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INEQUALITY STAGNATION IN LATIN AMERICA

IN THE AFTERMATH OF THE GLOBAL FINANCIAL CRISIS

Louise Cord
Oscar Barriga Cabanillas
Leonardo Lucchetti
Carlos Rodríguez-Castelán
Liliana D. Sousa
Daniel Valderrama
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ABSTRACT

Over the past decade (2003–12), Latin America has experienced strong income growth and a notable reduction in income inequality, with the region's Gini coefficient falling from 55.6 to 51.8. Previous studies have warned about the sustainability of such a decline, and this paper presents evidence of stagnation in the pace of reduction of income inequality in Latin America since 2010. This phenomenon of stagnation is robust to different measures of inequality and is largely attributable to the impact of the Global Financial Crisis on Mexico and Central America, where inequality rose after 2010 as labor income recovered. Moreover, this paper finds evidence that much of the continuation of inequality reduction after the crisis at the country level has been due to negative or zero income growth for households in the top of the income distribution, and lower growth of the incomes of the poorest households. The crisis also highlighted weaknesses in the region's labor markets and the heavy reliance on public transfers to redistribute, underscoring the vulnerability of the region's recent social gains to global economic conditions.

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Inequality Stagnation in Latin America in the Aftermath of the Global Financial Crisis

Louise Cord*

Oscar Barriga Cabanillas†

Leonardo Lucchetti‡

Carlos Rodríguez-Castelán§

Liliana D. Sousa**

Daniel Valderrama††

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* World Bank. E-mail: lcord@worldbank.org

† UC Davis. E-mail: obcabanillas@gmail.com

‡ World Bank. E-mail: llucchetti@worldbank.org

§ World Bank. E-mail: crodriguez@worldbank.org

** World Bank. E-mail: lsousa@worldbank.org

†† World Bank. E-mail: dvalderramagonza@worldbank.org

1. Introduction

Over the past decade Latin America has experienced strong income growth, particularly in the lower deciles of the income distribution, generating a notable reduction in income inequality. From 2003 to 2012, mean real per capita income grew by 3.3 percent, while for those individuals in the bottom 40 percent of the income distribution it grew by 5 percent. Over the same period, the regional Gini coefficient (pooled for 17 countries)¹ fell from 55.6 to 51.8 and declined in all 17 countries for which frequent household survey data is available.² Reductions in inequality are important for lifting more people out of poverty since lower inequality generates a higher elasticity of poverty reduction to economic growth. While two-thirds of the observed decline in poverty in Latin America between 2003 and 2012 can be explained by economic growth, the other third can be broadly explained by improvements in the income distribution - though the contribution of the latter has risen since the Financial Crisis.³ Moreover, different countries have translated growth into declines in poverty at different rates – i.e. the growth elasticity of poverty reduction has varied considerably between countries in Latin America. But in general, those countries with lower level of income inequality have experienced a higher growth elasticity of poverty reduction.⁴

Several studies have shown evidence of a steady decline in income inequality in Latin America over the first decade of the 2000s (Gasparini et al. 2008; Lustig and Lopez-Calva 2010; World Bank 2011; Lustig, Lopez-Calva and Ortiz-Juarez, 2013; de la Torre et al. 2014). This result is robust to the choice of time periods, income variable, inequality measures and data sources. These studies also find that this decline in inequality has been driven mostly by improvements in labor income. In particular, by a reduction in skill premiums, reflecting a combination of improved access to education thus increasing the supply of skilled workers and lowering excess demand for skilled labor (Gasparini et al. 2011). In addition, this body of literature has concluded that public monetary transfers have contributed to the

¹ Since the Gini coefficient does not satisfy group decomposability, the regional Gini coefficient is computed based on pooled country-specific data for 17 countries. These include: Argentina (urban only), Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru and Uruguay (urban only). When no data for a country is available for a specific year, the distribution was interpolated using data from the nearest years available. To address missing data at the end of the series, the distributions were extrapolated based on the growth of national consumption reported in the World Development Indicators (WDI). Excluding these extrapolations from the aggregate did not qualitatively change the results.

² Alternative measures of regional inequality show similar trends: between 2003-2012, inequality measured as the unweighted average of country Gini coefficients declined from 53.8 to 48.3 while the population-weighted average declined from 54.9 to 50.3.

³ Between 2003 and 2007, about 73 percent of moderate poverty reduction (\$4 a day) was due to economic growth and the remaining 27 percent due to changes in the income distribution; this number declined to about 56 percent for economic growth and 44 percent for redistribution between 2007 and 2012 (World Bank, 2014a)

⁴ For instance, since 2003, Mexico has had low GDP growth (about 0.7% per year), but poverty levels have been very sensitive to the growth (about 2% of poverty reduction for each one percentage increase in GDP growth), while the Dominican Republic experienced high GDP growth but observed a very low effectiveness of growth to reduce poverty (about 0.2% of poverty reduction for each one percentage increase in GDP growth) (World Bank, 2013).

decline in income inequality throughout the region due to their expansion in coverage and better targeting.⁵

Nevertheless, one of these studies warned about the sustainability of the “redistributive momentum” observed across the region over the past decade. In their conclusion, Lustig, Lopez-Calva and Ortiz-Juarez (2013), argue that the decline in inequality observed in Latin America may be hard to sustain due to factors such as the distribution of the quality of education and less favorable terms of trade. Moreover, Campos, Esquivel and Lustig (2012) find evidence of labor incomes in Mexico “being unequalizing in 2010” and Lustig, Lopez-Calva and Ortiz-Juarez (2013) pose the question on whether this fact was a result of “the knock-off effects of the Global Financial Crisis of 2007-09 or a new trend.” A more recent report by the World Bank found evidence of inequality stagnation in Latin America since 2010, with the Gini coefficient remaining fairly constant at 0.52 since then (World Bank, 2014a).

This study continues where the analysis of Lustig, Lopez-Calva and Ortiz-Juarez (2013) ends, and analyzes regional trends of income inequality between 2010 and 2012. It contributes to the existing literature in a number of ways. First, this study is the first analyzing the sources of the recent stagnation of income inequality in the region. Second, it takes advantage of comprehensive harmonized household survey microdata (the SEDLAC database produced by CEDLAS and the World Bank) which allow cross-country comparability. These microdata cover 17 countries in Latin America and account for about 90% of the total population in the region. It is also important to highlight that, unlike other studies on this topic relying on SEDLAC data, this study uses the microdata instead of country-level indicators generated from the SEDLAC project. This allows detailed analysis on inequality trends across the region as well as between and within countries. Identifying the factors behind the slowdown of inequality reduction in the region has important implications for public policy.

This study presents evidence of inequality stagnation in Latin America, confirming the result reported by the World Bank (2014a), and verifying that this stagnation is robust to different measures of income inequality (Gini, Theil, mean log deviation, and Atkinson). It also identifies the geographical source of this stagnation in inequality, establishing that regional inequality reflects mainly within-country trends, rather than income divergence between countries. Moreover, looking across countries, the trends reflect rising inequality levels in Mexico and some countries in Central America (Panama, Costa Rica, and Honduras), as well as a recent slowdown in inequality reduction in the Andean region during 2011-2012 (Ecuador, Colombia, and Bolivia) and in Brazil.

The main contribution of this paper, however, lies in the identification of the underlying changes in the household income sources driving the region’s income inequality gains prior to 2010 and its stagnation after that year. While improvements in the labor markets of the Andean sub-region and Southern Cone (including Brazil) led the declines of inequality in these sub-regions before 2010, the

⁵ An in depth study of inequality in four Latin American countries finds that public transfers became increasingly equalizing after 2000, particularly from targeted spending through programs like Bolsa Familia in Brazil and Progresa/Oportunidades in Mexico (Lopez Calva and Lustig, 2010).

inequality reduction seen in Mexico and in parts of Central America was largely determined by factors external to the labor market – specifically, equalizing non-labor income sources and the impact of the Financial Crisis. The stagnation experienced since 2010 reflects, to a significant degree, the subsequent recovery in Mexico and Central America. Importantly, even in countries in which income inequality continued to fall, this study finds that this is mostly driven by zero or negative growth for the top of the income distribution, rather than increased growth for the poorest. Though the immediate cause of the observed stagnation in regional inequality reduction is largely due to the negative impact of the Global Financial Crisis and its recovery on Mexico’s labor markets, other more nuanced causes also contributed. Specifically, the two primary culprits identified are 1) a weakening ability of labor markets to decrease income inequality due to the lack of good quality jobs for the low-skilled and declining relative returns to secondary education; and 2) the diminishing role of conditional cash transfers (CCTs) and non-contributory pensions as vehicles for further inequality reduction as many of the easy gains have already been achieved, particularly in terms of coverage of eligible populations in the largest countries in the region. As a result, policy makers cannot rely on public transfers as the only instruments of redistribution. Moreover, there are concerns on the sustainability of the current level of social spending to cover these public transfers in some countries in the region, particularly in the presence of external shocks. These underlying factors present formidable policy challenges for the region as it strives to continue reducing poverty and inequality, especially in the current low growth environment.

This study also provides evidence and a word of caution that, although largely due to the impact of the Global Financial Crisis, the stagnation of income inequality in Latin America could become long-term as the global and regional economies are projected to experience slowing growth (de la Torre et al., 2013a, and; de la Torre et al., 2014).⁶ This can impact inequality reduction through two channels: (i) labor markets may slow increases in job creation and wage increases for the low-skilled, even as much of the region’s population remains low-skilled; and (ii) limit the ability of governments to continue or increase spending on public transfers to redistribute income. Additionally, the region continues to struggle with modest expansion of labor demand, high levels of informality and underemployment, and low quality secondary and higher education suggesting a long-term obstacle to generating increases in productivity.

The remainder of this paper is organized as follows: Section 2 presents evidence on the recent stagnation of income inequality in Latin America and its robustness to the choice of inequality measures. Section 3 unpacks these trends, exploring whether they reflect within country or across country income patterns and the differential trends within the sub-regions. Section 4 considers how different sources of household income have contributed to the observed stagnation in inequality and links inequality stagnation to developments in the components of household income: labor market earnings, public transfers, pensions and remittances. This section also highlights some potential areas of focus to influence further declines in income inequality in the region. Section 5 concludes.

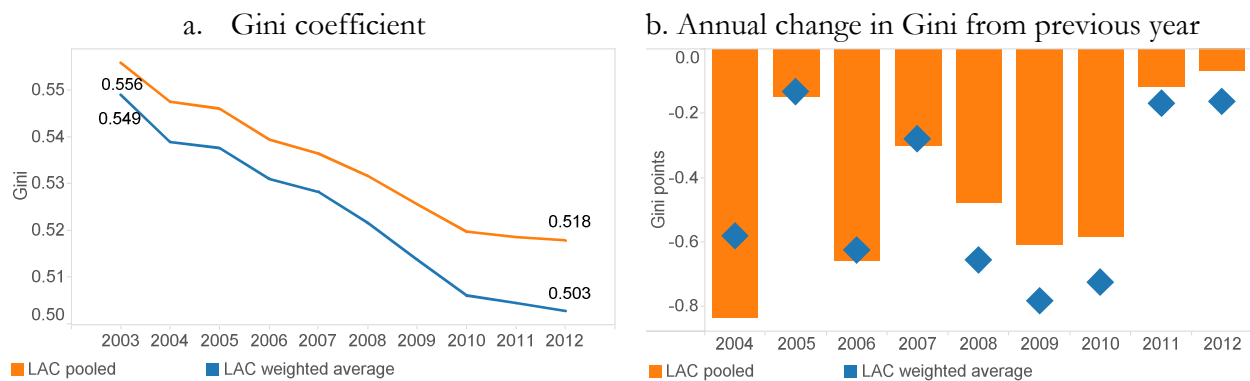
⁶ The region suffered an economic slowdown from an annual GDP per capita growth rate of about 4.3 percent in 2010 to an estimated 1.3 percent in 2013 (de la Torre et al., 2013a) and is projected to grow at only 1.7 percent in 2014 (World Bank, 2014c).

2. Recent Trends of Income Inequality in Latin America

Despite the heterogeneity that exists between the countries of Latin America, monitoring regional inequality is important in order to unveil two messages that are usually hidden in country-specific figures. First, regional inequality trends are a useful benchmark for country-specific inequality trends, as well as for comparisons with other regions in the world. Second, as intraregional migration and trade grow, measuring inequality between countries, as opposed to only within countries, becomes a more relevant and useful indicator.⁷

Income inequality has fallen steadily in Latin America since the mid-1990s (World Bank 2011b; Lustig, Lopez-Calva and Ortiz-Juarez, 2013), with a more pronounced reduction during the 2000s. Income inequality in 2012 (measured by the Gini coefficient for total household per capita income using pooled country-specific data for 17 countries) was six Gini points lower than in 1995, decreasing from 57.8 to 51.8, and about four Gini points lower for almost all Latin American countries than in 2003 (Figure 1a). However, between 2010 and 2012, inequality reduction stagnated with an annual decrease of only 0.09 Gini points, in contrast to an average annual decline of 0.52 Gini points experienced between 2003 and 2010 (Figure 1b). These results are robust to different specifications.⁸

Figure 1. Gini coefficient and annual change in Gini points in Latin America, 2003-2012



Source: Authors' calculation from SEDLAC (CEDLAS and the World Bank).

Note: Since the Gini coefficient does not satisfy group decomposability, the regional Gini coefficient is computed based on pooled country-specific data for 17 countries. In order to test the robustness of the results, the unweighted average is also presented in the figure. The methodology to pool these datasets is explained in footnote 1 and the years used for each country in the weighted average are detailed in Table A2 in the annex.

The reduction of inequality during the period 2003 to 2010 can also be illustrated by the higher than average income growth rates of the lower end of the income distribution, as revealed by the growth incidence curve (GIC) (Figure 2a). While the top decile of the income distribution grew on average at

⁷ Migration between the countries in the region is a significant policy issue in several countries, for example Central American migration to Mexico, Haitian migration to the Dominican Republic, Nicaraguan migration to Costa Rica, and migration from Paraguay and Bolivia to Argentina.

⁸ The unweighted average of country-specific Ginis shows a steady decline from 53.8 to 48.3 Gini points between 2003 and 2012.

an annual rate of 1.9 percent over this period of time, the bottom decile experienced an annual growth of 6.2 percent. These growth rates along the GIC allowed changes in income concentration (Figure 2b) where households up to the 86th percentile increased their share in the total wealth (defined by the total per capita income) by non-negligible reductions of the households in the top decile of the income distribution, thus reducing the Gini coefficient, an inequality measure that is particularly sensitive to inequalities in the extremes of the distribution.⁹ However, these patterns changed substantially between 2010 and 2012, when both the regional growth incidence curve and the income concentration flattened.

