The Commodities Supercycle and the fall of income inequality: Brazil, 2003-2008

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1. Introduction

Despite the high importance of inequality in Latin-American public debate, the drivers of the recent astonishing decrease of poverty and income inequality remain under dispute. This article states that a substantial part of this process was carried out by the export booming experienced in the last decade. The hypothesis is that commodities export appreciated real exchange rate in Brazil, what gave non tradable sectors an advantage over tradable ones. In fact, this assumption can be backed by two recent reports published by the World Bank and other sources in the literature. This research project is an intend to make a contribution, yet modest, to the debate of the design of public policies, such as redistribution programs, foreign trade protections and tax policies. This presentation is part of my current Master's thesis on Economic History, that will be defended at the Universidad de Buenos Aires this year, under the guidance of Professor Noemí Brenta.

2. International Trade and The Inequality Debate

International trade can affect the levels of inequality within a country in multiple ways: On the one hand, the discovery of an oil basin can foster government cash transfer programs, making income inequality decline. On the other hand, it can concentrate even more resources by a small group that control business and political life. Likewise, an import tariff cut may increase the purchase power of the general population at first, but it can also create unemployment in the affected industries later in time. Income inequality may rise in the overall. There is indeed no easy answers in this debate. For example, the downsizing of industries in the first world may create jobs in poor countries, but it generally occurs in specific urban areas, increasing the inequality.

During the 1990s and its Washington Consensus-Great Moderation euphoria[1], the notion that trade liberalization diminished inequality amongst countries and within them was widespread. The assumption was based in the Hecksher-Ohlin premise that liberalization

[1] Paul Krugman, 2008.

would boost the price of abundant goods. In Latin America, this means "non-skilled labor". Between 1985 and 2000, the average import tax in the continent fell from 50% to 10% and GDP/trade ratio grew from 40% to 75%.[2] Plenty of evidence accounts for this process in most part of the hemisphere, such as the case studies for Argentina[3], Brazil[4], Chile[5], Colombia[6], Ecuador[7] and Mexico[8]. However, for Latin-Americans, the free trade promise turned out to be a wrong prediction. Milanovic and Squire have mapped a fifteen-year scope studies on this matter and did not find any indication that liberalization really conveyed inequality reduction[9].

Discussions over trade liberalization effects in inequality also brings a set of other variables that can play a role. Raymond Robertson argues that labor market liberalisation has to be mentioned in the Mexican case[10], what is probably true in Argentinian experience as well. Jere R. Behrman, Nancy Birdsall and Miguel Székely don't see a direct link between trade and inequality, but rather between the latter and finance liberalisation and state of art imports.[11] Roberto Frenkel and Jaime Ros add the appreciation of exchange rate to trade pattern in order to explain high unemployment during the 1990's.[12]

Mario Damill and Roberto Frenkel turned to the macroeconomy, what they see as shaping poverty outputs, then inequality.[13] In their view, the contagious of Asian financial crisis in 1997 led governments in Latin America to adopt a different set of exchange rate regimes and fiscal policies. As a result, growth was faster, as well as job creation, real exchange rates appreciated and external exposure improved. The pitfall of this claim is that Chinese demand was of great importance in Latin American fiscal improvement and output growth. In other words, in the absence of China, the mere shift of economic policies would had led to currencies appreciation and solid fiscal position? Probably not. We will come back to China's growing importance to the continent in the next section.

It is vast the field of study of international trade and inequality, but much of the research is focused on the period of liberalisation of the 1980's and 1990's. We already know that, for Latin America at least, less trade barriers did not mean less income concentration, but we do not know if is there any correlation between higher protectionism and better income distribution neither income distribution after the liberalisation, when the new policy framework is already internalised. In fact, the former president of the Federal Reserve, Ben Bernake, stressed this opinion:

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[2] Miguel Zékely and Claudia Sámano, 2012.
[3] Sebastián Galiani and Pablo Sanguinetti, 2000
[4] Elhanan Elpman, Oleg Itskhoki and Stephen Redding, 2008.
[5] Elisa Borghi, 2005.
[6] Orazio Attanazio, Pinelopi Goldberg and Nina Pavcnik, 2013.
[7] Juan Ponce and Rob Vos, 2012.
[8] Gordon Hanson and Ann Harrison, 1999,
[9] Branko Milanovic and Lyn Squire. 2007.
[10] *Trade Liberalisation and Wage Inequality: Evidence from Mexico*, 2000.
[11] *Economic Policy and Wage Differentials in Latin America*, 2003
[12] *Unemployment and the Real Exchange Rate in Latin America*, 2006.
[13] *Macroeconomic Policies, Growth, Employment and Inequality in Latin America*, 2012.

