

# The Evolution of Income Distribution in Latin America 2001–2011

By Leopoldo Tornarolli

## I. Introduction

Latin America has historically been considered one of the regions with the highest levels of socio-economic inequalities in the world. All countries in the region are characterised by high levels of inequality as regards the distribution of income, consumption, land, access to education and basic services, as well as other socio-economic variables.

This situation has been well documented in several studies, most of them covering just a single Latin American country. However, the lack of reliable and comparable microdata has always been an obstacle to produce analysis at the regional level. Nevertheless, there are some studies which assess the evolution of income distribution in Latin America as a whole by aggregating comparable data from single countries. These studies all reached similar conclusions on the relatively high level of inequality in the region.

For example, in a well-known paper on poverty and inequality during the period 1970–1995, Londoño and Székely (2000) present evidence showing that Latin America “is the region of the world where income is more unequally distributed”. According to the authors’ estimations, the aggregate income distribution for Latin America improved significantly during the 1970s, but it deteriorated sharply in the following decade and did not show any improvement through the first half of the 1990s.

By 1995 the levels of inequality were high by international standards in the whole set of countries in their sample (with the exception of Jamaica). Even taking into account the level of development of the region, Londoño and Székely still found a very high degree of inequality in Latin American countries. And they also pointed out that the “excess of inequality” for the level of development of the region increased between 1970 and 1995.

Finally, the authors also established that there were disparities in the performance of the different countries during the period under analysis. As a result of this difference in the evolution of inequality, the gap between countries with the lowest levels and countries with the highest levels of inequality increased throughout this period.

In a more recent paper, Gasparini, Cruces and Tornarolli (2011) present updated information on income inequality for Latin American countries up to the mid-2000s. They confirm that income inequality in Latin America as a whole grew in the 1990s, but they also find an important decrease in the first years of the 21<sup>st</sup> century. The increase in income inequality over the 1990s was mainly driven by changes in southern South America and the Andean countries, while the fall in inequality in the early 2000s was more widespread (with some exceptions).

Among other results reported in the paper, there are two which are of particular interest for the present study. The first is that the authors found that the variation in inequality levels across countries diminished in the period under analysis (roughly 1992–2006). They interpret this result as evidence of some degree of convergence of inequality levels between countries, as it derived from the combination of increases in inequality in some low-inequality countries and decreases in inequality in some high-inequality countries.

The other interesting result is the existence of signs of falling income inequality in most Latin American countries. Even though the decrease in inequality of most countries was not extraordinary, that improvement still contrasts sharply with the significant deterioration in income distribution during the previous 20 years. After analysing several plausible factors behind the fall in inequality in the region, the authors’ conclusion is that the evidence they found is not enough to say that the fall in inequality constitutes a substantial reversal of the trend verified in the two previous decades.

This document provides an update of the evidence presented in the two papers previously discussed. In particular, it analyses the evolution of income inequality in 16 Latin American countries and in the region as a whole for the period 2001–2011. After a brief presentation of the data used to produce the results, the document discusses the main results of the analysis.

## II. The data

The main source of data for this study is the Socio-Economic Database for Latin America and the Caribbean (SEDLAC), jointly developed by the Centro de Estudios Distributivos, Laborales y Sociales (CEDLAS) at the Universidad Nacional de La Plata (Argentina) and The World Bank's Latin America poverty group (LCSPP). This document uses information from more than 150 official household surveys in 16 Latin American countries included in the SEDLAC database: Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Honduras, Mexico, Panama, Paraguay, Peru, Uruguay and Venezuela.

To avoid comparability problems, rather than using the income variables defined by each country, this study takes advantage of a homogeneous per capita household income variable included in the SEDLAC databases. That variable was constructed including all the typical sources of current income which are reported across household surveys in Latin America.

The document shows the results in terms of the Gini coefficient computed over the distribution of per capita household income, ignoring zero and missing income observations. The choice is mainly driven by consistency with the bulk of the empirical literature and current practices of several National Offices of Statistics and researchers.

## III. The evolution of income inequality in Latin America as a whole

Figure 1 presents the evolution of inequality in Latin America by depicting the mean (unweighted and population-weighted) and the median of the Gini coefficients of each country in the sample. As mentioned above, inequality is computed over the distribution of a homogeneous per capita household income variable.

The results seem to be clear: when considering the mean and the median Gini coefficient figures, income inequality in Latin America is shown to have decreased during the period 2001–2011. By 2011, the population-weighted mean Gini coefficient was approximately 10 per cent lower than in 2001. The trend and the total difference between the levels of inequality at the beginning and at the end of the period are similar when using the median or the unweighted mean.