Figure 2a. Growth incidence curve of household per capita income, Latin America 2003-10 and 2010-12¹⁰

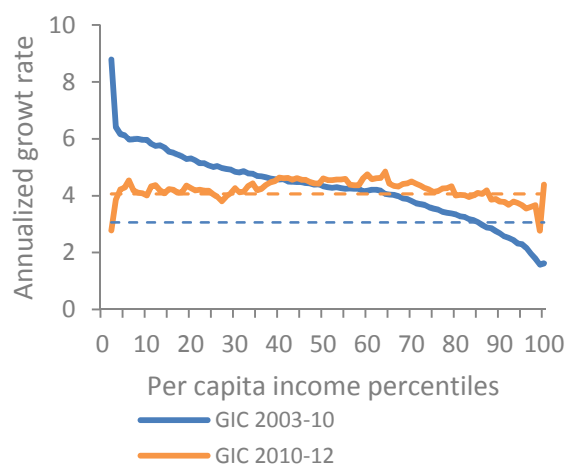
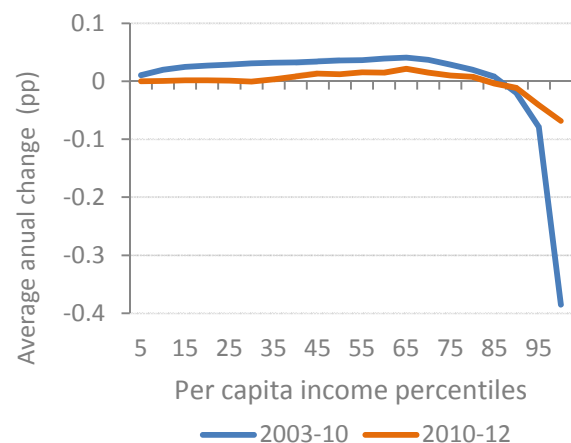


Figure 2b. Change in concentration of household per capita income in Latin America 2003-10 and 2010-12¹¹



Source: Authors' calculation from SEDLAC (CEDLAS and the World Bank). Note: The regional Gini coefficient is computed based on pooled country-specific data for 17 countries. The methodology to pool these datasets is explained in footnote 1 and the years used for each country in the weighted average are detailed in Table A2 in the annex.

The deceleration in inequality reduction in the region between 2010 and 2012 is captured by other inequality measures that weight the disparities between households along the income distribution differently than the Gini coefficient. Similar declining trends in income inequality in Latin America for the period 2003-2010 and stagnation (even reversal) for the period 2010-2012 are captured by the Theil index of inequality (Figure 3). Between 2003 and 2010, the Theil index dropped by 8.7 points from 63.1 to 54.4 (and 14.3 points from 1995 to 2010). While the Theil continued to fall between 2010 and 2011, the following year it rose for the first time in the last decade, from 54.4 to 54.8. Signs of

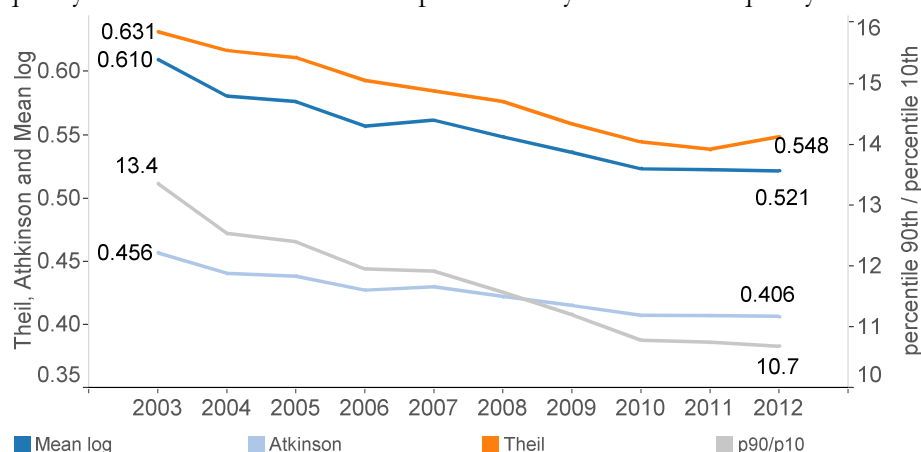
⁹ See Hey and Lambert (1980).

¹⁰ Figure 2a presents the annualized growth rate of per capita income for every percentile of the per capita income distribution. The figure excludes the first percentile since results are usually sensible to the presence of zero incomes.

¹¹ Figure 2b was computed for 20 quantiles of the income distribution, from the lowest 5 percent of households on the left to the highest 5 percent on the right, each group was labeled with the maximum percentile that each income quantile includes, thus the figure labeled as 5th percentile includes information from the percentile 1st to the percentile 5th, while the results of the percentile 100th includes information from the percentile 96th to percentile 100th.

inequality stagnation are also evident when using other inequality measures, such as the Mean log deviation, the ratio between the 90th percentile and the 10th percentile, and the Atkinson index.

Figure 3. Inequality trends in Latin America represented by different inequality measures, 2003-2012



Source: Authors' calculation from SEDLAC (CEDLAS and the World Bank). Note: The regional Gini coefficient is computed based on pooled country-specific data for 17 countries. The methodology to pool these datasets is explained in footnote 1 and the years used for each country in the weighted average are detailed in Table A2 in the annex. Inequality measures include households with zero incomes, whose incomes are censored to 0.01 daily USD and who. Households with zero incomes represent 0.3 percent of the population. Results are robust to different censoring thresholds and to the exclusion of households with zero incomes. See Table A1 for detailed inequality indicators by country.

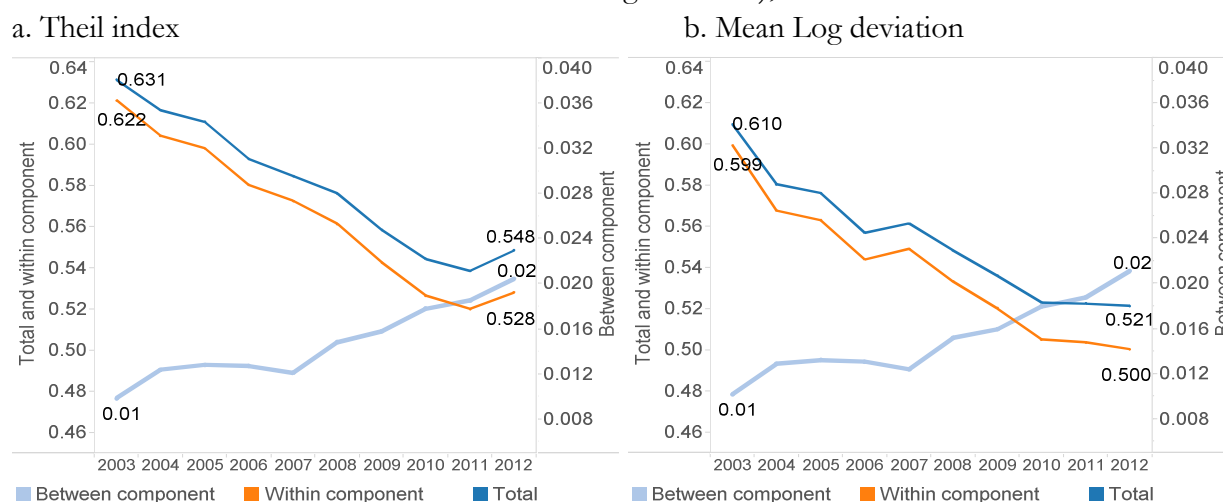
3. Unpacking income inequality trends between and within countries in Latin America

Regional income inequality patterns reflect, not only the evolution of inequality within countries, but also between countries, capturing differences between the countries in the levels of income across the region. According to Lakner and Milanovic (2013), the most important source of global inequality over the 1988-2008 period has been income differences between countries, explaining about 75 percent of global inequality. One potential explanation for the regional inequality stagnation documented above might be diverging income trends or different rates of income growth across countries in the region – as countries like Chile and Uruguay continue its steady income grow while others like Nicaragua and Honduras continue to lag behind. While decomposing regional inequality into the two components (within and between countries) shows a growing divergence in incomes across countries (particularly since 2008), the major determinant of income inequality in Latin America is within-country income distribution.¹² In the last decade, growing income polarization across countries has led the between component of Theil index to increase from 0.98 to 2.04, causing its

¹² Similar to what has happened to the global distribution of income, where the upward movement of China changed the overall shape of the global distribution from a twin-peaked to an almost single-peaked distribution over the last twenty years (Lakner and Milanovic, 2013), in Latin America, the rightward shift experienced by Brazil, the Andean countries, and to a lesser extent the Southern Cone countries changed the overall shape of the regional income distribution from a twin-peaked into a single-peaked distribution over the last decade. In contrast, the distribution of income in Mexico and the Central America region have remained relatively constant (see Figure A1 in the Annex).

overall contribution to regional inequality, while still marginal, to increase from 1.8 percent in 2003 to nearly 4.0 percent in 2012 (Figure 4a). Despite this increase in the between-country inequality, the increase in total Theil index between 2011 and 2012 (1.0 Theil point) was mainly due to the within component, which increased from 52 to 52.8 Theil points. Results are similar for the Mean Log deviation (Figure 4b).

Figure 4. Regional household income inequality decomposed into within and between countries (Theil index and Mean Log deviation), 2003-2012



Source: Authors' calculation from SEDLAC (CEDLAS and the World Bank). Note: Since the Gini coefficient does not satisfy group decomposability, the regional Gini coefficient is computed based on pooled country-specific data for 17 countries. The methodology to pool these datasets is explained in footnote 1 and the years used for each country in the weighted average are detailed in Table A2 in the annex. Inequality measures include households with zero incomes, whose incomes are censored to 0.01 daily USD and who. Households with zero incomes represent 0.3 percent of the population. Results are robust to different censoring thresholds and to the exclusion of households with zero incomes.

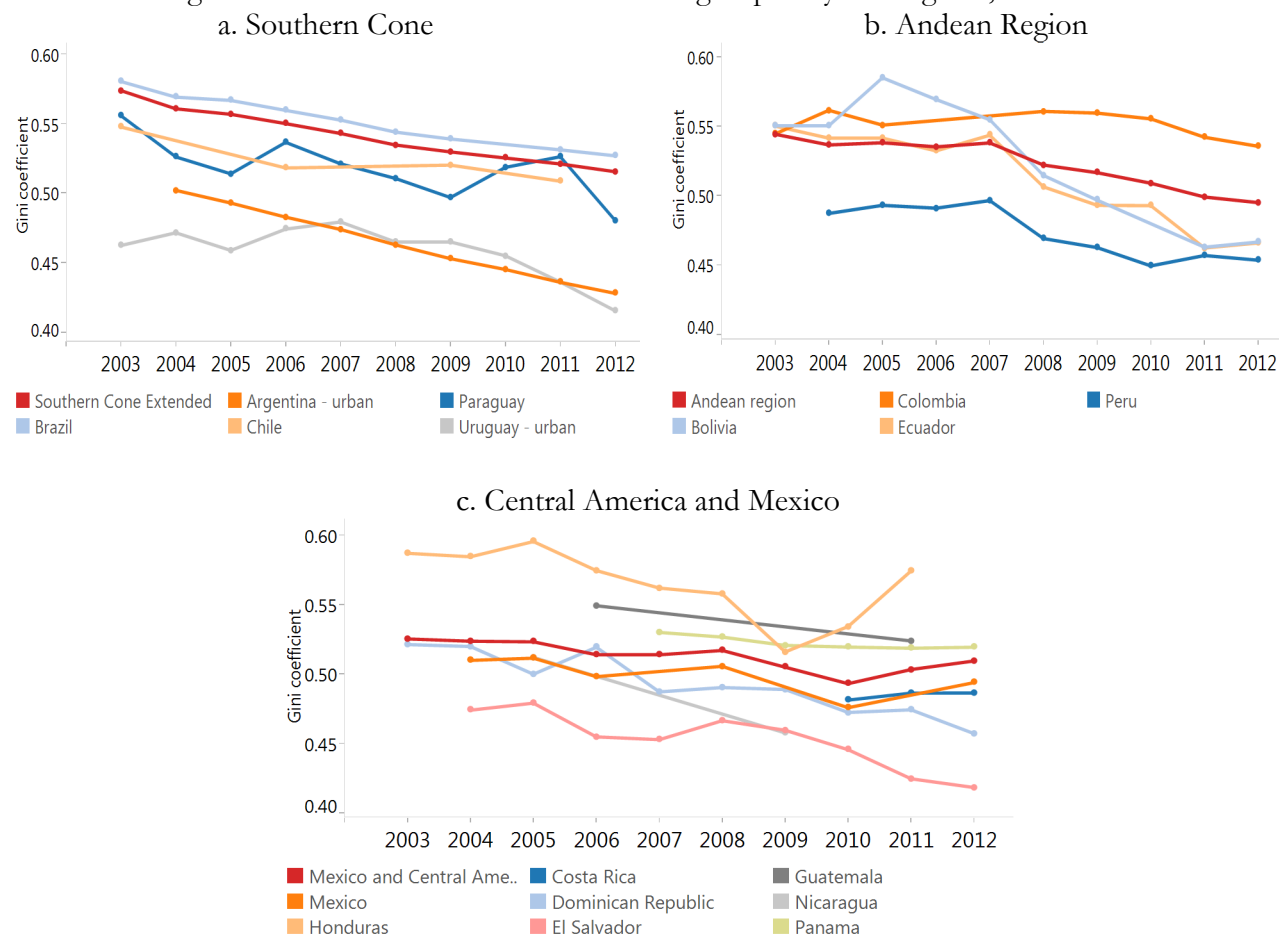
While income inequality has unambiguously declined in all Latin American countries between 2003-12, the magnitude of change has varied a lot. Some general patterns emerge when grouping countries by sub-regions. Figure 5 presents the evolution of the Gini coefficient for total household income per capita grouped by three sub-regions: the Southern Cone (including Brazil) in panel (a), the Andean region in panel (b), and Central America and Mexico in panel (c).¹³

The Gini coefficient strongly declined in each of the sub-regions between 2003 and 2010, but Gini trends have diverged since 2010. In the Southern Cone countries, the initial declining trend has continued throughout the period, with the Gini coefficient for the sub-region falling from 57.4 in 2003 to 52.5 in 2010 and 51.5 in 2012. Inequality declines continued through 2011 in the Andean region, but flattened between 2011 and 2012. This stagnation is explained in part by the slight increases in inequality in Bolivia and Ecuador (about 0.35 Gini points) and the slowdown in the reduction of inequality for Colombia. Even when Peru showed a small reduction in inequality between 2011 and

¹³ Southern cone countries include Argentina (urban only), Brazil, Chile, Paraguay and Uruguay (urban only). Andean countries include Bolivia, Colombia, Ecuador and Peru. Central America includes Costa Rica, Dominican Republic, El Salvador, Honduras, Nicaragua and Panama.

