the worst performers, converging at a rate of only 1 percent per year, thus gaining little or no ground relative to the US.

The message of Figure 24 must be, of course, complemented by a view on growth prospects going forward. In that regard, Ecuador appears to have been also wounded by the macroeconomic mismanagement of the Correa administration—it debilitated private investment and innovation and created a non-commodity productive structure heavily oriented towards the local market. It will thus take

a host of ambitious structural reforms for Ecuador to reach a higher growth path by re-orienting its productive economic activities (in goods *and* services, including tourism) towards international markets.

6. Concluding remarks

The pursuit of prudent, countercyclical macro-financial policies during a boom confronts daunting challenges, technical and political. The technical challenges stem from the mirages that conceal the realities behind the appearances and make it difficult to sort out the transitory and permanent components of the boom. Indeed, a sharp and sustained rise in commodity prices in a natural resource rich country can easily mesmerize policy makers and the society at large into thinking that such prices will rise further or remain high for years to come. Moreover, fiscal and external positions, when measured as a percentage of *nominal* GDP, appear strong, deceptively suggesting that there is space to expand spending without incurring major macroeconomic disequilibria. The underlying truth can be detected, however, when fiscal and external ratios measured in volume terms—i.e., taking away the price effects—reveal widening *real* deficits behind the veneer of the bonanza.

The political challenges are even more complicated. They mostly stem from the short horizon with which politicians operate in weak democratic settings. Shortsighted politicians are under strong incentives to seize the commodities-driven abundance to aggressively expand fiscal spending and redistributive transfers, without regard to the adverse medium-term implications of such actions. The likelihood of falling into short-term binges is higher in unequal societies, where large segments of the population live with unsatisfied basic needs and, as a result, also operate with short-term horizons—valuing greatly present consumption and heavily discounting the future. In these contexts, populist politicians can easily lure the consumption-constrained poor into supporting procyclical macro policies—“why save in times of abundance”, the populist leader will say, “when the social needs are so great”, and the masses will readily follow. The problem, of course, is that the greater the excesses during the boom the costlier the adjustment in the bust, both in terms growth loses and social stress, and it is the poor who lamentably end up holding the short end of the stick once the party is over.

The inherent difficulties in exercising macroeconomic policy prudence during times of abundance highlight the importance of strong institutions, particularly in the fiscal field, but also in democratic checks and balances. Unfortunately, Ecuador moved backwards in both respects during the Correa administration. To be sure, democratic governance had been weakened prior to the boom, in the late-1990s, not least because of the major financial crisis that erupted in 1999 and that led to the adoption of dollarization. Yet, important steps towards fortifying fiscal institutions (including via the establishment of an oil stabilization fund and major improvements in tax administration) had been taken in the early 2000s. But the Correa administration aggressively dismantled institutionalized fiscal constraints, obliterated the independence of the central bank and other regulatory agencies, and weakened democratic checks and balances across the board. In that context, the mentioned technical and political factors that militate in favor of fiscal profligacy operated with little or no restraint—prudence was thrown out the window.

Commodity exporting countries are keenly exposed to very wide, externally-driven economic fluctuations. They must rely on sound fiscal and democratic institutions to consistently avoid the threat

of the natural resource curse, tame macroeconomic procyclicality, and harness their natural resource wealth to sustainably raise their living standards. The premium on strong institutions is even higher in dollarized economies like Ecuador, as greater prudence is needed during the boom because the adjustment in the bust is significantly complicated by the absence of an independent monetary policy.

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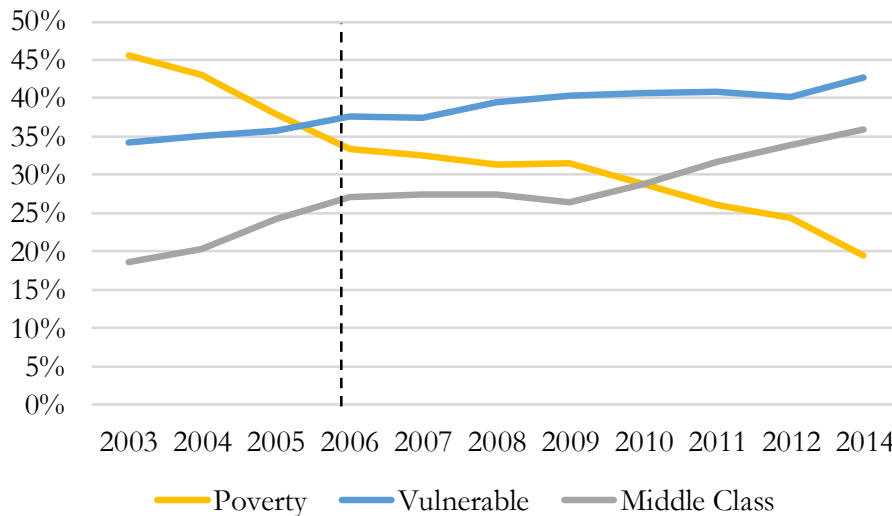
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Appendix 1. Social progress in Ecuador and its South American Neighbors

