



ANALYSIS

Commercial and biophysical deficits in South America, 1990–2013☆☆☆

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ABSTRACT

This article analyses the Physical Trade Balances (PTB) of five South American economies since 1990. Both exports and imports (measured in tonnes) increased but exports were consistently much larger than imports. Such large Physical Trade Deficits (PTD) persisted throughout the 1990s and 2000s. Export prices of primary goods increased but by 2013, export prices had declined and the exports could no longer pay for imports. Countries started to show commercial trade deficits (in money terms). These findings hold for all the South American countries analysed and they show that the optimism generated by the improving terms of trade in South America at the beginning of the 21st century was premature. First, there were PTDs even in the boom years; second, the deterioration in the terms of trade after 2012 was accompanied by a counterproductive deficit in the monetary trade balance. It is counterproductive because, in principle, it leads to greater external debts or to outflows of currency reserves. It can also create pressure to increase physical exports. We argue that deficits in the monetary trade balances tend to be compensated by increasing the deficit in the PTB, which can lead to enhanced environmental pressures and therefore to local protests.

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1. Introduction

After several years of increasing terms of trade (Ffrench-Davis, 2010: 14), some South American countries are experiencing after 2012, with the end of the super-cycle of commodities prices (Jacks, 2013; Gruss, 2014), a situation characterised by balance of trade deficits (in which imports are greater than exports, in monetary value), accompanied by Physical Trade Deficits (in which exports, measured in tonnes, are much greater than imports, a condition known as a physical “deficit”, whereby more goods are exported than imported, causing the depletion or degradation of natural resources). Physical Trade Deficits (all kinds of materials measured in tonnes) increased by a factor of four in Latin America between 1970 and 2008 (West and Schandl, 2013) and after a temporary decline of 2008–09, they increased again until the end of the boom in 2012–13. It could be argued therefore that the decline in export prices is not only caused by the lowering of the growth rate in the world economy including China, but also by oversupply of materials such as iron ores and copper exported from South America itself. In this

article we do not discuss this argument in detail, and we take for a fact that exports prices have declined after 2012.

The PTB measures the physical trade surplus [PTS] or deficit [PTD] of an economy. In economy-wide material flow accounting, PTB equals imports minus exports (as materials flow in the opposite direction to dollars) (OECD, 2008: 151). “The PTB provides information as to whether a country depends on resources from other countries [PTS] or supplies the global demand [PTD]” (Dittrich and Bringezu, 2010: 1842).

This article presents data from five countries: Argentina, Brazil, Colombia, Ecuador and Peru. In these countries, there has been a structurally persistent and adverse historical situation of negative terms of trade (in which a tonne of imports is at least two or three times more expensive than a tonne of exports). This reflects the structural need of rich industrial areas in the world to get relative cheap inputs of energy and materials (Hornborg, 1998). Although this situation was slightly alleviated in the 1990s and 2000s, boom years for primary goods, the trade conditions are again deteriorating further. The degree of deterioration depends partly on the composition of the basket of goods that each country sells abroad.

Because commercial trade deficits lead to current account deficits, it is now necessary for South America countries to restrict imports or seek external financing or use the international reserves accumulated during the boom period while these last. In any case, there is an incentive to produce additional exports of raw materials to pay down debts or fortify external positions, further causing resource depletion, environmental pollution and increasing socio-environmental conflicts.

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☆☆ The data on foreign trade in monetary and physical units presented in Samaniego et al. (2015) only for Colombia, Ecuador and Peru were updated for this article and extended to Argentina and Brazil.

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The first version of this article was uploaded in the FLACSO digital repository (FLACSO Andes, Agora series) as a working paper in 2014, and upon rewriting it in 2015, we observe that the commercial trade balances of the five countries are continuing to deteriorate. However, for a certain period, Argentina, Brazil, Colombia, Ecuador and Peru had experienced substantial increases in their trade terms. The index increased from a range of 65–80 in 2000 to 100–113 in 2013, although most countries experienced a decrease already in 2012. During the indicated period, the index rose by 27% in Argentina, 24% in Brazil, over 50% in Peru, 37% in Ecuador and 44% in Colombia. This was driven in part by increases in the export prices of non-renewable primary goods. The export volumes of copper, gold, coal, iron and oil had increased substantially. Soybean exports increased as well. The Ecuadorian case is perhaps atypical in this context because its oil exports remained relatively stable due to supply problems when “peak-oil” levels were reached at the national level.

During the cyclical boom that took place until 2012–13, a large and persistent physical deficit in foreign trade took place; that is, exports far exceeded imports (in tonnes). In other words, structurally speaking, the price of each exported tonne was much lower than that of each imported tonne. Not everything was well. The five examined countries are exporters of primary goods and therefore net exporters of their own natural resources¹. Their insertion into foreign markets implies an unequal ecological exchange in the sense used by Hornborg (1998), Martínez-Alier (2002), Pérez-Rincon (2006). The reprimarization of these economies was also causing many socio-environmental conflicts as shown by Vallejo (2010) and Latorre et al. (2015) for Ecuador; Vallejo et al. (2011) and Pérez-Rincon (2014) for Colombia; Martínez-Alier and Walter (2016) for South America as a whole, as well as the Environmental Justice Atlas (EJAtlas, 2016).