2012, that reduction came after an increment in inequality between 2010 and 2011. Finally, after observing a decline in inequality in almost all countries in Central America and Mexico between 2003 and 2010, the Gini coefficient remained constant and even increased in all but two countries (El Salvador and Dominican Republic) for which data are available between 2010 and 2012, increasing the sub-regional Gini coefficient from 49.3 to 50.9 Gini points over this period.¹⁴

Figure 5. Evolution of the Gini coefficient grouped by sub-regions, 2003-2012



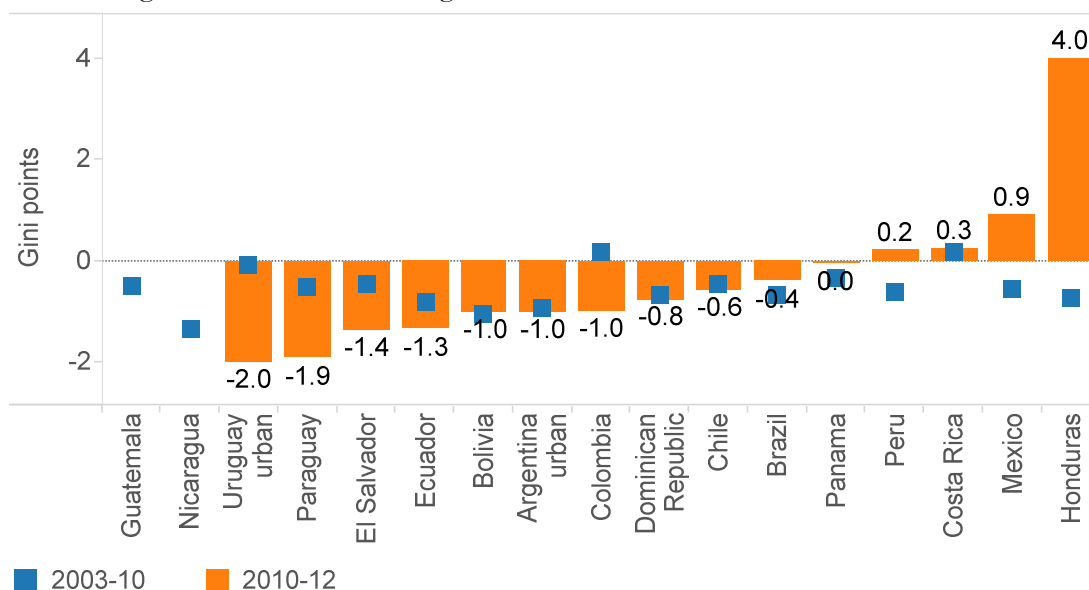
Source: Authors' calculation from SEDLAC (CEDLAS and the World Bank). Note: Since the Gini coefficient does not satisfy group decomposability, the regional Gini coefficient (Andean, Mexico and Central America and Southern cone) is computed based on pooled country-specific data for 17 countries. The methodology to pool these datasets is explained in footnote 1 and the years used for each country in the weighted average are detailed in Table A2 in the annex.

Within-country inequality trends are significantly different when splitting the last decade into two periods: 2003-10 and 2010-12 (Figure 6). Of the 17 countries for which data were available for the 2003-10 period, 15 had a decline in the Gini coefficient during this period, with Colombia and Costa Rica being the only exceptions. The most pronounced reduction was observed in Argentina, Bolivia, Brazil, Dominican Republic, Ecuador, Honduras and Peru. These trends changed after 2010. Four out

¹⁴ Bootstrapped standard errors were estimated for the period 2003-2010 and 2010-2012 and following the parameters defined in Lustig, Lopez-Calva and Ortiz-Juarez(2013) . For the first period changes were statistical significant for all countries. For the second period, changes were statistically significant for all countries but Panama.

of 15 countries (where data was available) experienced an increase in the Gini coefficient between 2010 and 2012 (Peru, Costa Rica, Mexico and Honduras) while Panama had no change in inequality. The rise of the Gini coefficient in Honduras was particularly high, from 53.4 to 57.4 between 2010 and 2011. Also, the increase in Mexico's Gini coefficient from 47.8 to 49.4 (between 2010 and 2012) explains a good part of the recent regional slowdown in the decline of income inequality.¹⁵ At the same time, while the gains in inequality reduction continued in 10 countries after 2010, they weakened in Brazil, the most populous country in the region.¹⁶

Figure 6. Annualized changes in Gini coefficient, 2003-10 and 2010-12



Source: Authors' calculation from SEDLAC (CEDLAS and the World Bank).

Note: The figure shows changes in Gini points between 2003-2010 and 2010-2012, or the nearest years in case data for these years are not available (see Table A2). Nicaragua and Guatemala have information available only for the first period.

The significant reduction of inequality experienced between 2003-10 across the countries of Latin America was driven mostly by a solid record of growth of the incomes of the households in the bottom of the income distribution, coupled with moderate growth of the top percentiles (Figure A2 in the annex presents country-specific Growth Incidence Curves, and more detailed analysis of growth of incomes of bottom and top deciles for the 17 Latin American countries is shown in Figure A3).¹⁷ Despite the fact that the country-specific growth incidence curves for the period 2010-12 show downward slopes (that is, income growth is higher for the lower end of the distribution) in countries

¹⁵ The Gini coefficients in this study are calculated using the SEDLAC database, a regional harmonization effort that generates income aggregates that are comparable across countries and, as a result, often differ from official income aggregates. The trends seen in Mexico's Gini coefficient are comparable to the trends of the Gini coefficient calculated by INEGI (using "ENIGH tradicional" household survey) which increased from 43.5 to 44.0 between 2010 and 2012. While the Gini coefficient calculated by CONEVAL fell from 50.9 to 49.8 (using "ENIGH MCS" household survey).

¹⁶ Brazil is home to 37 percent of the total population living in the 17 countries under analysis.

¹⁷ As recent literature based on tax unit records has documented, household surveys fail to measure top incomes accurately. As a result, household surveys may underestimate inequality and fail to reveal changes in inequality given that they do not capture the growth rates of those at the very top of the income distribution.

where reductions in inequality continued, the levels of growth achieved by the less well-off (typically, the bottom 10 percent) in the later period were lower than those observed during the first period for half of these countries (Uruguay, Ecuador, Dominican Republic, Argentina, Colombia and Brazil). Furthermore, the growth rates of the better off (the top 10 percent) were negative or close to zero for most countries.¹⁸ Thus the inequality reduction observed between 2010 and 2012 in these countries can be explained, in large part, by a lack of growth of income among top earners - rather than to higher income growth for the less well-off as had been observed between 2003 and 2010. On the other hand, for those countries where inequality increased (or in the case of Panama, did not change) between 2010 and 12, growth incidence curves reveal an increase in growth rates relative to 2003-2010 for some parts of the income distribution, particularly at the top. This finding poses an interesting question on the sustainability of past sources of growth for the poorest, both labor income and transfers. It also casts doubt on whether the recent fall in income inequality observed in some countries in the region represents the type of inequality decline countries would like to maintain in the years to come - one supported by negative or zero growth rates of the incomes of the better-off rather than higher growth rates for the low-income.

The decline of inequality observed between 2003 and 2010 was relatively homogeneous across the region, while the recent stagnation of income inequality is the result of a rather heterogeneous phenomenon. Some countries maintained inequality reduction in line with earlier trends, while others experienced a slowdown (Brazil), stagnation (Panama) or reversal (Peru, Costa Rica, Mexico and Honduras). Moreover, two of the countries in which the trend during 2010-12 deviated significantly with respect to their “long-run” trajectory – Brazil and Mexico - are also a significant share of the region’s population and thus have a large influence on the regional (and sub-regional) patterns of income inequality. These two countries combined with Peru, Costa Rica, Panama and Honduras, countries with increasing or stagnant inequality, represent almost 70 percent of the total population of Latin America. The next section will discuss in detail the underlying changes in the household income sources driving the region’s income inequality trajectory.

4. Income sources driving inequality stagnation

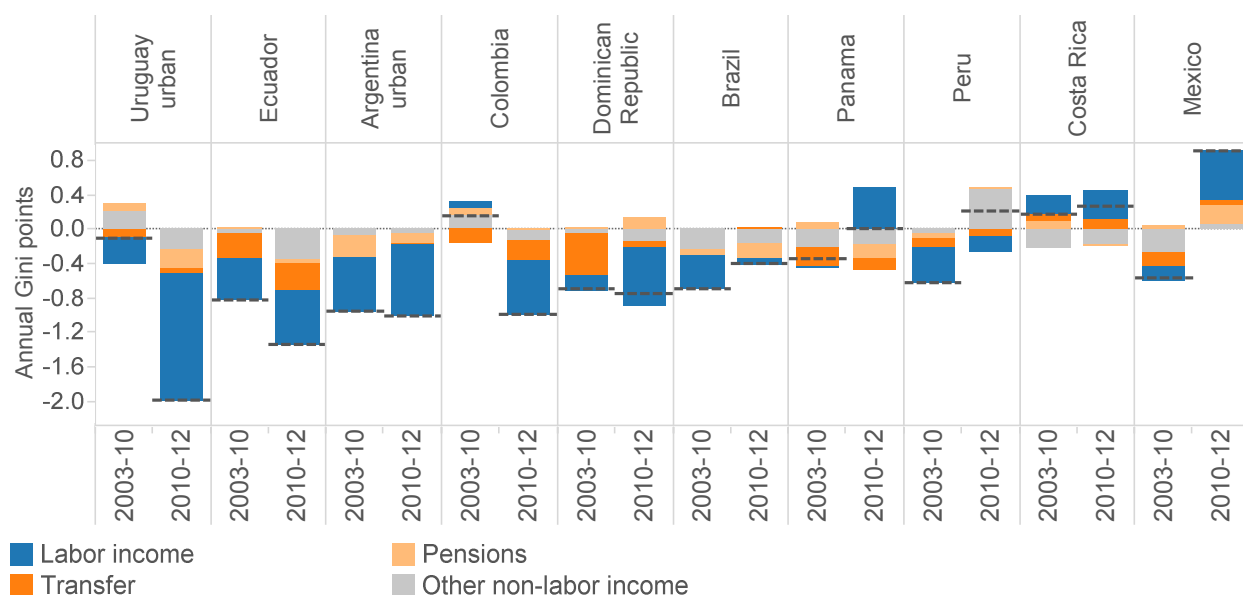
Underlying the trends in inequality reported above are significant adjustments in the distribution of income sources largely driven by changing returns to labor and expansions of direct transfer programs throughout the region.¹⁹ As labor income accounts for 73 percent of all household income in the region, changes in the region’s labor markets have driven much of the inequality trends seen in Latin America. Simultaneously, along with increased receipt of remittances, the region experienced a significant expansion of public transfer programs in the 2000s and increased access to non-contributory pensions for the less well-off. While pensions, primarily received by higher income

¹⁸ In the case of Uruguay, the country with the highest pace of inequality reduction in the period 2010-12, the growth of the top five percent was -6.8%. Other countries like Paraguay, Ecuador, Dominican Republic showed rates of growth for the top five about -4.2%, -2% and -2.2% respectively

¹⁹ Labor income data in the SEDLAC source surveys is typically reported as take-home net pay. As such, it excludes payroll taxes and other deductions in the formal wage-employment sector.

households formerly attached to the formal labor market, tend to increase income inequality in most countries, non-contributory pensions have consistently served to decrease inequality (see for instance Lustig, Lopez-Calva and Ortiz-Juarez, 2013, and several Latin American country studies under the Commitment to Equity project). This section delves deeper into each of these income sources to identify how each has contributed to observed inequality trends in the region.

Figure 7. Decomposition of annual Gini change by income source in LA, regions and selected countries.



Source: Authors' calculation from SEDLAC (CEDLAS and the World Bank). Note: Dashed gray lines represent changes in Gini points between 2003-2010 and 2010-2012, or the nearest years in case data for these years are not available (see the Table A2 for details). The figure shows the Shapley Decomposition of inequality changes (Barros et al. 2006 and Azevedo et al. 2012). Detailed decomposition results are reported in Table A3 in the annex. Note that due to data limitation, public transfers are not fully captured in the Brazilian data. Instead, some of these are captured in "other non-labor income."

Changes in Gini are decomposed by changes in income sources using a non-parametric decomposition technique developed by Azevedo et al (2012) and based on the property that changes in inequality can be expressed as a function of changes in each income source along the distribution of total income (Barros et al 2006) (Figure 7). This decomposition allows us to see which income sources were the key drivers of inequality reductions and which income sources were behind the inequality trend reversals seen in the later period. One note of caution in interpreting results from this decomposition: it relies only on *changes* in income sources to explain *changes* in inequality. For example, in Argentina the full effect of transfers on inequality is not captured since transfers were already large prior to the first year of data included in the analysis. Thus, even as transfers may have maintained inequality lower than it would otherwise be, the decomposition shows that they have not contributed to further gains in inequality. Figure 7 shows the decomposition for the two periods for ten selected countries, including both upper-middle and lower-middle income countries with different inequality trends (see Table A3 for the decomposition results for all countries).

The first stylized fact is that, in almost all countries, inequality reduction coincided with a reduction of labor income inequality while increases in labor income inequality were seen during periods of

inequality increases.²⁰ Since labor income accounts for the majority of household income, the effect of other income sources on total income inequality is limited by its smaller share of total income.²¹ The second finding is that the reduction or reverse of the equalizing effect of labor income since 2010 happened not only in those countries where inequality increased, but also in countries like Brazil and Chile where inequality reductions have continued. In these countries, the equalizing effect of labor income fell by half relative to the first period. This suggests a weakened role of labor income as an equalizing income source in half of the countries of Latin America, including most of the region's population.²²

Despite their small share of total income, changes in transfers (including both public and private transfers such as remittances) had an obvious equalizing effect during the period of regional inequality reduction (2003-10).²³ However, during the period of regional stagnation (2010-12), their effect notably weakened in Mexico and Central America. The role of transfers in inequality reduction was relatively stable throughout 2003-2012 for those countries that experienced a steady fall in inequality (Uruguay and Ecuador and Argentina). Moreover, for some countries, like Colombia, Chile and Paraguay, transfers increased their contribution to inequality reduction. However, this pattern did not hold for the Dominican Republic and El Salvador: even as inequality fell in those countries, the role of transfers during 2010-12 was smaller or reversed from the earlier period. This effect seems to be related to a broad regional pattern seen in Mexico and Central American countries: the impact of changes in transfers became less equalizing or unequalizing for all types of countries in this group - those where the inequality increased (Honduras and Mexico), decreased (El Salvador and Dominican Republic), or stagnated (Panama). The exception was Costa Rica, for which changes in transfers were consistently associated with increases in inequality.

There is also evidence of pro-poor pension growth during this period, turning pension income from neutral or regressive to one of the drivers of the reduction of inequality. While pensions remain largely regressive, changes in pension income had a minimal impact on inequality levels during 2003-10; in fact, for 11 of 15 countries, pensions had either no effect or only a small unequalizing effect on total income. This trend reversed during 2010-12, when the number of countries for which changes in pensions did not result in lower inequality fell to just 5 (Colombia, the Dominican Republic, Mexico, Paraguay and Peru). Instead, for most countries, changes in pensions have led to declines in inequality. In the case of Brazil, for example, changes in pensions explain half of the inequality reduction during the 2010-12 period while in Chile they explain a third.