During the boom period, the Latin American commodity exporter countries experienced a noticeable progress in terms of social welfare, and Ecuador was not the exception. Considering that one of the key objectives of Correa’s administration was poverty and inequality reduction, this section aims to illustrate the evolution of the main related social indicators for the region in a comparative approach. Based on the World’s Bank LAC Equity Lab, extreme and moderate poverty lines for Latin America are set at \$2.50-a-day and \$4-a-day (in 2005 Purchasing Power Parity prices) respectively. Additionally, households are defined as vulnerable if they earn between \$4 and \$10-a-day (2005 PPP) while the middle-class comprises households that earn between \$10 and \$50-a-day (2005 PPP). Households that earn above \$50-a-day are considered rich.

Figure 25. Poor, Vulnerable and Middle-Class Population in Ecuador



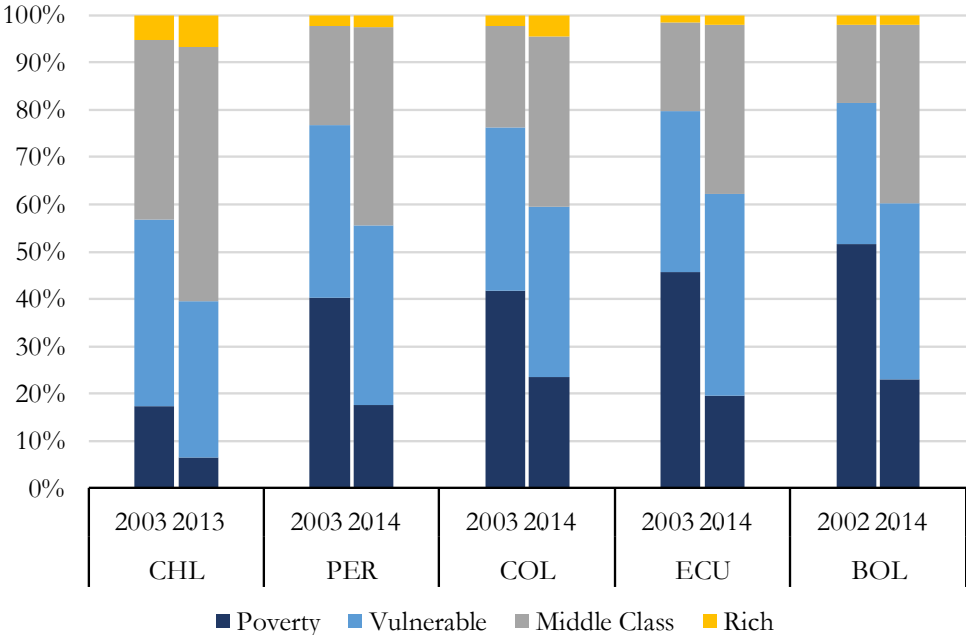
Source: World Bank.

Ecuador’s social gains are clearly reflected in the reduction of poverty records, inequality and a significant growth of the middle-class. As shown in Figure 25, the middle-class population share almost doubled from 18.7% to 35.9% between 2003-2014. During the same period, poverty decreased by 26 percentage points, from 45.6% to 19.4%, with a particularly strong decline of the extreme poverty between 2003 and 2006. Although an important proportion of the population was able to escape poverty, not everyone made it to the middle-class. By 2014, 42.7% of the Ecuadorian population was catalogued as vulnerable, almost 9 percentage points above the 2003 level and remaining as the largest socioeconomic group of the country. While Ecuador presented a considerable improvement in terms of poverty and inequality decline, its performance was comparable to other commodity exporters of the region.

