Working to End Poverty in Latin America and the Caribbean
Workers, Jobs, and Wages

WORLD BANK GROUP

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About the Poverty and Labor Brief Series

This is the seventh report in the Poverty and Labor Brief (PLB) Series. Produced by the Latin America and Caribbean Team for Statistical Development (LAC TSD) in the Poverty Global Practice, this series presents the latest trends in poverty, inequality, and shared prosperity in Latin America and the Caribbean (LAC) using comparable regional household and labor force surveys (SEDLAC and LABLAC, respectively). In addition, each PLB analyzes a specific development topic of interest to the region. For instance, earlier PLBs examined the recent reduction of inequality and the factors behind it; the contribution of women to poverty and inequality reduction; and the introduction of the new World Bank goals and their implications for LAC. PLBs are designed to provoke fact-based decision making and discussion by providing readers with detailed and comparable statistics related to the World Bank's twin goals of eradicating extreme poverty and boosting shared prosperity. Along with the previous PLBs, many of the indicators reported in the series are available at the country level in the LAC Equity Lab website at www.worldbank.org/equitylab.

Previous Poverty and Labor Briefs:

February 2014   *Social Gains in the Balance: A Fiscal Policy Challenge for Latin America and the Caribbean*
June 2013   *Shifting Gears to Accelerate Shared Prosperity in Latin America and the Caribbean*
August 2012   *The Effect of Women's Economic Power in Latin America and the Caribbean*
December 2011   *On the Edge of Uncertainty: Poverty Reduction in Latin America and the Caribbean*
                 during the Great Recession and Beyond
April 2011   *A Break with History: Fifteen Years of Inequality Reduction in Latin America*
October 2010   *Did Latin America Learn to Shield its Poor from Economic Shocks?*

Acknowledgements

The numbers presented in this brief are based on two regional data harmonization efforts known as SEDLAC and LABLAC, joint efforts of the World Bank and CEDLAS at the National University of La Plata in Argentina. They increase cross-country comparability of selected findings from official household and labor surveys. For that reason, the numbers discussed here may be different from official statistics reported by governments and national offices of statistics. Such differences should not be interpreted in any way as a claim of methodological superiority, as both sets of numbers serve the same important objectives: regional comparability and the best possible representation of the facts of individual countries. The welfare aggregate used in this study is income-based.
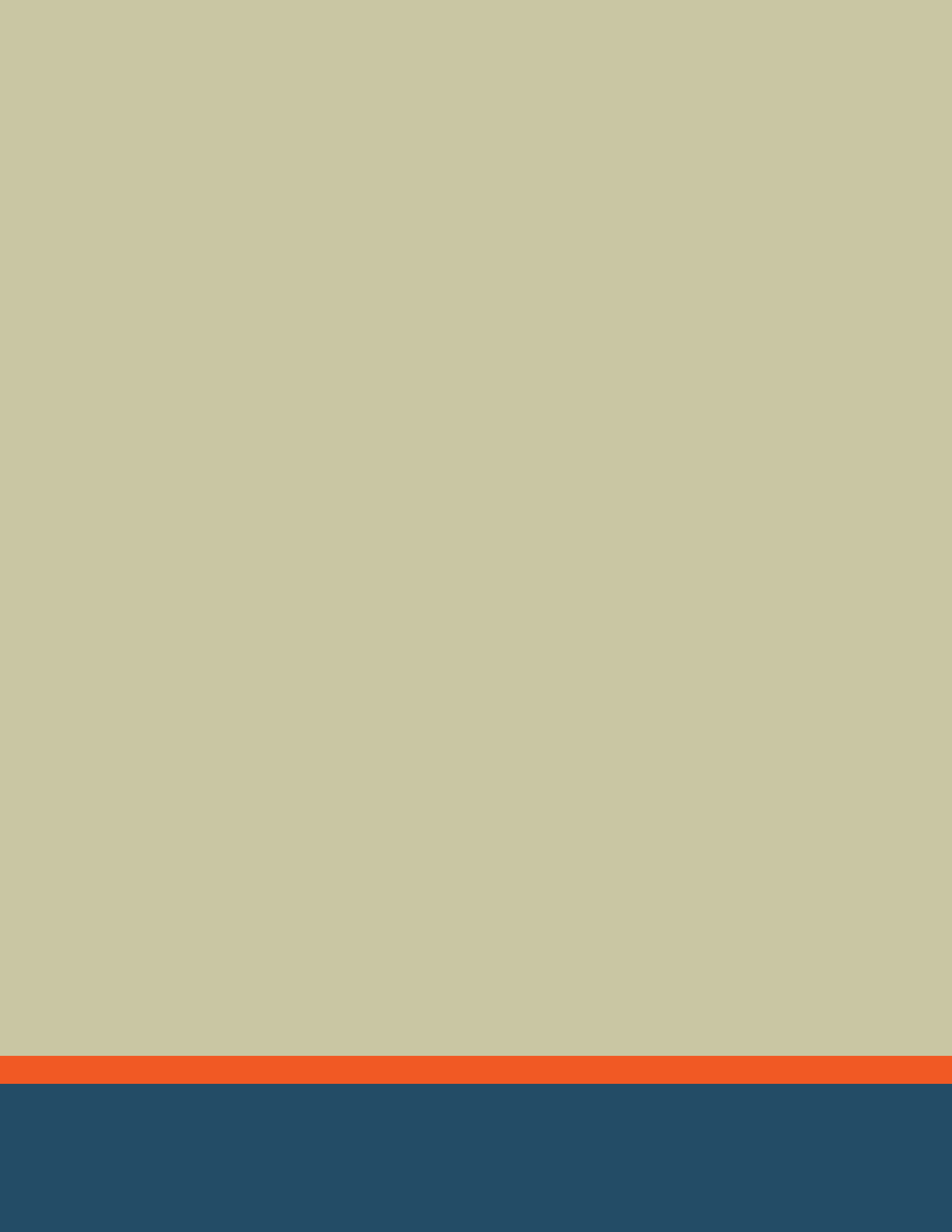
Executive summary