“Other non-labor income” sources include the value of housing and returns on capital as well as sources specific to each country's surveys. Notably, these include the Bolsa Familia, Brazil's largest CCT program, which, due to data limitations, cannot be easily extracted from the surveys. As returns to capital and implicit rent are not well measured in household surveys and are not fully harmonized

²⁰ This holds for all countries and periods, except for Peru 2010-12.

²¹ However, significant impacts on total income inequality from other income sources can be obtained when these sources experienced relatively high growth rates over focalized points in the income distribution.

²² See Table A3 in the annex.

²³ Note that, due to data limitations, Bolsa Familia, Brazil's largest CCT program, is not included in “transfers.”

across the region, the effect of this income source on inequality is more difficult to interpret. However, this type of income tended to have an equalizing effect except during the 2010-12 period, where it had an unequalizing effect in most countries where inequality rose.

Labor income

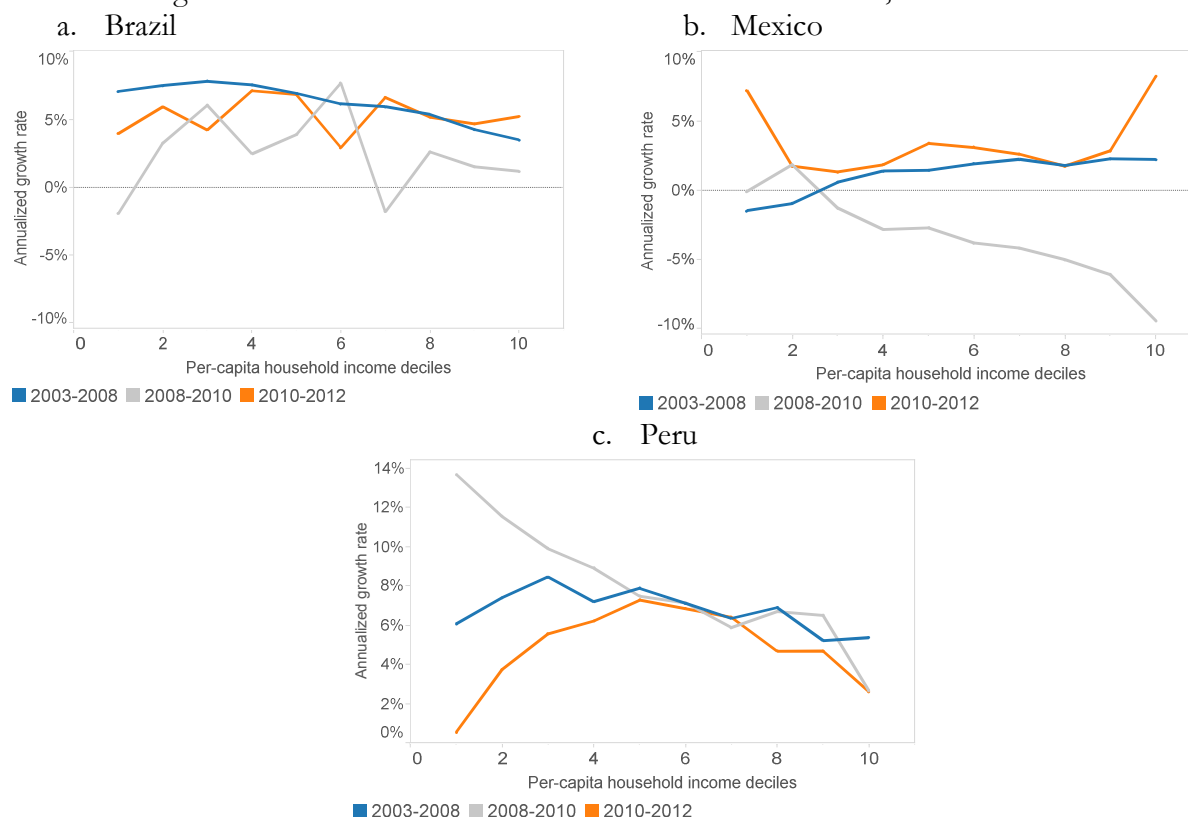
The decomposition results above reveal that labor markets played a crucial role in the inequality increases observed in Mexico and in some Central American countries (Honduras, Costa Rica and Panama) between 2010 and 12, as well as in those countries that witnessed a slowdown in inequality reduction, such as Brazil. They also show that, unlike in many of the other countries in the region, labor income played a minor role in inequality reductions prior to 2010 in the countries of Central America and Mexico. To better understand the underlying labor market dynamics throughout the region, we focus on three representative countries, one from each of the three subregions: Mexico, Brazil and Peru. These countries represent different combinations of changes in inequality and labor income during the two periods: changes in labor income remained inequality-reducing in both Brazil and Peru both before and after 2010, although inequality continued to fall in Brazil while it increased in Peru. On the other hand, changes in labor income contributed to inequality reductions between 2003 and 2010 in Mexico but increased inequality between 2010 and 2012. We also consider the impact of the Financial Crisis, not just because labor income is very pro-cyclical, but also because crises have short-term impacts on inequality (Gasparini and Lustig 2011) which could obscure labor market trends. Therefore, we consider three periods: pre-crisis (2003-2008), the Financial Crisis (2008-2010), and the post-crisis recovery (2010-2012).

Prior to the crisis, labor income growth in Mexico was low and biased towards higher income households (Figure 8). The crisis caused a sharp fall in labor income at the higher end of the income distribution – this led to a fall in income inequality during these years. However, the recovery has been U-shaped, benefitting those at the very bottom and at the top of the income distribution, leading to an overall rise in income inequality. This implies that some of the inequality reduction seen in the region between 2008 and 10 was in fact due to a destruction of income for the top of the skills distribution in Mexico; and that the subsequent increase in inequality is attributable to the recovery experienced by these households following the crisis. Interestingly, this is significantly different from the trends seen in El Salvador, the Central American country with the largest reduction in inequality after 2010. There, the recovery years witnessed substantial increases in labor income only for the lower income households.

The difference between the sub-regions in terms of the impact of labor income on inequality can be illustrated by comparing Mexico's labor income growth patterns to those of Brazil and Peru. In these two countries, labor income grew substantially in the earlier period affecting all deciles. The effect of the Global Financial Crisis and its recovery was less noticeable in Brazil, where labor income growth overall was relatively stable for much of the income distribution. In contrast, in Peru, the crisis had a similar distributional impact as it did in Mexico, affecting the top income deciles the most, but the recovery has been an inverted U-shape, with the highest growth seen among the middle of the

distribution while the poor saw the sharpest reduction in growth, leading inequality to stagnate between 2010 and 2012.

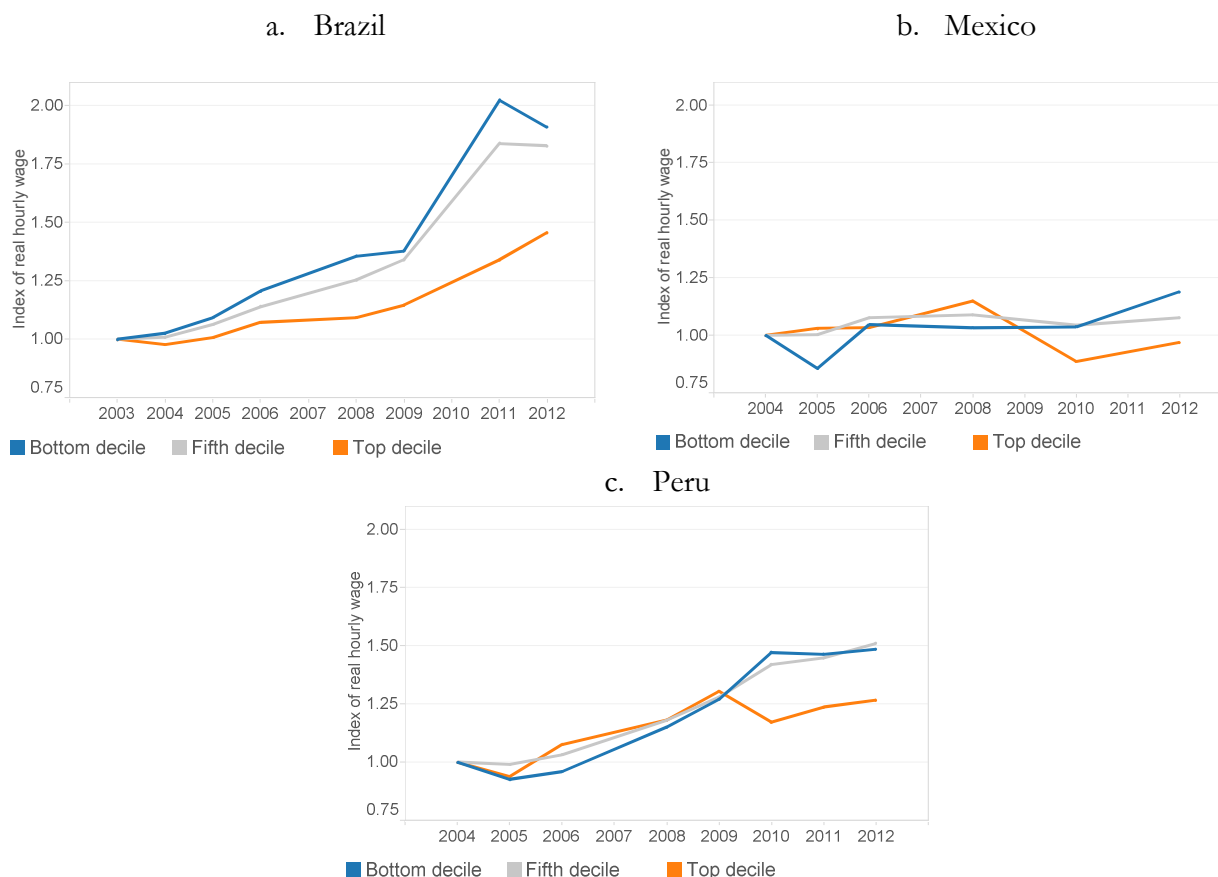
Figure 8. Labor Income Growth Incidence Curves in Brazil, Mexico and Peru.



Source: Authors' calculation from SEDLAC (CEDLAS and the World Bank). These figures are the growth incidence curves of labor income, by deciles of the per-capita household income distribution. The year used for each country is the nearest years when data for the cut-off years are not available (see Table A2 for details).

While the Global Financial Crisis played a significant role in the region's inequality stagnation through its impact on skilled labor in Mexico, the overall weakness of Mexico's labor market in generating household income growth across the income distribution predates the crisis. This can be clearly seen in the trends of hourly wage growth across the total income distribution. Mexico experienced significantly different trends than Brazil and Peru in the wage gap since 2002 (Figure 9). While Brazil and Peru both witnessed across-the-board increases in wages, with Brazil's gains extending back to 2004 and Peru's gains occurring after 2006, Mexico's wage growth remained mostly flat with the exception of the effect of the Financial Crisis on the top decile. In Mexico, the crisis caused real wages for the top decile to fall below their 2004 level, thus leading to a reduction in the wage gap. The subsequent recovery of the earnings of the top decile has, as a result, undone the temporary reduction in inequality that had resulted from the crisis.

Figure 9. Growth of hourly wages in Brazil, Mexico and Peru, 2002-2012



Source: Authors' calculation from SEDLAC (CEDLAS and the World Bank). Note: The figures report the growth of hourly wage for the bottom, fifth and top decile of labor income, indexed as a proportion.

The growth rates seen across the income distributions of Brazil and Peru are consistent with the falling skill premiums in the region, one of the main drivers of the reduction in inequality during the first decade of the 2000s (Gasparini et al. 2008; World Bank 2011; Lustig and Lopez-Calva 2010; and Lustig et al. 2013). Since 2010, however, the skill premium's rate of reduction has fallen, and in some countries, reversed trends and increased (Table 1 and Table A3 in the annex).²⁴ Between 2003 and 2010, most countries in Latin America saw a narrowing of the skill premium (measured using the hourly wage gap) between high skill and low skill workers. However, between 2010 and 2012, six out of the 15 countries showed increases in the skill gap, including four of six countries in the Central America and Mexico region. Moreover, the gap between tertiary and secondary education increased in eight countries, including in all of the countries of Central America, Mexico and Chile. This suggests a reduction in the relative returns to finishing secondary school and a widening gap between those with only a secondary education and those with tertiary education in Mexico and Central America.

²⁴ Skill premium estimates are obtained from Mincer equations of log hourly wages on education levels, controlling for age and age squared.

Table 1. Annualized growth changes in skill premium, 2003-08, 2008-10 and 2010-12.

Country	Tertiary / Incomplete secondary or less			Tertiary / Completed secondary		
	2003-08	2008-10	2010-12	2003-08	2008-10	2010-12
Countries where inequality reduced						
Guatemala	-0.6	-4.0		8.9	-3.1	
Nicaragua	-6.6			-6.2		
Uruguay urban	-3.7	9.6	-15.4	-3.9	8.0	-8.7
El Salvador	7.7	-10.5	-3.7	6.7	-11.9	0.7
Paraguay	-10.2	5.2	-5.7	-10.2	12.0	-6.9
Argentina urban	-4.0	-1.3	-8.7	-4.8	1.0	-6.3
Ecuador	-7.2	0.8	-6.1	-3.7	6.2	-7.5
Dominican Republic	-3.3	0.8	-3.6	-0.5	-0.1	5.1
Colombia	-3.3	4.6	-1.7	0.1	3.6	-0.1
Bolivia	-11.7	-10.3	-6.1	-8.4	-4.9	-6.6
Chile	-3.5	-1.4	-2.3	-1.2	-0.5	2.8
Brazil	-5.4	-5.5	-4.5	-2.4	-5.2	-1.2
Countries where inequality stagnated or increased						
Panama	-1.4	-2.3	2.0	0.3	-8.2	11.9
Peru	-2.3	-10.0	1.8	-3.6	-12.5	6.0
Costa Rica	0.5	3.2	6.4	3.1	-3.5	5.8
Mexico	-2.5	-0.7	2.0	1.1	-0.9	3.1
Honduras	-1.8	-3.9	2.0	-0.4	-2.4	4.3

Source: Authors' calculation from SEDLAC (CEDLAS and the World Bank). Note: The figure reports the average annual change in the relative wage gap between educational groups in percentage points between 2003-2010 and 2010-2012, or the nearest years when data for the cut-off years are not available. Nicaragua and Guatemala only have information for the first period 2003-2010. Countries are listed by magnitude of inequality reduction between 2010 and 2012, from highest to lowest. The incomplete secondary or less group includes those workers without education, primary education or incomplete secondary education. Completed secondary includes those who completed secondary schooling and those with some tertiary education. Tertiary includes only those with completed tertiary education.