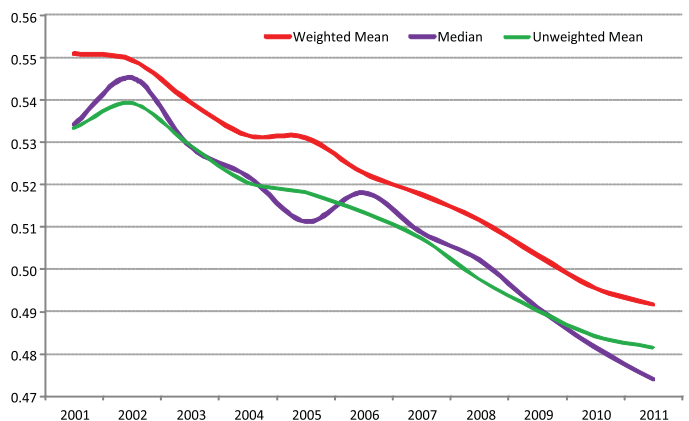
These findings are in line with those found by Gasparini, Cruces and Tornarolli, and show that during the last five years of the period (2006–2011) income inequality continued to fall at a similar, or even higher, rate than in the first half of the same period (2001–2006).

It is beyond the scope of this document to discuss whether this improvement in income inequality shows that there is a definitive reversal in the long-term distributive deterioration that the region had been experiencing in the last 20 years of the 20<sup>th</sup> century. However, some facts are a reason for optimism: income inequality has even decreased in Latin America during the period of the international financial crisis, and, as this document will show in the following section, all Latin American countries have enjoyed a decrease in their levels of income inequality during the last decade.

Both these results are very good news for Latin America. On the one hand, the deterioration of the distributive situation has traditionally been one of the most usual effects of the international crisis in Latin America. On the other hand, there is no prior evidence showing a process of improvement in income distribution experienced by every country in the region.

A final comment on the results of the graph: the level of the population-weighted mean of the Gini is always higher than the unweighted mean. This is explained by Brazil and Colombia, countries which have higher levels of inequality than the Latin America mean, and which jointly account for around 45 per cent of the region's population.

**Figure 1**  
**The Evolution of Income Inequality in Latin America**



Source: Author's calculations based on SEDLAC.

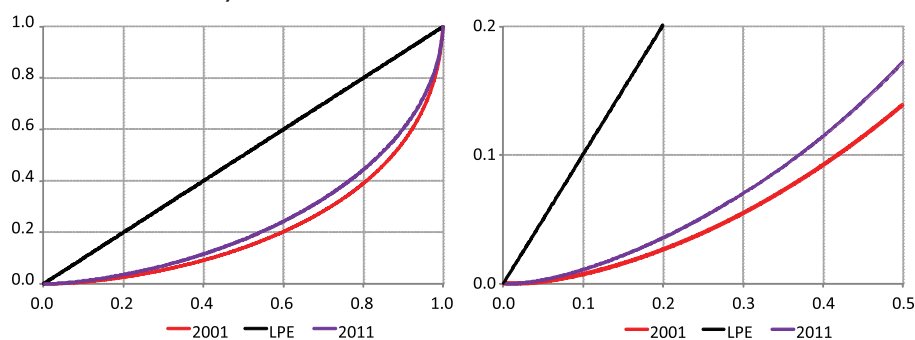
Figure 2 provides further evidence of the evolution of income distribution in Latin America. This graph presents a measure of global income inequality through the Lorenz curve. In other words, it shows inequality among individuals in Latin America considered as one single country, with each individual assigned his or her own income. There are three key steps in doing so: (i) choosing an appropriate income variable comparable across countries; (ii) setting an exchange rate (USD at purchasing price parity — PPP) to convert local currency units into a common *numéraire*; and (iii) aggregating the information for all countries and ordering the individuals according to their income ranking within the region.

The two panels of the graph show the same Lorenz curves, but the second panel is restricted to show only the poorest half of the population. There is a clear pattern: the Lorenz curve for 2011 dominates that of 2001 all along the income distribution. This unambiguously means that inequality in income distribution in Latin America decreased between 2001 and 2011.