The LAC region achieved laudable gains in the 2000s in the fight against poverty. This was a decade of solid economic growth; substantial reduction in poverty and income inequality; and progress toward being a middle-class society. But in recent years, the momentum has waned. Both extreme poverty, defined in the region as life on less than $2.50 a day, and total poverty ($4 a day) decreased at a slower pace than in previous years, while extreme poverty as measured by the global benchmark of $1.25 remained fairly constant. Income growth—in particular at the bottom 40 percent of the region's income distribution—has slowed, while income inequality reduction has stagnated in recent years. Even when overall the decade's gains were significant, one in five Latin Americans has not benefitted and has stayed in poverty over the last ten years. Taken in sum, these trends signal a need for policy action to keep to a course toward better lives for millions of people in the region and achievement of the goals of eradicating extreme poverty and bolstering shared prosperity.

While changes in the distribution of household income played an important role, poverty reduction in LAC has been driven more by growth in income. Growth in income, in turn, flows in part from growth in the assets of the region's households—particularly human capital in the form of marketable skills—and how effectively those assets are applied in labor markets. Between 2003 and 2013, average wages of Latin Americans increased significantly, playing a big part in the region's poverty reduction and suggesting some improvements in the region's labor markets.

To better understand these dynamics, it is useful to keep in mind the diversity of the region's labor force by considering different skill groups, as defined by education levels. The unskilled, adults who did not finish primary school, have the highest poverty rates and account for almost half of the region's poor population; workers with

more schooling have better outcomes. The region has invested heavily in upgrading skills through education and has obtained results: throughout the income distribution, workers are becoming more skilled, and this shift has contributed to the region's poverty and inequality reduction.

Yet the region faces a paradox. Even as access to schooling has increased and women are joining the labor force at higher rates, the least skilled are increasingly more likely to drop out of the labor force than the higher skilled. This is particularly true among the region's youth, with many of the least-skilled not entering the labor force even as they drop out of school. This limits the effectiveness of anti-poverty strategies, as it disconnects many of the poor from the possibility of directly contributing to and benefiting from the region's economic growth.

The region's gains in skills and improvements in job quality do not on their own explain the overall upward trend in incomes. Self-employment and small enterprises continued to account for much of unskilled employment, yielding only subsistence incomes for many. And, even as services remain a low-productivity segment of the economy, they have been growing in importance for employment.