The changes in the wage gap between high-skilled and low-skilled labor are partially attributable to a shift away from agriculture, the sector of employment of 43 percent of Latin America's poor but only 9 percent of its top 60 percent, towards higher paying sectors, particularly construction and retail. These shifts away from agricultural employment represent increased earnings opportunities for the lowest skilled. Agriculture, the third lowest wage sector in Brazil and the lowest wage sector in Mexico in 2003, saw declines in the share of employment between 2003 and 2008 in both countries. While these declines reversed after 2008 in Mexico, they continued in Brazil. Some of this movement back to agriculture in Mexico may have been the result of the decline in employment in construction and manufacturing – while in Brazil, construction and hospitality services continued to grow. In fact, this shift back to agriculture in Mexico was accompanied by a shift away from wage employment to self-employment on the order of 1.6 percent per year, indicating a reduction in the number of jobs available in the economy after the crisis. This suggests that low-skilled workers were pushed into lower productivity jobs as a result of the crisis, and these jobs had not recovered as of 2012.

In summary, while improvements in the labor markets in the Andean region and the Southern Cone (including Brazil) led the declines of inequality in these sub-regions, the inequality reduction seen in Central America and Mexico prior to 2010 was largely determined by factors external to the labor market – specifically, changes in the distribution of non-labor income sources and the impact of the Financial Crisis on labor incomes. In fact, labor earnings growth in Mexico significantly trailed that of other countries in the region before the crisis. Since the crisis, rising skill premia and higher income growth for the top deciles has led inequality reductions to become more modest or even to cease in some countries. On the other hand, there are signs that labor markets may continue reducing inequality in those countries in the region where the skill premium continues to fall.

Transfers

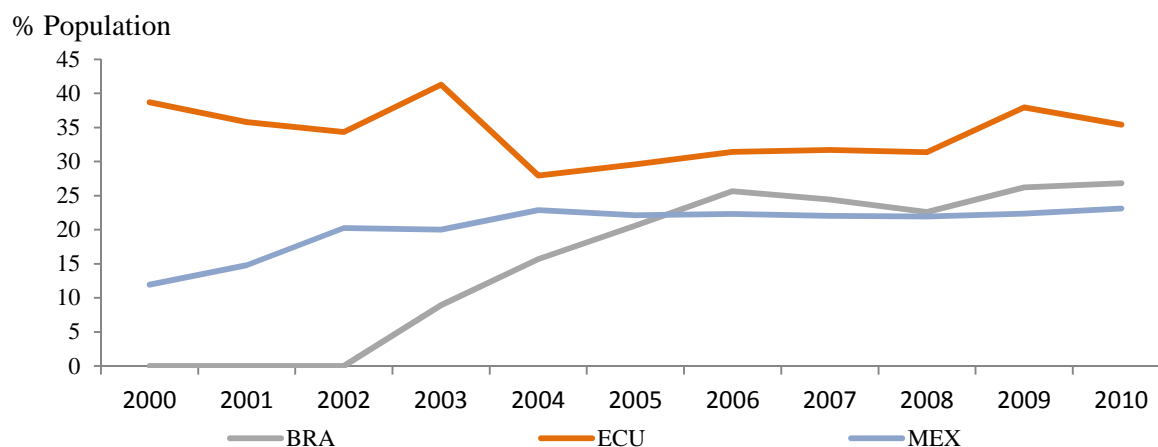
The reach of transfers (both private and public) in Latin America increased considerably since the early 2000s, both in coverage and as a share of total household per capita income. In particular, public transfers have become increasingly equalizing in many countries in the region over the recent years (Lopez-Calva and Lustig 2010, Lustig et al. 2013, and World Bank 2014) largely due to the proliferation of Conditional Cash Transfer (CCT) programs, which are mainly targeted towards the less well-off and are by design highly progressive.²⁵

Since CCT programs were launched in almost every country in Latin America in the early 2000s, there has been a significant expansion in the proportion of the population covered by these programs. However, even as coverage continued to increase, the rate of expansion of these CCT programs declined in many of the countries in the second part of the decade as some of these programs approached universal coverage of the eligible population. For instance, the population covered by CCT programs in Mexico and Brazil increased from about 10 percent in 2000 and 2003 to roughly 20 percent in 2002 and 2006, respectively, remaining fairly constant in both countries since then (Figure 10). This reduction in the rate of expansion of social programs, particularly CCTs, could have limited the equalizing impact of this income source, contributing to the stagnation and increment of income inequality observed in several countries.

However, there remain two other mechanisms that can be exploited to advance inequality reduction. The first is improvements in targeting: though CCTs are progressive, there is room for improvement in targeting benefits to the less well-off and reducing inequality. For instance, in Ecuador, 40 percent of the bottom quintile did not receive CCTs in 2012, while in Mexico this percentage was 60 percent. The second mechanism is to increase the generosity of these programs, considering first the caveats that extensions and benefit increases should be implemented so as not to distort labor supply, informality rates and threaten the fiscal sustainability of these programs.

²⁵ CCT programs were introduced in 18 countries in Latin America and the Caribbean since 1997 (Cecchini and Madariga 2011, World Bank 2013).

Figure 10. Coverage of CCT programs (percent of total population) in Brazil, Ecuador, and Mexico

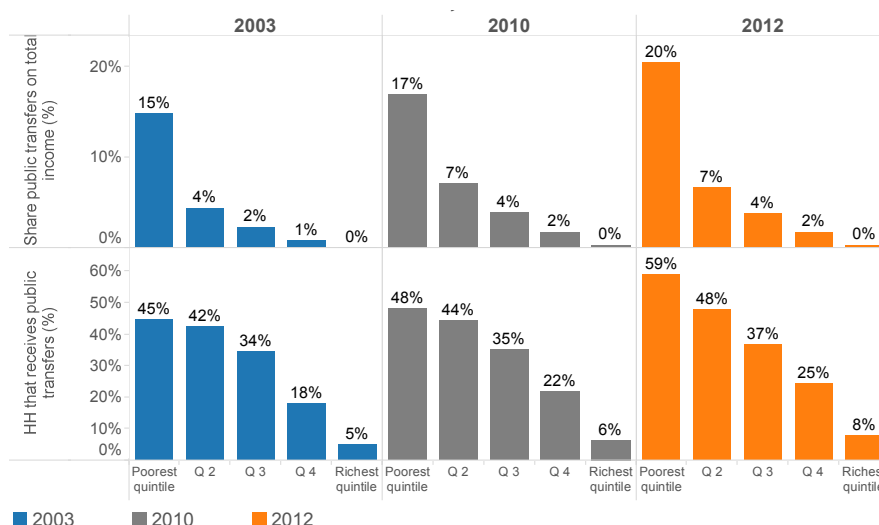


Source: LAC SP Administrative Database, The World Bank. Note: The data only includes central government level programs.

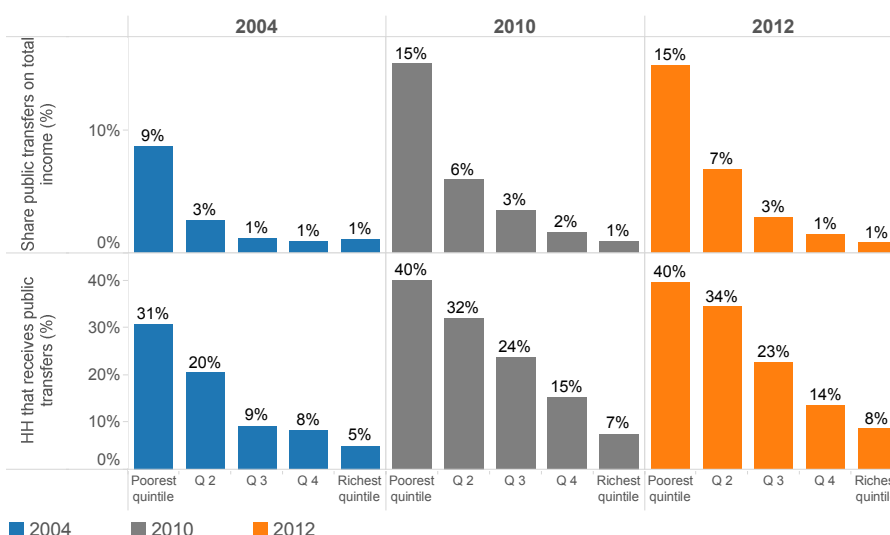
To further study the impact of public transfers on inequality, we analyze the cases of Mexico and Ecuador, two countries for which household surveys allow us to systematically disentangle public transfers from private transfers. Both countries represent good case studies for two reasons: i) public transfers covered a large proportion of the population (especially at the bottom of the income distribution) with coverage at 26 percent in Mexico and 36 percent in Ecuador in 2012; and ii) these countries illustrate extreme situations in terms of the evolution of income inequality in the region, with the Gini coefficient in Ecuador falling throughout the 2003-2010 and 2010-2012 periods, while in Mexico it declined in the first period and increased in the second period. Figure 11 shows the coverage rate and the share of transfers in income by quintiles of the total household per capita income, while Figure 12 presents the decomposition of income changes by sources of income, including public transfers.

Figure 11. Public transfers in Ecuador and Mexico: coverage and share of transfers in income, 2003, 2010, and 2012

a. Ecuador



b. Mexico



Source: Authors' calculation from SEDLAC (CEDLAS and the World Bank).

The recent slowdown in the rate of expansion of public transfers seems to be related to the reversal in the decline of income inequality in Mexico after 2010, while the continuous expansion in Ecuador fed into the reduction of inequality between 2003 and 2012. Both the coverage and the size of public transfers as a share of total per capita income have increased in Ecuador between 2003 and 2012, while they both increased in Mexico between 2003 and 2010 and remained fairly constant between 2010 and 2012 (Figure 11). As a result, changes in public transfers explained a reduction of 0.3 annual Gini points in Ecuador in both periods, while they were responsible for a reduction of 0.18 annual Gini points in Mexico between 2003 and 2010 but for an increase of 0.06 Gini points between 2010 and 2012 (Figure 12).

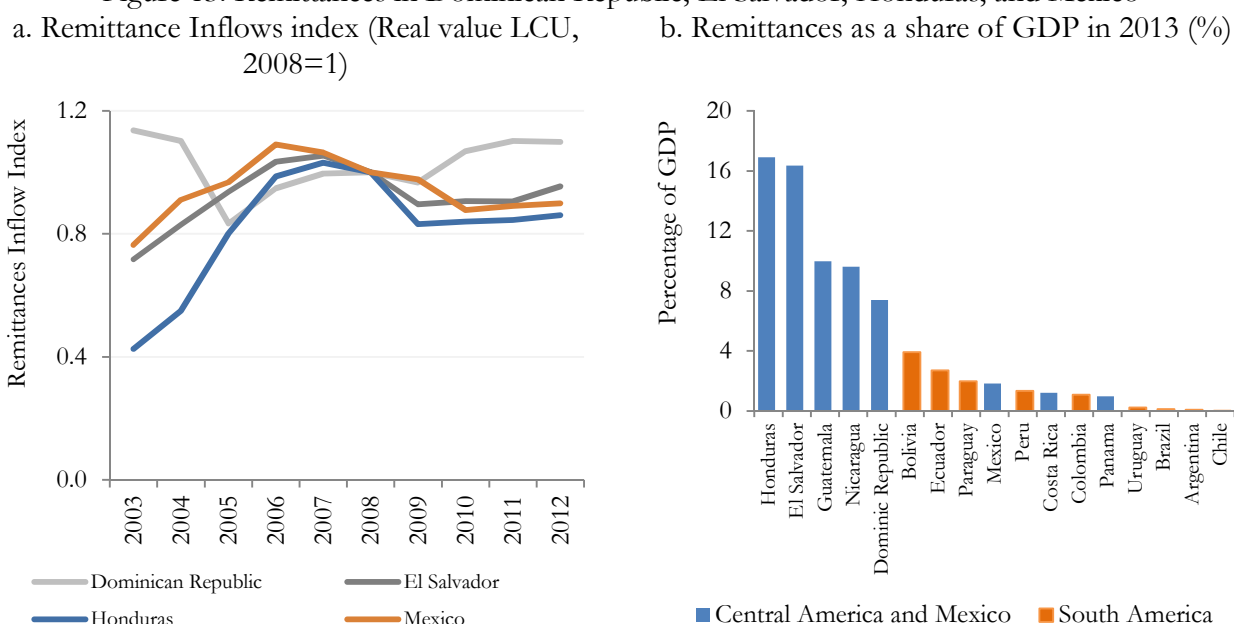
Figure 12. Decomposition of inequality changes by income sources and period: Ecuador and Mexico



Source: Authors' calculation from SEDLAC (CEDLAS and the World Bank). The figure shows the Shapley Decomposition of inequality changes (Barros et al. 2006 and Azevedo et al. 2012).

Private transfers, and in particular remittances, have also become an increasingly important source of income in several Central American countries in the last decade. With the exception of Panama and Costa Rica, the countries of Central America are a source of large numbers of emigrants and significant remittances inflows. Remittances in most of these countries increased in recent years. For instance, between 2003 and 2012, remittances increased by 35 percent in El Salvador and doubled in Honduras. In 2013, Honduras and El Salvador had the highest remittances as a share of GDP in the region (over 15 percent), followed by Guatemala and Nicaragua (about 10 percent) and the Dominican Republic (7 percent) (Figure 13b). Even still, remittance receipt has not yet fully recovered following the Global Financial Crisis (Figure 13a).

Figure 13. Remittances in Dominican Republic, El Salvador, Honduras, and Mexico



Source: Authors' calculation from WDI for exchange rates and inflation, and <http://www.worldbank.org/migration>. For remittances

Cadena et al. (2013) show that remittances played an important role in reducing poverty in Central America between 2000 and 2010. However, the study shows that, in general, the overall impact has been limited for two reasons. First, remittances are more likely to be received by households in the upper part of the income distribution, which reduces the impact on poverty.²⁶ Second, remittances decreased considerably as a result of the Global Financial Crisis (Figure 13a), serving to augment the impact of this crisis on the economies of Central America.

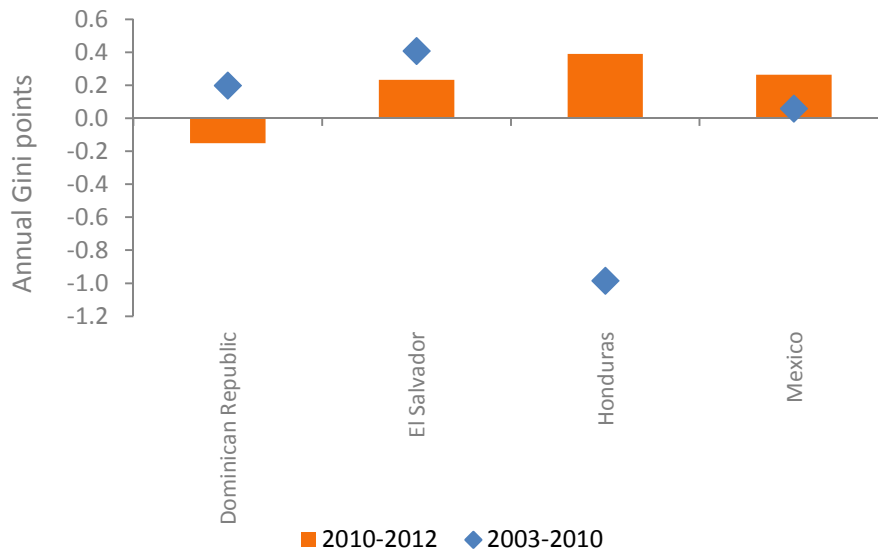
While there is a general consensus in the literature regarding the impact of remittances on poverty, less consensus exists with respect to their impact on inequality. For instance, McKenzie (2004) shows that remittances decreased inequality in Mexico, while Adams (2005) and Barham and Boucher (1998) show that remittances increased inequality in Ghana and Nicaragua, respectively. Acosta et al. (2008) show that remittances had an equalizing impact in nine out of 11 countries in Latin America, with Nicaragua and Peru being the exceptions. However, the authors find that changes in the Gini coefficient attributable to remittances are relatively small since remittances are largely directed to relatively better-off households.