"Unfortunately, much of the available empirical research on the influence of trade on earnings inequality dates from the 1980s and 1990s and thus does not address later developments. Whether studies of the more recent period will reveal effects of trade on the distribution of earnings that differ from those observed earlier is to some degree an open question."

3. Commodities Supercycle and Income Inequality in Brazil

The fall of income inequality was an astonishing and unprecedented process in Latin America in the first decade of this century. Nora Lustig, Luis Lopez-Calva and Eduardo Oritz-Juarez remark that the Gini Index was reduced in 16 out of 17 countries that present comparable data. According to them, here is no automatic correlation between this phenomena and faster GDP growth, they say, since low-growth countries, like Brazil and Mexico, decreased their Gini as well as the high-performers Chile, Panama and Peru. Furthermore, inequality reduction was not biased by governmental ideology: either left-wing administrations, that is to say Argentina, Bolivia, Brazil, Chile and Venezuela, or right-wing ones, like Peru and Mexico, reduced income dispersion.[14]

Conversely, Andrea Cornia specifies that center left governments are related to inequality reduction. Cornia argues that these administrations carried out social expenditure, labor and tax policies, keeping prudent fiscal and macroeconomic policies. He finds that world growth, foreign direct investment and terms of trade were less important in the process,[15] whilst other sources bring a different perspective, emphasizing job creation, GDP growth and foreign trade during these years of successive export records in the region.

The World Bank report "The Social Gains in the Balance", published in 2014, states the following: the fall of income inequality in Latin America was caused by a decline in labour income inequality, since the income of the bottom 40% of the population increased more than the top 60%, with the single exception of Colombia. This poverty reduction is mainly attributable to improved labor earnings (73%), which outpaced by far pensions (14%) and transfers (9%). That is to say, "LAC's continued fall in poverty has been primarily driven by economic growth rather than income distribution" as the document says. Decomposing these results by subregions, growth still was the main source of poverty reduction: 83% in the Andean region, 53% in Central America and 64% in the South Cone[16].

According to the World Bank report "The Labor Market Story Behind Latin America Transformation"[17], the robust economic growth fostered job creations continent-wide, especially in comparison with the sluggish 1990's: 35 million jobs were created and informality fell in 7 out of 9 countries that presents data. Hence, Latin-American labor markets have substantially changed in the 2000's. This was just one of many region's rearrangement, that also encompasses "the consolidation of sounder macro-financial frameworks and associated

[14] *Deconstructing the Decline in Inequality in Latin America*, 2013.
[15] *Inequality Trends and their Determinants*, 2012.
[16] World Bank, 2014.
[17] World Bank, 2012.

restoration of counter-cyclical policy capacity, the stunning reduction in poverty, the swelling of the middle classes, and the intensified connections to China". It led the document to optimistically state "a new face of LAC".

The implication of these stylised facts is the following: since income inequality reduction mainly derives from better earnings distribution, it is necessary to look at the underlying causes of the employment growth to appraise Latin America recently success in shrinking income inequality. The World Bank report points out that the shorter returns paid by the market for the salaries (*skill premium*) is the answer to that question. This is due to the fact that more skilled people entered in the labor market, bridging the wage gap between workers with tertiary and secondary education as well as between those with primary education or less.

Nora Lustig, Luis Lopez-Calva and Eduardo Ortiz-Juarez endorse the "skill premium fall" hypothesis. In Brazil, as in Ecuador, Nicaragua and Paraguay, the return declined for all levels of education, vis-à-vis no schooling or incomplete primary, the authors say. Then, the question that arises is what explains this fall of skill return in the continent?[18]

> *"There are five potential —and not mutually exclusive— explanations for this phenomenon: a reduction in the relative demand for skilled workers; an increase in the relative supply of skilled workers; an increase in minimum wages and unionization rates benefiting low-wage workers more than high-wage workers; a mismatch between the demand and supply of skills; and a degradation of tertiary (or other levels of) education. The latter could occur due to a combination of an expansion of tertiary education of lower quality and/or because those entering expanded tertiary education programs increasingly include individuals with lower abilities, as compared to previous patterns of human capital accumulation."*

In Brazil, it has been found that a great shift in the supply of skilled workers took place, as well as in Mexico. In both cases, this is related to the greater rural school coverage and the higher public spending in basic education. At this point, Bolsa Familia and Oportunidades programs, which conditionalities include children school enrollment, have an influence that is difficult to be measured. Nevertheless, still is a matter of debate the role of non contributory pensions (such as the Bolsa Familia) to the overall income inequality fall: Ricardo Paes de Barros finds that "changes in the size, coverage and distribution of public transfers" accounts for 49% in Brazil, while according João Pedro Azevedo et all, this factor represents only 14% of income inequality reduction in Latin America.