The positive cyclical change in the terms of trade was also spurred by a lower rate of increase or even a reduction in the prices of industrial products. For example, computers offer increasingly higher storage capacity while maintaining relatively stable prices. China and other Asian countries produce other industrial goods of varying quality at lower prices, ranging from textiles to high-technology products.

This article questions the prevailing opinion both in countries that had nationalist-popular governments (Argentina, Brazil, Ecuador) or “neoliberal” governments (Colombia, Peru) that at this time in history the growing terms of trade had become a permanent factor and thus, such governments had to profit from this new opportunity. Yet, as it is demonstrated by this paper, such idea was inaccurate. It is true that the increment in the terms of trade² was one of the factors that allowed most countries in South America, including the five countries analysed here, to exhibit higher rates of growth starting in the 2000s relative to the previous two decades. This economic growth was due to increases in prices and in the volume of extraction as well as private and/or public investment, depending on the specific case. The rapid increases in GDP (except in Argentina³) led to recoveries in per capita income which, in turn, had an impact on poverty reduction or the expansion of domestic markets. In addition, in response to the appreciation of the real exchange rate in many cases, increased demand for consumer imports, intermediate goods and capital imports was also observed.

This article explores the effects of this increment in the terms of trade, focusing on the results obtained by the respective countries in their balances of trade, both in terms of monetary and physical units. The main hypothesis is that, whether in the boom period or afterwards, the structurally adverse terms of trade have not changed in these countries (imported tonne prices are higher than exported tonne prices), although this is influenced by the specific composition of trade (see Fig. 7

and Table 1 in the Appendix A). We take 2013 as the final year for our work when the end of the export boom was confirmed.

One purpose of this article is to show that a large deficit in material flows (i.e., exports in tonnes are larger than imports in tonnes) does not imply a positive balance of trade in money terms; rather, in recent years, Argentina, Brazil, Colombia, Ecuador and Peru have experienced a situation in which physical deficits are concurrent with commercial trade deficits. Argentina was the last of the five countries to fall into a commercial trade deficit. The overall situation is due to over-investment in the extractive industries (mining, fossil fuels, biomass) and increased price volatility, caused in part by the highs and lows of the economies of importing countries (ECLAC, 2015). A slight downturn in China becomes a crisis in Latin America, although in the long run the demand for non-recyclable materials (such as fossil fuels) or only partly recycled materials (such as metals) could be expected to remain relatively stable even without global economic growth. The world economy is not circular but entropic (Haas et al., 2015). Nevertheless, even with a steady non-growing demand, the economic, social and environmental costs of extraction would increase due to decreased concentrations of metal ores and the need to extract oil or coal or gas from more remote places, thus expanding the so called “commodity frontiers” (Moore, 2000). This also happens in the new extraction frontiers of exported wood, soy and palm oil. Social complaints increase accordingly, adding to economic and energy costs. At the same time, if supply increases successfully, this can cause prices to fall dramatically.

Trade deficits require other inflows to the current account balance or capital account balance. Although in the boom years there was already a net inflow of foreign direct investment (FDI), partly in reaction to the rising prices of goods exported by South America, the legal and contractual conditions governing investment in each country have had different impacts on the income generated by exports. There are bleak scenarios when contracts have remained favourable to foreign companies, or when attempts to renegotiate contracts or stop projects encounter negative outcomes in arbitration “courts” imposed in Free Trade agreements. Nevertheless, some countries (such as Ecuador) managed to increase their share in the revenue from raw materials.

The remainder of the article is divided into four sections. Following this introduction, Section 1 describes methods and data sources. Section 2 analyses the monetary flows of international trade in the five South American countries under consideration. Section 3 reviews the physical trade flows that result in ecologically unequal exchange. Finally, Section 4 draws the conclusions.

2. Methods and Data Sources

This document combines monetary with biophysical indicators. On the one hand, the monetary indicators used are: the Terms of Trade ratio, obtained by dividing exports' average price and imports' average price; the prices for the main products exported by the five countries analysed, their variations and volatility (measured by the variation coefficient to guarantee comparability between products); the monetary values of exports and imports for each country, as well as their trade balance. The fraction of exports and imports with respect to GDP were obtained from each country's national accounts, since we wanted to determine if, once the price effect is controlled, both external acquisitions and sales had modified their contribution to GDP. Finally, an indicator which relates net capital income with goods and services exports was also included. Its purpose is to evaluate which part of the exports are rents transferred abroad. External sector's statistics used follow IMF's Manual on Balance of Payments, so the trade of goods and services is included (IMF, 2009).

On the other hand, the biophysical indicators for international trade follow the standard methodological guidelines of Eurostat (2001, 2011) and the OECD (2008). The Physical Trade Balances (PTB) were measured in tonnes for Argentina, Brazil, Colombia, Ecuador and Peru, during the period 1990–2012. A positive sign on the PTB is interpreted as

¹ In Argentina and Brazil, agricultural goods, fuels and mining products comprised nearly 65% of exports in 2013 (WTO, 2015).

² For ECLAC's calculation of the terms of trade, see Duran (2008).

³ World Bank (2015) shows that average annual growth in Argentina was lower in the new millennium than in the 1990s.

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