In order to analyze the impact of remittances on per capita income inequality, we study the cases of Mexico, Honduras, El Salvador, and the Dominican Republic - countries for which remittances are well captured in household surveys. These countries represent good case studies since remittances represent a relatively large share of GDP and per capita household income (Cadena et al. 2013). These countries also represent different evolutions of per capita income inequality in the region - the Gini coefficient decreased in El Salvador and the Dominican Republic over the entire period under analysis, while in Mexico and Honduras decreased between 2003 and 2010 and increased after 2010.

Consistent with the fact that remittances are received by households in higher income quintiles, a decomposition of changes in income inequality shows that changes in remittances increased inequality in three out of the four countries under analysis between 2003 and 2010 (Figure 14). Similarly, inequality has also increased due to changes in remittances in three out of the four countries analyzed as the flow of remittances recovered in the post-crisis era – the exception is the Dominican Republic. Interestingly, this is the only country of the four analyzed in which remittances have fully recovered from the crisis. It is important to note that the impact of remittances on income inequality is relatively low if compared to the impact of other sources of income. For instance, remittances contributed only 15 and 10 percent of the growth in the Gini coefficient in Mexico and Honduras in 2010-2012, respectively.

²⁶ This is partially due to biased self-selection into migration. For example, Chiquiar and Hanson (2005) find that Mexican immigrants are on average higher-skilled than non-immigrants.

Figure 14. Changes in inequality attributable to remittances



Source: Authors' calculation from SEDLAC (CEDLAS and the World Bank). Note: The figure shows the Shapley Decomposition of inequality changes (Barros et al. 2006 and Azevedo et al. 2012). The figure shows changes in Gini points between 2003-2010 and 2010-2012, or the nearest years in case data for these years are not available.

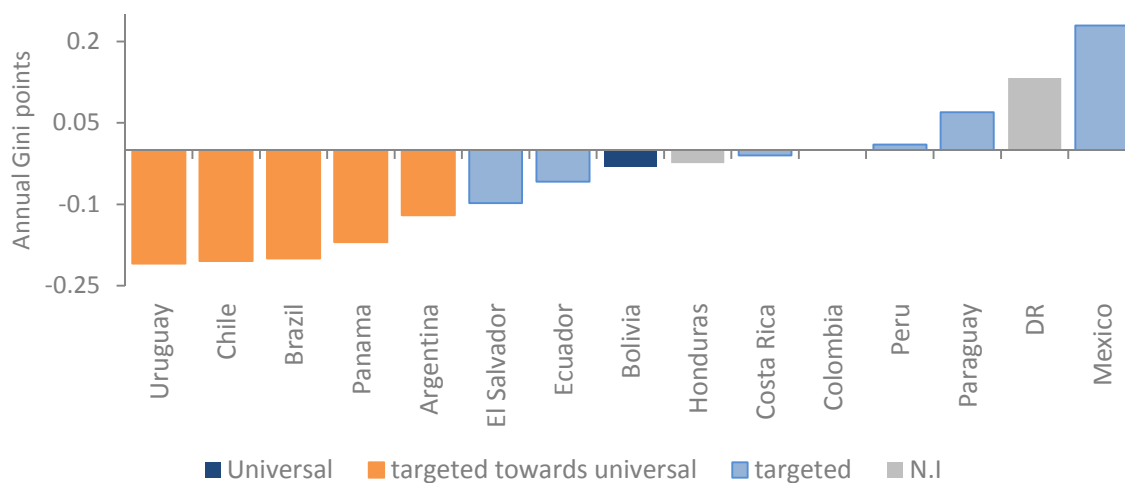
Pensions

Coverage of pensions (contributory and non-contributory) across Latin America has increased in recent years driven by the introduction and aggressive expansion of non-contributory social pensions and fewer institutional restrictions to accessing contributory pension programs (Rofman et al. 2008). In general, contributory pensions tend to be regressive and cover a relatively small proportion of the economically active population in many of the region's countries (Perry et al. 2007 and Levy 2008). Low-skilled and low-income households have limited access to pensions as many are in the informal labor market. On the other hand, social non-contributory pension programs have grown considerably. Between 2000 and 2013, at least 18 countries in the region continued or implemented non-contributory pension programs, expanding access especially to those at the bottom of the income distribution (Rofman 2013). Some notable examples of programs that have increased pension coverage during the past decade include Argentina (*Moratorium*), Brazil (*Benefício de Prestação Continuada*), Mexico (*70 y mas*), Bolivia (*Renta Dignidad*), Panama (*100 a los 70*) and Chile (*Pension Basica Solidaria and Social pension programs*).

The recent expansion of non-contributory programs has decreased the regressivity of pensions in the region. This means that changes in pensions have had an equalizing effect on income during this period. For instance, between 2010 and 2012, changes in pension income in six countries (Chile, Brazil, Panama, Argentina, El Salvador and Uruguay) were associated with a non-negligible decrease in inequality, over -0.1 annual Gini points (Figure 15). Not surprisingly, five of these countries designed policies targeted towards universal pension coverage. These programs are typically more generous than pension programs aimed only at poverty reduction among the elderly, labeled as "targeted" in

Figure 15.²⁷ Since access to contributory pensions is biased towards the better-off, the implementation of universal access to pensions leads to reductions in inequality.

Figure 15. Design of non-contributory pensions during the last decade and change in inequality during 2010-12 due to change on pensions income.



Source: Authors' calculation from SEDLAC (CEDLAS and the World Bank for Changes on inequality and Rofman (2013) for the information about designs of non contributory pensions programs. Note: N.I means no information available about contributory programs.

It is expected that pensions will continue reducing inequality as non-contributory programs and their benefits expand. However, the Latin American population is aging and the expansion needed to cover the growing elderly population puts into question the fiscal sustainability of non-contributory pensions in the mid-term (Bosch, Melguizo and Pages 2013). As a result, policies for social protection for the elderly should focus not only on non-contributory pensions, but also on strengthening labor market institutions and generating more formal employment to increase the number of workers contributing to the region's pension systems (Bosch, Melguizo and Pages 2013).

As countries in Latin America have increased their social spending over the last decade by means of expanding their public transfer programs (particularly conditional cash transfers and non-contributory pensions), the evidence suggests that such expansions may be reaching their limit in terms of inequality gains in the region. This is partially due to these programs reaching near universal coverage of the eligible populations in some countries (Mexico and Brazil). Thus, in the years to come, policy makers will need to rely on additional instruments for achieving redistribution, such as increasing the generosity or targeting of these programs.

²⁷ Non-contributory pensions with relatively high benefits, designated as those where benefits exceed 30% of the average contributory pensions, are present in Argentina, Costa Rica, Uruguay, Chile, and Brazil (Rofman 2013).

5. Conclusions

The strong income growth witnessed by Latin America and the Caribbean over the past decade led to significant improvements in the quality of life of its citizens, including sizeable reductions in poverty and in income inequality. The region has also experienced improvements in shared prosperity, with mean real per capita income of the bottom 40 percent growing by 5 percent between 2003 to 2012, more than the 3.3 percent average growth experienced overall in the region. Over the same period, the regional Gini coefficient (pooled for 17 countries) fell from 55.6 to 51.8 and declined in all countries for which frequent data is available. As a result, Latin America is on its way to becoming a predominantly middle-class region, with a third of its citizens already in the middle class and another third out of poverty.

However, previous studies have warned about the sustainability of these social gains, particularly on the income inequality front, and a recent World Bank report found evidence of inequality stagnation in Latin America between 2010 and 2012. This study confirms this finding and concludes that this stagnation of income inequality is in large part attributable to the Global Financial Crisis's impact on Mexico and Central America. Beyond the crisis, the labor markets of Central America and Mexico have been less effective at reducing inequality than those of the countries in the Southern Cone and Andean sub-regions. However, this study finds alarming evidence that continued inequality reduction after 2010 in many countries has come as a result of negative or zero growth of the incomes of the households in the top of the income distribution in combination with slowing income growth for the poorest.

Although related to the Financial Crisis, the recently experienced stagnation of income inequality in the region could become permanent. There is evidence that the “easy gains” for poverty and inequality have been exploited in many Latin American countries and therefore in the near future policy makers in the region must address the deeper sources of inequality to deliver future social gains. There is also evidence that some of the inequality reduction seen in the region following the crisis has been driven not by positive developments in the labor market, but rather by income destruction or stagnation for the higher-skilled. Two important factors emerge as necessary to address in the region: (i) in some countries, labor markets have been unable to contribute significantly to decreasing inequality, while in others, their ability to do so has slowed in recent years, and; (ii) the region's ability to rely on public transfers and non-contributory pensions to redistribute may be reaching its limit. In addition, further research should be done on how resiliency to shocks can be built in the region's labor markets - for example, through increased sectoral diversification. The drivers of the potential reversal in the skill premium reduction in some countries in the region also warrant more analysis. Policy makers should consider other complementary transformational policy areas relevant to resume the drive towards less unequal societies, including increasing the progressiveness of fiscal systems, improving quality of services, particularly education and health which are essential for human capital formation to increase the region's productivity, reforming competition in financial, goods and services markets, and providing better protection to poor and vulnerable households against risks.

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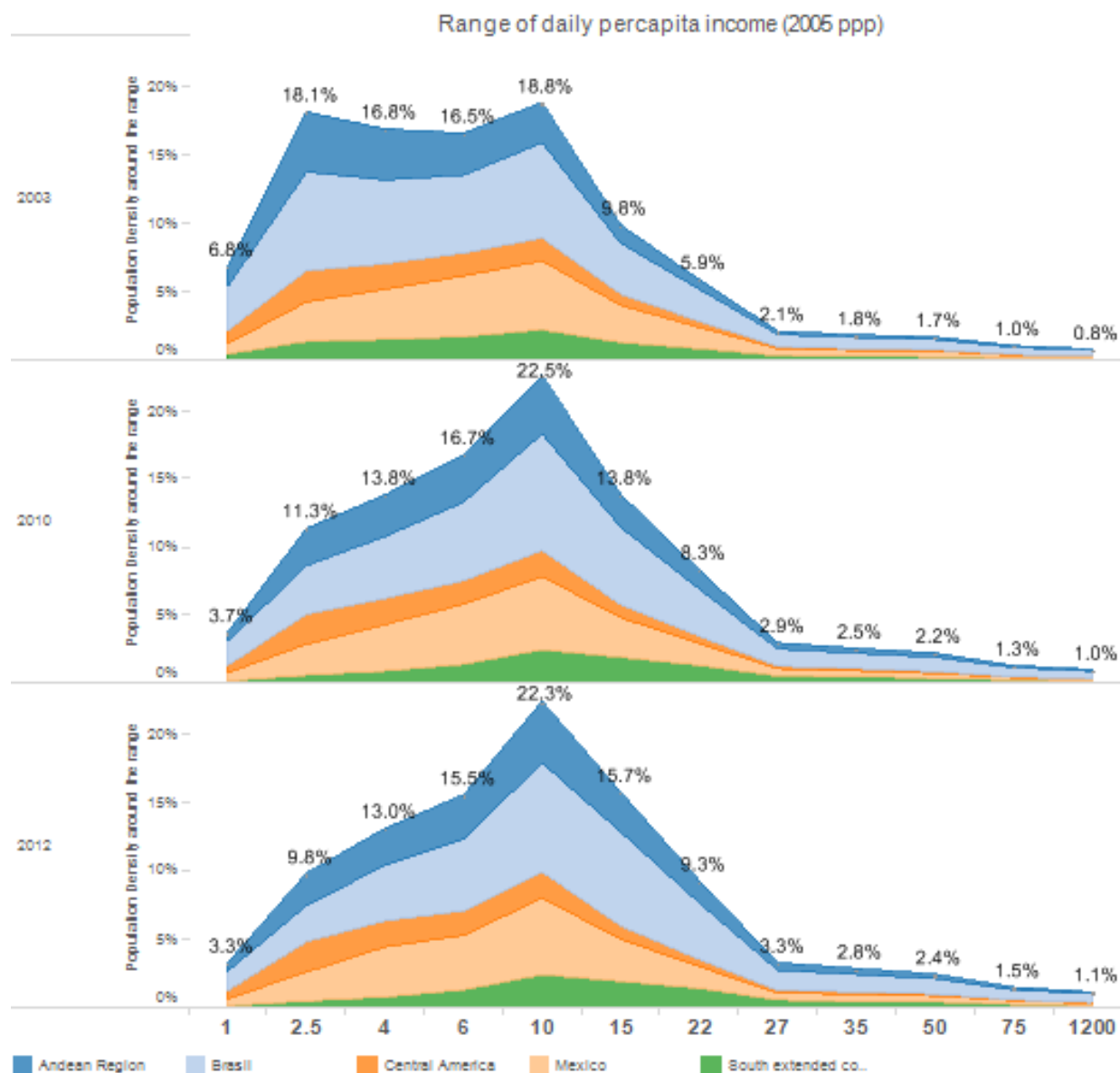
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Annex

Figure A1. Distribution of income (logarithmic scale), population-weighted density of log income

LAC Income Distribution 2003-2012



Source: Authors' calculation from SEDLAC (CEDLAS and the World Bank).