Nora Lustig, Luis Lopez-Calva and Eduardo Ortiz-Juarez follow World Bank's line of thought in regards to the drivers of poverty reduction. According to their findings, with the exception of El Salvador, Mexico and Nicaragua, the overall higher income per capita in Latin America is explained by economic growth. In Brazil, the ratio is about 60% growth and 40% redistribution. This is somewhat different than the result of the research of Ricardo Paes de Barros, Miguel Nathan Foguel and Gabriel Uyssea, who calculated, back in 2007, that 51% of

[18] 2013, pág. 8.

decline in household inequality due to growth of labor income.[19] Ricardo Paes de Barros (et all, 2006)[20] developed the "nonparametric decomposition method", which was latter used in the work of João Pedro Azevedo (et all, 2013)[21] to quantify "observed distributional changes and explore whether the recent decline in income inequality is the result of changes in demographics, earnings and employment, or public transfers and pensions."[22] Despite different results, Nora Lustig (et all, 2013) claim to use this same econometric method. A possible reason for the disparity is the different samples analysed by them.

The upwards social mobility in Latin America's last decade was not enough to establish a income convergence with benchmark rich countries, although it was by no means trivial. Extreme poverty, as measured as $ 1,25 per capita per day, felt as fast as in East Asian, the most dynamic region in the world indeed. The reports of the World Bank allows us to hypothesize that the mentioned growth, which was the prime driver of income inequality reduction was due to the benefits in terms of trade experienced by larger Chinese demand for raw materials. According to this interpretation, the commodities supercycle would have positively contributed to lower income inequality in the continent. Armando Castelar agrees with this opinion. In his own words:[23]

> *"My sense is that the commodity boom was an important driver behind the improvement in social indicators: for one, it provided governments with a windfall to pay for the rise in income transfers and pensions; for another, the appreciation of the exchange rate benefitted nontradable over tradable sectors, boosting the output of sectors intensive in low-skilled labor. Moreover, it was behind the acceleration in output and employment growth, which was key to reduce poverty."*

China was literally starving for commodities. Its average protein ingestion grew 8% between 2000 and 2007. This is not a small number. In fact, only few countries improved its protein diets in the period in such a scale. Saudi Arabia, Russia, South Africa, Chile, Venezuela and Honduras are among this group.[24] However, Chinese hundreds of million rural migrants conform a demand without parallel. This effect can be checked in the price of some of the leading Brazilian export goods:

- soybeans

from $ 190 in 2002 to $ 447 in 2008

- soybeans meal

from $ 176 in 2002 to $ 335 in 2008

- frozen orange juice

from $ 867 in 2002 to $ 972 in 2008

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[19] *Desigualdade de Renda no Brasil: Uma análise da queda recente*, 2007.
[20] Ibid
[21] *Fifteen Years of Inequality in Latin America: How have Labor Market Helped?* 2013.
[22] Lustig, pág. 5.
[23] Armando Castelar. *Commodities, Poverty and Income Inequality in Latin America*, 2014.
[24] FAO Statistical Yearbook 2010. Table F.1. Rome. 2010.

- raw sugar

from $ 146 in 2002 to $ 268 in 2008

- chemically pure sugar

from $ 172 in 2002 to $ 313 in 2008

- cellulose

from $ 337 in 2002 to $ 542 in 2008

- frozen bovine meat

from $ 1045 in 2002 to $ 2918 in 2008

The vast Chinese demand boosted Brazilian primary production and exportations. In fact, Brazil advanced to a 3.47% share of world agriculture GDP in 2009, a 38.2% increase in comparison to its position ten years before. This relative increase was outperformed only by Chile and Peru in the continent. Chinese hunger had a side effect though: The massive arrival of foreign currency due to commodities exports appreciated the real exchange rate. This factor added to a standard developing country infrastructure difficulties, meant a great disadvantage to Brazilian industry, what is more visible at the declining importance of transformation industry in the country. This fact underpins the correlation between the commodities super cycle and higher labor income in the Brazilian non tradable sector over its tradable sector.

4. Preliminary Conclusion.

As a preliminary conclusion, it can be posit that the commodities super cycle helped Brazil to reduce its income inequality. Seconded by the aforementioned World Bank reports, in which the main driver of poverty reduction in the continent was the labor income growth, it can be established the relation between inequality reduction and economic growth, since the latter is vastly explained by the gains of international trade. Exactly due to this export boom factor, national currencies appreciated in Latin America during the last decade, what happened too in Brazil. This process made non tradable sectors richer at the expense of tradable sector. In Brazil, as well as in the rest of the region, non tradable concentrate the major part of economic activity, having a considerable weight in the domestic labor market. The side effect can be traced by the process of desindustrialization. The hypothesis must be further developed with sources and empirical evidences, but is considered to satisfactorily explain the Brazilian recent income inequality reduction.

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