## IV. The level and the evolution of income inequality in Latin America by country

Table 1 shows the existence of heterogeneity in the level of income inequality across Latin American countries. According to the information in the table, while the Gini coefficient for the distribution of per capita household income in 2011 is 38.8 in Venezuela and around 43.3

**Figure 2**  
Lorenz Curve for Latin America, 2001 and 2011



Source: Author's calculations based on SEDLAC.

in Argentina and Uruguay, it reaches 53.5 in Colombia, 53.4 in Honduras (2010) and 52.6 in Brazil and Paraguay.

The discrepancies in inequality levels among countries are large even within subregions: southern South America encompasses some of the countries with the lowest (Argentina and Uruguay) and highest (Brazil and Paraguay) Gini coefficients in Latin America; the same is true for the Andean region (Venezuela and Colombia) and Central America (El Salvador and Honduras).

Information in Table 1 demonstrates that countries in the region also differ in the changes in income inequality experienced over the period under analysis, although all of them showed improvements. After a strong increase during the crisis at the beginning of this century, inequality has substantially decreased in Argentina since 2003. A similar, although smoother, pattern is observed for Bolivia, Paraguay, Peru and Uruguay: inequality rose at the beginning of the period under analysis and decreased steadily after 2003.

Brazil and Chile have always been two of the most unequal countries in the region. In both countries the distributive situation has improved throughout the period under analysis, with the Gini falling from 58.8 (2001) to 52.6 (2011) in Brazil, and from 54.7 (2003) to 50.9 (2011) in Chile.

Other countries that show significant improvements between the beginning and the end of the period are Colombia, Dominican Republic, Ecuador, El Salvador, Mexico and Panama. However, the decrease was neither as large as that observed in Argentina nor as constant as that experienced by Brazil.

Costa Rica, which demonstrated relatively low inequality in the past, and Honduras, which has always had high levels of income inequality, are the two countries in the region with the worst performance in terms of the reduction in income inequality between 2001 and 2011. As a result, Costa Rica is today considered an average Latin American country in terms of income inequality, while Honduras remains one of the most unequal countries in the region.

Finally, a word of caution for two cases: Bolivia and Venezuela. Bolivia, which probably showed the most unequal income distribution in Latin America in the past, showed an impressive performance between 2005 and 2011: the Gini coefficient decreased from 57.8 to 46.2. This evolution puts the country among the low/middle-inequality countries of the region. Even though Bolivia has probably reduced its level of inequality, the large magnitude of the decrease and the very short time period in which the process took place call for further investigation.

**Table 1**  
Gini Coefficient by Country, 2001-2011

|      | Argentina | Bolivia | Brazil | Chile | Colombia | Costa Rica | Dominican Republic | Ecuador | El Salvador | Honduras | Mexico | Panama | Paraguay | Peru  | Uruguay | Venezuela |
|------|-----------|---------|--------|-------|----------|------------|--------------------|---------|-------------|----------|--------|--------|----------|-------|---------|-----------|
| 2001 | 0.522     | 0.578   | 0.588  |       | 0.574    | 0.501      |                    |         | 0.525       | 0.539    |        | 0.565  | 0.547    | 0.529 | 0.462   | 0.464     |
| 2002 | 0.533     | 0.591   | 0.583  |       | 0.574    | 0.500      |                    |         | 0.522       | 0.577    | 0.510  | 0.564  | 0.573    | 0.546 | 0.466   | 0.473     |
| 2003 | 0.526     |         | 0.576  | 0.547 | 0.532    | 0.492      |                    | 0.545   | 0.498       | 0.583    |        | 0.561  | 0.555    | 0.516 | 0.462   | 0.460     |
| 2004 | 0.496     |         | 0.566  |       | 0.553    | 0.482      | 0.519              | 0.536   | 0.484       | 0.581    | 0.507  | 0.549  | 0.525    | 0.487 | 0.471   | 0.453     |
| 2005 | 0.488     | 0.578   | 0.564  |       | 0.548    | 0.473      | 0.499              | 0.536   | 0.497       | 0.593    | 0.509  | 0.538  | 0.513    | 0.493 | 0.459   | 0.474     |
| 2006 | 0.475     | 0.566   | 0.559  | 0.517 |          | 0.488      | 0.519              | 0.529   | 0.461       | 0.573    | 0.496  | 0.549  | 0.536    | 0.491 | 0.472   | 0.433     |
| 2007 | 0.469     | 0.546   | 0.548  |       |          | 0.492      | 0.487              | 0.539   | 0.468       | 0.560    |        | 0.529  | 0.521    | 0.497 | 0.476   | 0.415     |
| 2008 | 0.459     | 0.514   | 0.542  |       | 0.555    | 0.486      | 0.490              | 0.502   | 0.466       | 0.556    | 0.503  | 0.527  | 0.510    | 0.471 | 0.463   | 0.401     |
| 2009 | 0.449     | 0.493   | 0.536  | 0.519 | 0.552    | 0.504      | 0.489              | 0.489   | 0.469       | 0.516    |        | 0.521  | 0.496    | 0.463 | 0.463   | 0.400     |
| 2010 | 0.442     |         |        |       | 0.549    | 0.486      | 0.472              | 0.489   | 0.453       | 0.534    | 0.474  | 0.521  | 0.518    | 0.451 | 0.453   | 0.384     |
| 2011 | 0.433     | 0.462   | 0.526  | 0.509 | 0.535    |            | 0.474              | 0.458   |             |          |        | 0.520  | 0.526    | 0.457 | 0.434   | 0.388     |