Table A1. Selected inequality measures, 2003-2012

Indicator	Argentina urban	Bolivia	Brazil	Chile	Colombia	Costa Rica	Dominican Republic	Ecuador
Circa 2003								
Atkinson, A(1)	36.9	43.3	46.1	41.1	41.6	36.0	38.2	42.3
Gini coefficient	50.2	55.0	58.0	54.7	54.4	49.9	52.1	55.0
Mean log deviation, GE(0)	46.0	56.7	61.7	52.9	53.9	44.7	48.2	54.9
Rate 90/10	12.7	12.8	15.2	9.6	11.8	11.1	9.8	12.5
Theil index, GE(1)	45.1	62.6	66.7	66.1	59.6	45.5	55.3	64.4
Circa 2010								
Atkinson, A(1)	29.9	39.6	40.7	37.6	43.0	36.6	31.8	34.8
Gini coefficient	44.5	49.7	53.9	52.0	55.5	51.0	47.2	49.3
Mean log deviation, GE(0)	0.4	0.5	0.5	0.5	0.6	0.5	0.4	0.4
Rate 90/10	9.1	14.2	11.9	8.4	12.2	10.2	8.7	9.0
Theil index, GE(1)	34.6	48.8	57.8	57.8	64.8	49.0	41.1	49.1
Circa 2012								
Atkinson, A(1)	27.7	36.1	39.0	36.0	40.9	34.3	30.1	32.1
Gini coefficient	42.5	46.6	52.7	50.8	53.5	48.6	45.7	46.6
Mean log deviation, GE(0)	32.4	44.8	49.5	44.6	52.7	42.0	35.8	38.7
Rate 90/10	7.9	11.9	10.6	8.5	11.4	9.4	7.5	8.8
Theil index, GE(1)	31.2	38.9	58.1	52.6	58.0	44.7	39.2	43.0
Annual changes circa 2003-10								
Atkinson, A(1)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gini coefficient	-0.9	-1.1	-0.7	-0.5	0.2	0.2	-0.7	-0.8
Mean log deviation, GE(0)	-1.8	-1.3	-1.6	-0.9	0.3	0.1	-1.4	-1.7
Rate 90/10	-6.1	2.7	-5.5	-2.0	0.6	-1.6	-1.6	-5.0
Theil index, GE(1)	-1.8	-2.8	-1.5	-1.4	0.8	0.6	-2.0	-2.2
Annual changes circa 2010-12								
Atkinson, A(1)	-1.1	-1.2	-0.6	-0.8	-1.0	0.5	-0.8	-1.4
Gini coefficient	-1.0	-1.0	-0.4	-0.6	-1.0	0.3	-0.8	-1.3
Mean log deviation, GE(0)	-1.5	-1.9	-0.9	-1.3	-1.8	0.7	-1.2	-2.1
Rate 90/10	-5.7	-7.7	-4.3	0.5	-4.2	2.2	-5.8	-1.2
Theil index, GE(1)	-1.7	-3.3	0.1	-2.6	-3.4	0.4	-1.0	-3.0

Source: Authors' calculation from SEDLAC (CEDLAS and the World Bank). Note: The inequality measures (Gini, Theil, Mean Log and Atkinson) were re-scaled multiplying them by 100. The years used for each country are different, accord to data availability and the comparability between surveys, for more details of the years used please see Table A2. Due to comparability issues, the figures of Costa Rica use data from 2010 and 2012 for the changes between circa 2010-2012, and data from 2003 and 2009 for changes between circa 2003-2010. For that reason the changes between 2010-12 do not match the levels presented in this table.

Indicator	El Salvador	Guatemala	Honduras	Mexico	Nicaragua	Panama	Paraguay	Peru	Uruguay urban
Circa 2003									
Atkinson, A(1)	34.2	42.6	48.4	37.1	37.4	40.8	43.2	34.2	30.9
Gini coefficient	47.4	54.9	58.7	51.0	51.2	53.0	55.6	48.7	46.2
Mean log deviation, GE(0)	41.8	55.4	66.1	46.3	46.9	52.4	56.5	41.9	36.9
Rate 90/10	9.8	12.6	18.3	10.0	8.8	14.0	11.4	9.2	8.3
Theil index, GE(1)	41.5	63.9	68.8	56.7	57.2	53.0	70.6	46.0	39.4
Circa 2010									
Atkinson, A(1)	29.6	38.9	40.9	32.7	31.0	39.1	39.1	30.2	30.2
Gini coefficient	44.5	52.4	53.4	47.5	45.7	51.9	51.8	44.9	45.5
Mean log deviation, GE(0)	35.2	49.2	52.6	39.6	37.1	49.6	49.6	36.0	35.9
Rate 90/10	8.0	9.2	12.6	8.3	8.0	12.2	10.5	8.0	8.4
Theil index, GE(1)	35.8	63.8	55.7	43.9	40.1	53.0	63.6	38.5	38.0
Circa 2012									
Atkinson, A(1)	25.8		46.8	34.6		39.5	34.3	31.3	26.2
Gini coefficient	41.8		57.4	49.4		51.9	48.0	45.3	41.5
Mean log deviation, GE(0)	29.9		63.1	42.5		50.3	42.0	37.5	30.4
Rate 90/10	6.3		14.5	8.5		13.2	9.1	9.1	7.6
Theil index, GE(1)	33.5		74.7	48.6		52.1	48.3	38.0	29.9
Annual changes circa 2003-2010									
Atkinson, A(1)	-0.8	-0.7	-1.1	-0.7	-1.6	-0.6	-0.6	-0.7	-0.1
Gini coefficient	-0.5	-0.5	-0.8	-0.6	-1.4	-0.4	-0.5	-0.6	-0.1
Mean log deviation, GE(0)	-1.1	-1.2	-1.9	-1.1	-2.4	-0.9	-1.0	-1.0	-0.1
Rate 90/10	-0.3	-0.7	-0.8	-0.3	-0.2	-0.6	-0.1	-0.2	0.0
Theil index, GE(1)	-0.9	0.0	-1.9	-2.1	-4.3	0.0	-1.0	-1.2	-0.2
Annual changes circa 2010-2012									
Atkinson, A(1)	-1.9		5.9	1.0		0.2	-2.4	0.5	-2.0
Gini coefficient	-1.4		4.0	0.9		0.0	-1.9	0.2	-2.0
Mean log deviation, GE(0)	-2.6		10.5	1.5		0.4	-3.8	0.8	-2.7
Rate 90/10	-0.9		1.9	0.1		0.5	-0.7	0.5	-0.4
Theil index, GE(1)	-1.2		19.0	2.4		-0.4	-7.7	-0.2	-4.1

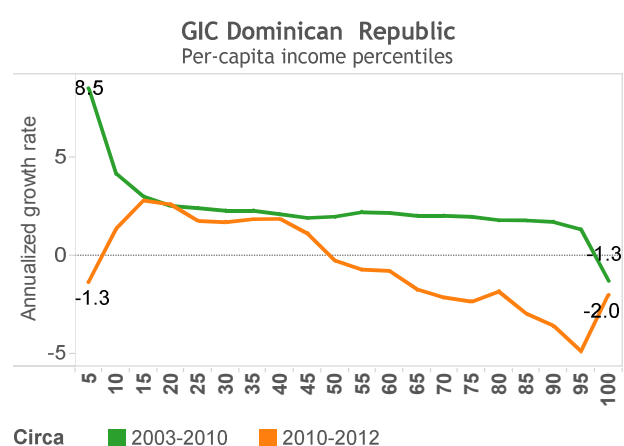
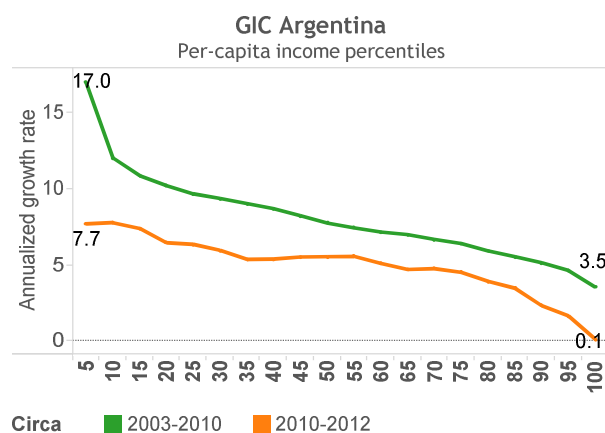
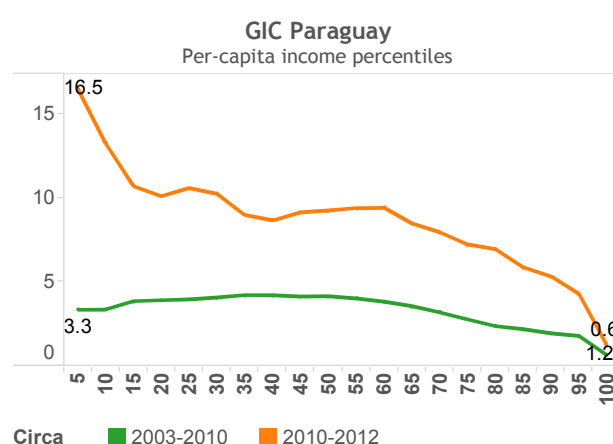
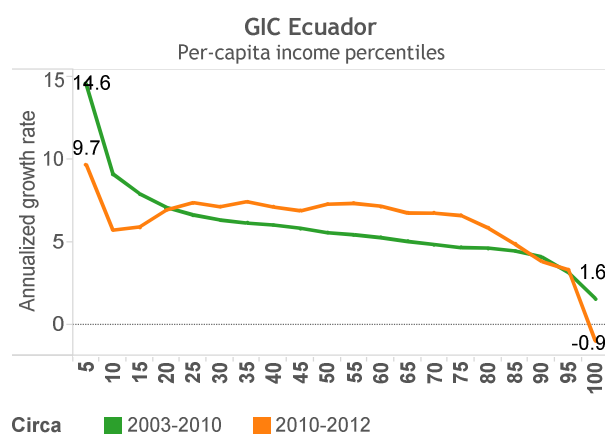
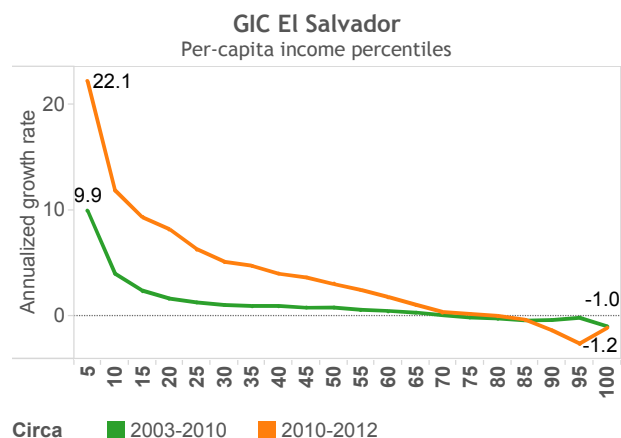
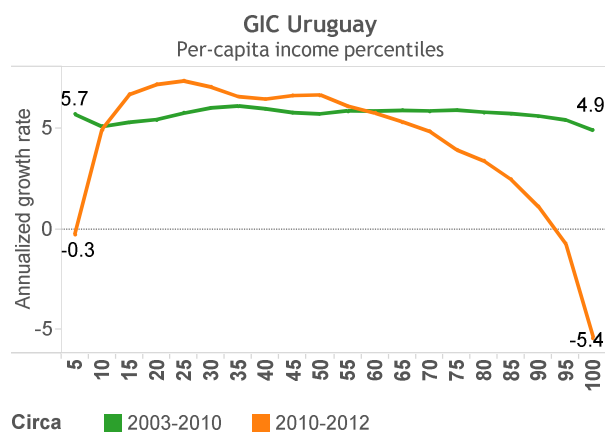
Source: Authors' calculation from SEDLAC (CEDLAS and the World Bank). Note: The inequality measures (Gini, Theil, Mean Log and Atkinson) were re-scaled multiplying them by 100. The years used for each country are different, accord to data availability and the comparability between surveys, for more details of the years used please see Table A2. There is not enough household survey data for Nicaragua and Guatemala to identify the change in inequality between circa 2010 and 2012.

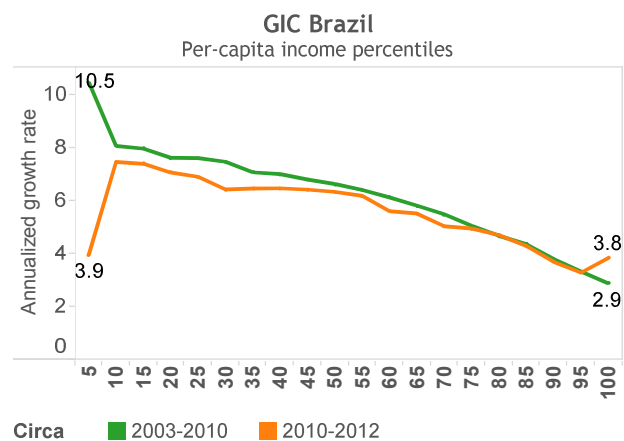
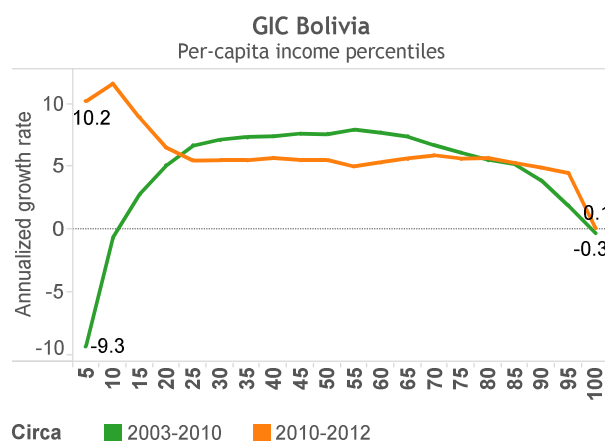
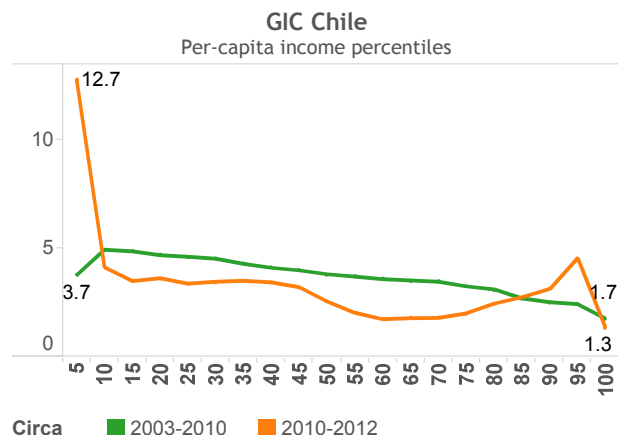
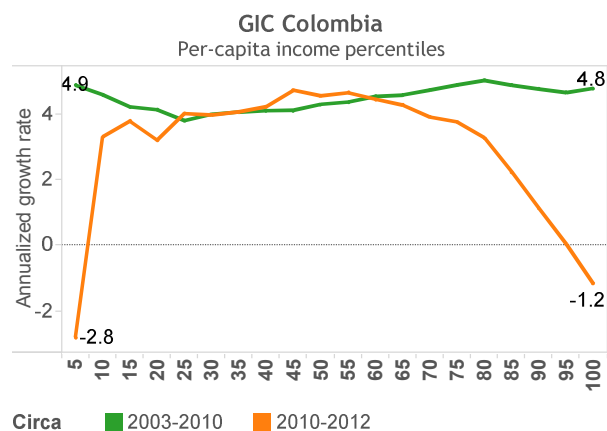
Table A2. Households surveys included in the circa years, 2003, 2010 and 2012