Instead, much can be attributed to the global commodity boom, which was a net plus for the region but had varying impacts across countries. As major commodity exporters, Brazil and most of the countries in the Andean region and the Southern Cone did well, with wages advancing, particularly for the least-skilled workers. But in Mexico and Central America, facing bigger import bills and international competition, workers at most skill levels suffered wage losses.

One policy tool that all LAC countries use is minimum wages. Even in the informal sector, the minimum wage has the potential to bolster the incomes of the poor by setting an economy-wide target, the so-called "lighthouse effect." But LAC countries have had mixed experience with this tool, which authorities often enforce only haphazardly even in the formal economy. A relatively low minimum wage tends to have a minor positive effect on worker's wages generally. But in countries that have set the wage too high, the lighthouse effect is lost as few people actually make the wage. Studies also show a possible trade-off of the minimum wage, some loss of employment as wages rise.

With the commodity boom fading, the region will do well to redouble internal efforts to promote more inclusive growth and to reduce poverty. This report highlights the need to ease the constraints that the poor face in labor market participation and to continue improving their access to high-quality education. While labor market policies like the minimum wage can be useful tools, care must be taken to apply them judiciously. Moreover, finding the best ways to stoke productivity, which will allow workers to make structural shifts to better jobs, will be an important challenge going forward for sustained inclusive growth and shared prosperity.

Section 1. LAC continues to move in the right direction, but gains are slowing

While poverty continued to fall in 2013, the rate of reduction was slower than in previous years.[1] Total poverty, defined in the region as life on less than $4 a day, decreased from 25.3 percent in 2012 to 24.3 percent in 2013, while extreme poverty ($2.50 a day) fell from 12.2 percent to 11.5 percent (Figure 1.1a). However, the speed of poverty reduction slowed compared to the past few years (Figure 1.1b). In addition, the proportion of people in the region living on less than $1.25 a day, the global extreme poverty line, remained fairly constant at four percent in 2013, threatening the region's ability to achieve the World Bank's goal of eradicating global extreme poverty by 2030.[2] While not included in the regional estimates, new data from Haiti highlight the country's continuing poverty disparity with the rest of the region, with nearly a quarter of its population living on less than $1.25 a day and close to 60 percent on less than $2.50 a day (see Box 1).[3]

In 2013, more than half of LAC's poor lived in the region's two most populous countries, Brazil and Mexico. These two countries alone were home to 55 percent of the region's poor in 2013 (30.4 and 24.6 percent, respectively), while only about five percent lived in the Southern Cone.[4] As presented in the 2014 Poverty and Labor Brief,[5] Brazil and the Southern Cone (and the Andean region to a lesser extent) were LAC's main driver of poverty reduction over the past decade—though the rate slowed in 2013 compared to the previous five years (Figure 1.2). In contrast, the 2013 shares of LAC's poor in Central America (18.7 percent) and in Mexico increased over the decade.

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1   The welfare indicator used in this report is the total household per capita income. This report follows Ferreira et al. (2012), who define four different economic classes based on the concept of economic security: (1) the poor, who have a per capita income below $4 a day; (2) the vulnerable, who with incomes between $4 and $10 a day face a high risk of falling into poverty; (3) the middle class, living on between $10 and $50 a day; and (4) the rich, with incomes above $50. The basic World Bank indicator for measuring extreme poverty globally is the percentage of people living on less than $1.25 a day. But the level of economic development in the LAC region has led analysts to use poverty lines that are higher: a $2.50 extreme and a $4 overall poverty line. Poverty lines and welfare measures are in 2005 US$ purchasing parity power (PPP) per day.
2   The World Bank's goal is to reduce extreme poverty at the $1.25 per day level to less than three percent worldwide by 2030 (see World Bank 2013).
3   Haiti is not included in the LAC aggregate due to insufficient data. There have been only two household surveys in Haiti since 2000, but they are not comparable and hence accurately interpolating poverty rates in Haiti for every year is not possible.
4   Since poverty data for Mexico are unavailable for 2013, this value is based on data extrapolation as described in Annex 1.
5   World Bank (2014a).