Figures 26 and 27 depict three key social progress indicators for Ecuador, Bolivia, Chile, Colombia and Peru between 2003 and 2014. These indicators capture changes in aggregated poverty shares, the middle-class growth and the decline of income inequality across the selected economies. As evidenced in the following figures, although not identical, social progress was not only common but also of comparable

magnitudes in all these countries. As shown in Figure 26, Bolivia and Ecuador had the largest decrease of poverty during the boom, with a sharp decline of nearly 29 and 26 percentage points, respectively. While poverty reduction for these countries was larger than the group average (21 percentage points), Bolivia and Ecuador had the highest poverty rates prior to the commodity boom (52% and 46% respectively in 2003). In contrast, poverty in Chile dropped by only 11 percentage points, the lowest change of the group but had the lowest poverty rate at the beginning of the period (17% in 2003). The boom was also characterized by a significant expansion of the middle-class in all the selected countries. Bolivia and Peru achieved the largest improvements in terms of middle-class growth, with a 21-percentage point increase between 2003 and 2014. In Ecuador, the middle-class share rose by 17 percentage points, just below the average of the group (18 percentage point increase between 2003 and 2014).

Figure 26. Poverty Reduction

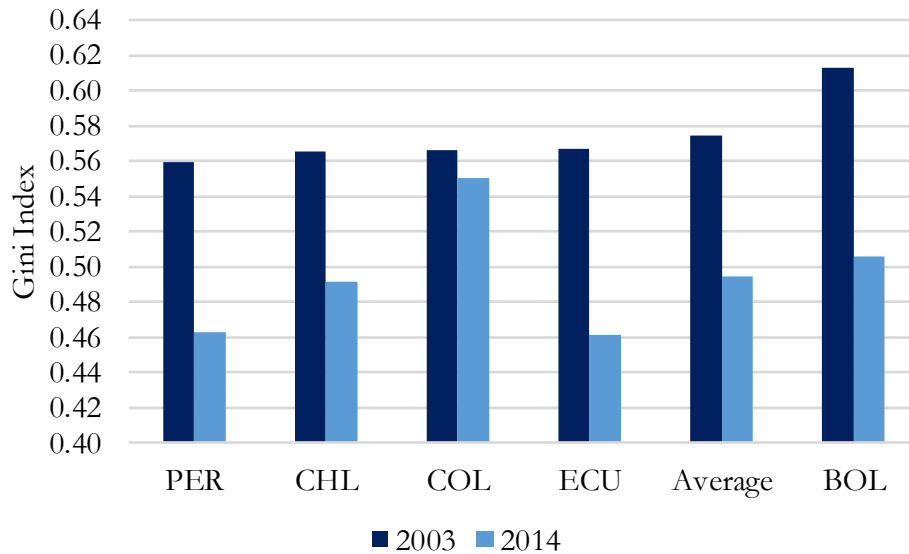


Source: World Bank.

The decline of poverty in the region was accompanied by a considerable reduction of income inequality. Figure 27 compares the evolution of household inequality³⁶ measured by the Gini Coefficient for each selected country between 2003 and 2014, where a coefficient of 0 reflects perfect equality and 1 maximal inequality. According to the records, Ecuador and Bolivia outperformed the other economies in terms of income distribution improvement, with a 0.11 percentage points decrease of the Gini Coefficient during the boom, below the 0.08 percentage points average decline. Although Bolivia had the highest rate of inequality at the beginning of the period, Ecuador’s initial inequality level was rather close to Colombia and Chile, with an approximate 0.57 coefficient by 2003.

³⁶ Household income includes labor income, government transfers and remittances.

Figure 27. Inequality Reduction



Note: Bolivia: Data corresponds to 2002 instead of 2013. Chile: Data corresponds to 2013 instead of 2014. Source: World Bank.

While the social progress achieved in Ecuador during the last commodity boom cannot be denied, it has been shown that the phenomenon was common to other South American commodity exporters regardless the ideological traits of the Government in office. Thus, the social gains are more likely to be derived from the labor dynamics generated during the boom, where a larger supply of skilled-workers interacted with a continued expansion of the government expenditure driven by the boom itself. This resulted in a raise of unskilled-workers earnings proportionately more than of skilled-workers ((De La Torre, Didier, Ize, Lederman, & Schmukler, 2015); (Messina & Silva, 2017)). As observed gains can be in great measure attributed to the terms-of-trade windfalls, their sustainability cannot be detached from the degree of prudence in macroeconomic management of such windfalls during the boom.