Country	Name of survey	Acronym	Circa 2003	Circa 2010	Circa 2012	Coverage
Argentina	Encuesta Permanente de Hogares- Continua	EPH-C	2004	2010	2012	Urban-31 Cities
Bolivia	Encuesta Continua de Hogares- MECOVI	ECH	2004	2009	2012	National
Brazil	Pesquisa Nacional por Amostra de Domicílios	PNAD	2003	2009	2012	National
Chile	Encuesta de Caracterización Socioeconómica Nacional	CASEN	2003	2009	2011	National
Colombia	Gran Encuesta Integrada de Hogares	GEIH	2003	2010	2012	National
Costa Rica	Encuesta Nacional de Hogares	ENAHO	2003	2009 2010	2012	National
Dominican Republic	Encuesta Nacional de Fuerza de Trabajo	ENFT	2003	2010	2012	National
Ecuador	Encuesta de Empleo, Desempleo, y Subempleo	ENEMDU	2003	2010	2012	National
El Salvador	Encuesta de Hogares de Propósitos Múltiples	EHPM	2004	2010	2012	National
Guatemala	Encuesta Nacional de Condiciones de Vida	ENCOVI	2006	2011		National
Honduras	Encuesta Permanente de Hogares de Propósitos Múltiples	EPHPM	2003	2010	2011	National
Mexico	Encuesta Nacional de Ingresos y Gastos de los Hogares	ENIGH	2004	2010	2012	National
Nicaragua	Encuesta Nacional de Hogares Sobre Medición de Niveles de Vida	EMNV	2005	2009		National
Panama	Encuesta de Hogares	EH	2007	2010	2012	National
Paraguay	Encuesta Permanente de Hogares	EPH	2003	2010	2012	National
Peru	Encuesta Nacional de Hogares	ENAHO	2004	2010	2012	National
Uruguay	Encuesta Continua de Hogares	ECH	2004	2010	2012	Urban-Montevideo and Interior >5000 inhabitants

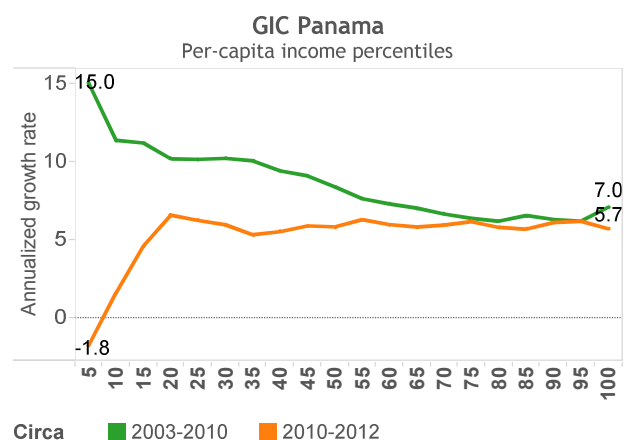
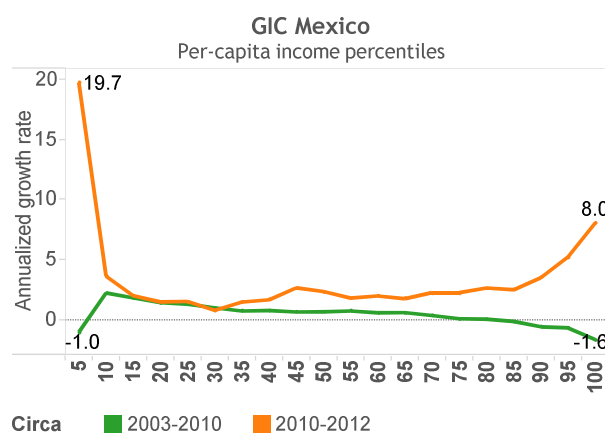
Note: Surveys for all countries are comparable across years except for Costa Rica, where a new survey was introduced in 2010.

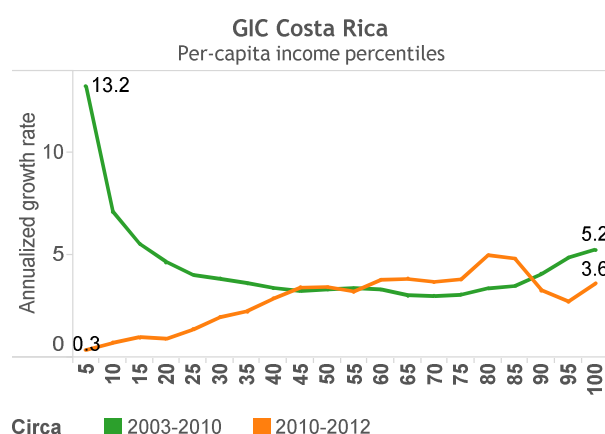
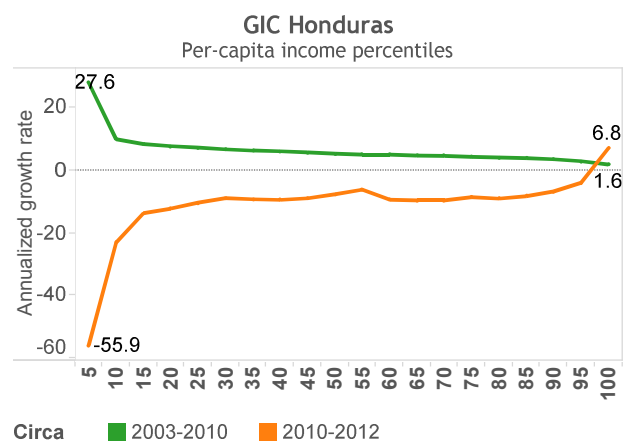
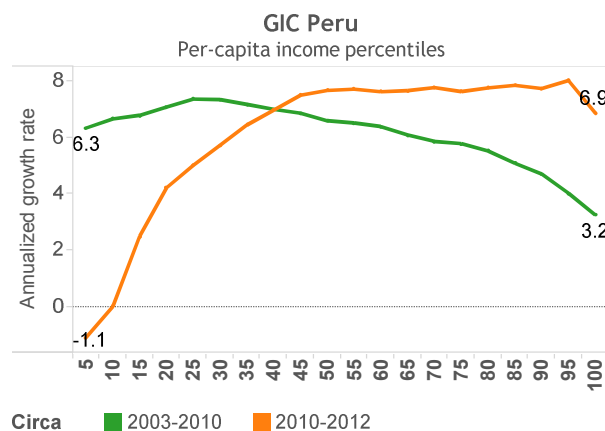
Figure A2 Growth Incidence Curves, 2003-2012
Countries where income inequality declined between 2010-2012



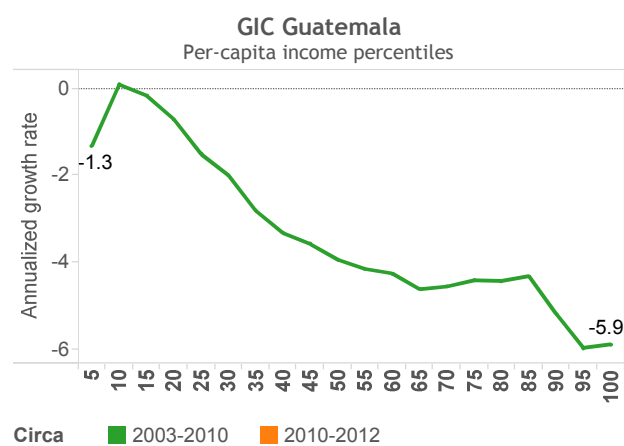
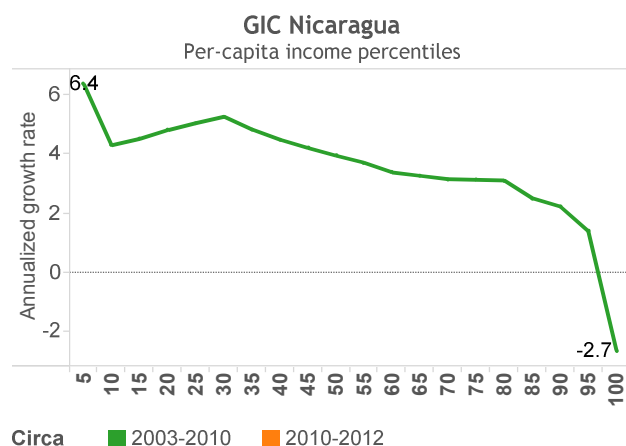


Countries where income inequality increased or stagnated between 2010-2012



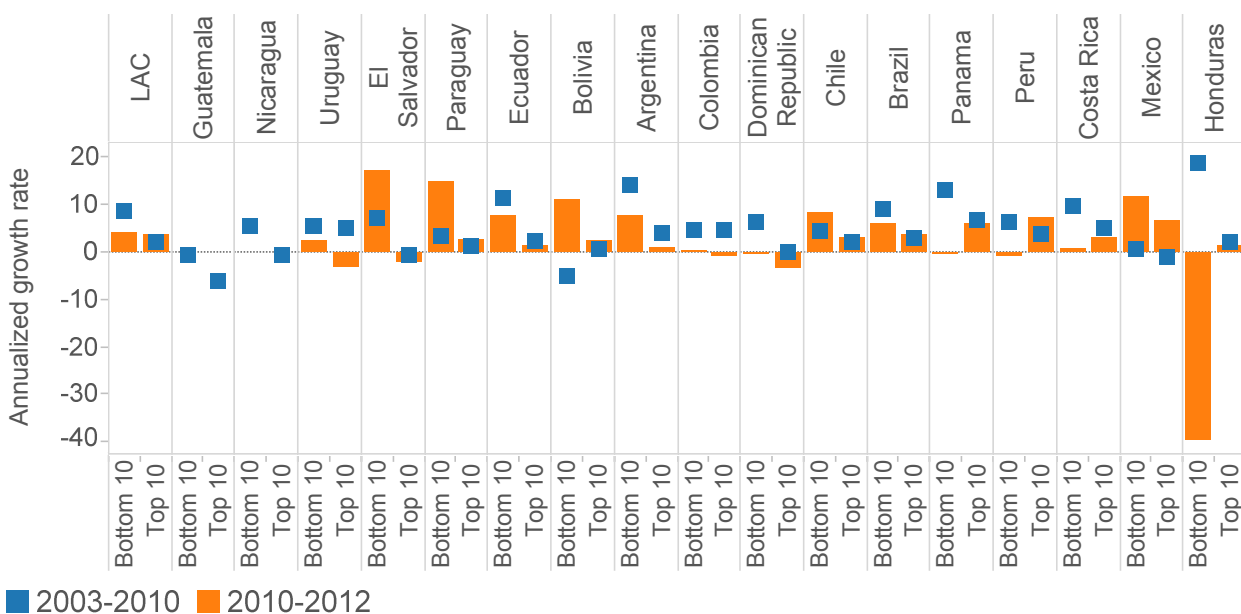


Countries without information about the change in income inequality between 2010-2012



Source: Authors' calculation from SEDLAC (CEDLAS and the World Bank). Note: The growth incidence curves was computed using 100 percentiles of per capita income, in order to draw the trend a smooth process was applied groping the percentiles in 20 quantiles and averaging the growth of each group. Thus the first quantiles was relabeled as 5th and it includes the average growth rate from the percentile 1st to the percentile 5th, while the last quantile was labeled as the percentile 100th and includes information from the percentile 96th to percentile 100th.

Figure A3. Annualized growth rates of per capita income for bottom and top deciles, 2003-10 and 2010-21



Source: Authors' calculation from SEDLAC (CEDLAS and the World Bank). Note: The countries are sorted by the reduction on inequality between 2010 and 2012.

Table A3. Decomposition of annual change on Gini by per capita household income source (2003-10 and 2010-12)

Country	Labor income			Transfer			Pensions			Other non-labor income			Total		
	2003 2010	2010 2012	Change	2003 2010	2010 2012	Change	2003 2010	2010 2012	Change	2003 2010	2010 2012	Change	2003 2010	2010 2012	Change
Guatemala	-0.26			0.04			-0.03			-0.26			-0.51		
Nicaragua	-0.92			-0.06			-0.02			-0.35			-1.36		
Uruguay urban	-0.32	-1.47	-1.15	-0.08	-0.06	0.03	0.09	-0.21	-0.3	0.21	-0.24	-0.45	-0.11	-1.98	-1.87
Paraguay	-0.5	-1.34	-0.84	-0.07	-0.21	-0.14	0	0.07	0.07	0.03	-0.43	-0.47	-0.53	-1.91	-1.38
El Salvador	-0.36	-0.94	-0.59	-0.05	0.11	0.16	0.02	-0.1	-0.11	-0.08	-0.43	-0.35	-0.47	-1.36	-0.89
Ecuador	-0.48	-0.63	-0.15	-0.3	-0.3	-0.01	0.01	-0.06	-0.07	-0.05	-0.35	-0.29	-0.82	-1.34	-0.52
Bolivia	-0.52	-0.99	-0.48	-0.06	0.00	0.06	-0.03	-0.03	0.00	-0.46	0.02	0.48	-1.07	-1.01	0.07
Argentina urban	-0.62	-0.82	-0.21	-0.01	-0.01	0.00	-0.26	-0.12	0.14	-0.06	-0.05	0.01	-0.95	-1.01	-0.06
Colombia	0.07	-0.62	-0.69	-0.15	-0.24	-0.08	0.06	0.00	-0.06	0.18	-0.13	-0.31	0.15	-0.99	-1.14
Dominican Republic	-0.19	-0.67	-0.49	-0.47	-0.07	0.4	0.02	0.13	0.12	-0.05	-0.15	-0.09	-0.7	-0.76	-0.06
Chile	-0.29	-0.16	0.13	-0.13	-0.34	-0.21	0.01	-0.2	-0.21	-0.04	0.13	0.17	-0.46	-0.58	-0.12
Brazil	-0.38	-0.07	0.3	-0.01	0.03	0.03	-0.07	-0.2	-0.12	-0.23	-0.16	0.07	-0.69	-0.4	0.29
Panama	0.0	0.48	0.48	-0.22	-0.13	0.08	0.09	-0.17	-0.25	-0.22	-0.19	0.03	-0.35	0	0.35
Peru	-0.42	-0.19	0.23	-0.11	-0.09	0.02	-0.04	0.01	0.05	-0.06	0.47	0.53	-0.63	0.21	0.83
Costa Rica	0.22	0.34	0.12	0.09	0.12	0.03	0.09	-0.01	-0.1	-0.22	-0.18	0.04	0.17	0.26	0.08
Mexico	-0.16	0.56	0.72	-0.18	0.06	0.24	0.04	0.23	0.19	-0.26	0.05	0.32	-0.57	0.9	1.47
Honduras	-0.42	3.49	3.91	-0.32	0.39	0.71	0.02	-0.02	-0.04	-0.03	0.15	0.18	-0.75	4.01	4.76

Source: Authors' calculation from SEDLAC (CEDLAS and the World Bank). Note: Due to data limitation, public transfers are not fully captured in the Brazilian data. Instead, some of these are captured in "other non-labor income.". The countries are sorted by the reduction on total income inequality between 2010 and 2012. The figures measure the effect of each income source on changes on inequality, thus a negative number means that the change in income source had equalizing effect on the change on inequality during the observed period, while a positive number means that the source had unequalizing effect on the observed period. The change column compare the pace between the two periods, thus a positive value implies that the effect of the income source on the inequality reduction is lower than in 2003-10 while a negative value means that the income source had a higher equalizing in 2010-2012 than before.

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