Source: Author's calculations based on SEDLAC.

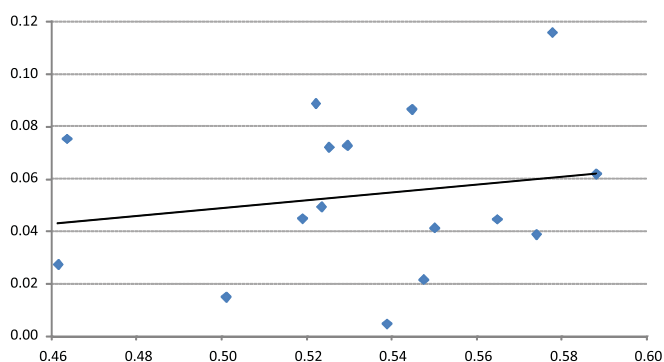
Venezuela has traditionally been the most egalitarian country in terms of income distribution in the Andean region, and one of the most egalitarian in Latin America. In this case, the magnitude of the reduction in inequality was not as impressive as in Bolivia: income inequality decreased by 7.6 percentage points between 2001 and 2011.

However, the level of inequality that the country has experienced after 2010 also calls for further analysis: Venezuela has broken the '40.0'—a seemingly unbreakable barrier for Latin American countries—reaching a Gini coefficient of 38.8 in 2011.

## V. Is there convergence?

Figure 3 presents some partial evidence on the potential existence of convergence in the levels of income inequality between countries. As mentioned before, Gasparini, Cruces and Tornarolli found evidence of convergence in the period 1992–2006. Their results showed that some of the countries with the highest levels of inequality have improved their situation in that period, while other countries with the lowest levels of inequality have experienced more negative trends. As was established above, in the period analysed in this document,

**Figure 3**  
**Gini Coefficient in 2001 and Change in Gini Coefficient, 2001–2011**



Source: Author's calculations based on SEDLAC.

all countries enjoyed reductions in their levels of income inequality. **Was this decrease of a larger magnitude for countries with the highest initial levels of inequality?**

As can be seen in Figure 3, the reduction in income inequality that took place in each country, even when shown to be a positive association with the initial level of inequality, seems to be very small in regards to the magnitude of that relation. In other words, the possibility of convergence in income inequality levels cannot be ruled out; however, it would be taking place very slowly. The conclusion remains the same if Bolivia and Venezuela, the two 'special' cases, are excluded from the analysis.

## VI. Conclusions

This document presents evidence that confirms that Latin American countries have been experiencing a reduction in income inequality since the beginning of this century. This assessment applies both for the region as a whole and for the individual countries analysed separately. However, income inequality is still a pervasive and distinctive characteristic of Latin America economies.

The discussion in this paper updates the results presented in other well-known studies of income distribution in Latin America. The main contribution of this report is to show that there are some positive signs of a reversal of the process of deterioration in income distribution that Latin America suffered over the last 20 years of the 20<sup>th</sup> century. Another interesting result is the partial evidence of convergence in the levels of inequality between countries. ■

**Leopoldo Tornarolli**, Centro de Estudios Distributivos, Laborales y Sociales, Universidad Nacional de La Plata, Argentina.

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The views expressed in this brief are the authors' and not necessarily those of the Government of Brazil or the United Nations Development Programme.

**International Policy Centre for Inclusive Growth**  
United Nations Development Programme

SBS, Quadra 1, Bloco J, Ed. BNDES, 13º andar  
70076-900 Brasília, DF - Brazil

Telephone +55 61 2105 5000

E-mail: [ipc@ipc-undp.org](mailto:ipc@ipc-undp.org) ■ URL: [www.ipc-undp.org](http://www.ipc-undp.org)



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