Figure 1.1. Poverty rates across LAC continued falling though at a lower rate

a) Poor, vulnerable, and middle-class headcount, 2003-2013

Legend:
— Global extreme poverty ($1.25 a day)
— Extreme poverty ($2.5 a day)
— Total poverty ($4 a day)
— Vulnerable ($4 to $10 a day)
— Middle class ($10 to $50 a day)

Values shown: 41.3, 35.6, 24.1, 21.3, 8.8, 38.6, 30.8, 28.4, 16.1, 5.3, 38.2, 37.8, 33.8, 35.0, 25.3, 24.3, 12.2, 11.5, 4.1, 4.0

b) Annual changes in poverty, 2004-2013

Legend:
■ Global extreme poverty ($1.25 a day)   ■ Extreme poverty ($2.5 a day)   ■ Total poverty ($4 a day)
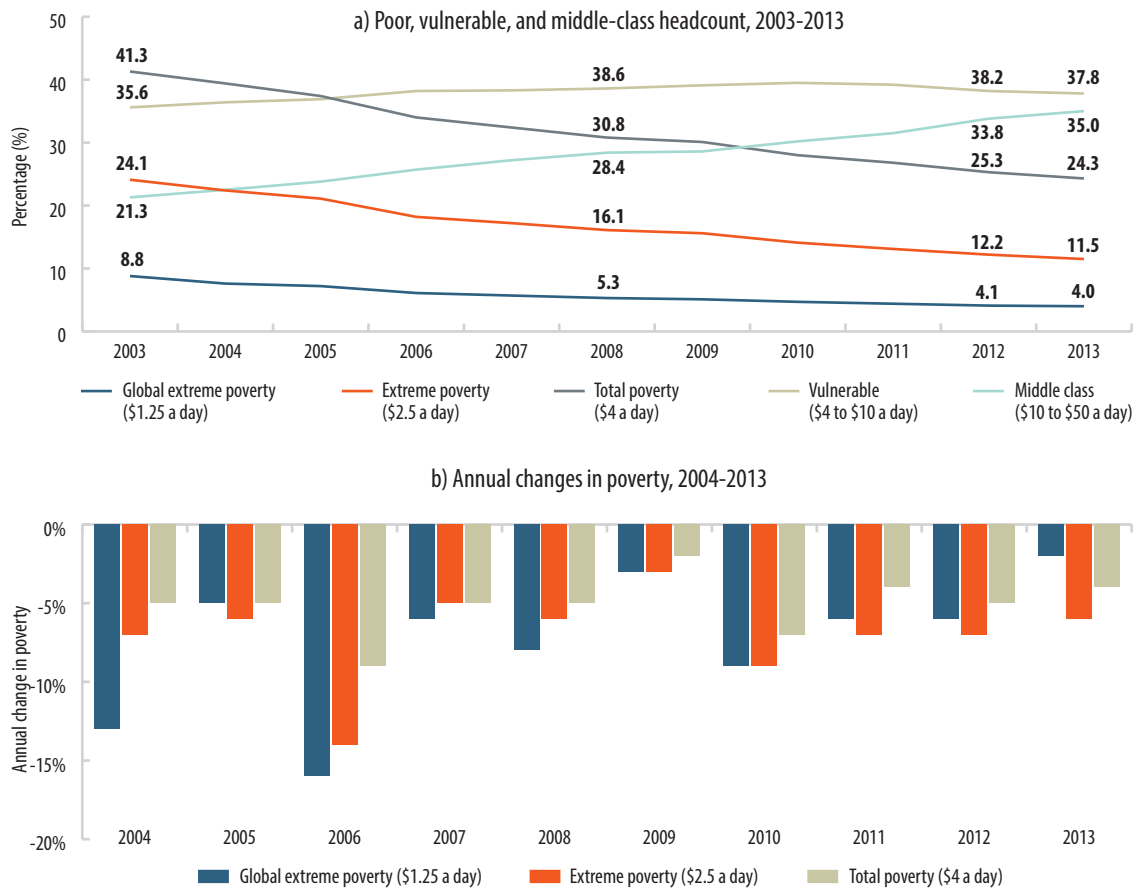
Source: Authors' calculations using SEDLAC data (CEDLAS and the World Bank). Note: Those earning more than $50 per day are not reported here, in part because of measurement limitations. Indicators for LAC are calculated using data from Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, and Uruguay. In order to analyze the same set of countries every year, interpolation was applied when country data were not available for a given year. For methodological details, see Annex 1. For country poverty rates, see Annex 2.

In 2013, LAC continued its progress towards becoming a middle-class region. Upward income mobility contributed in the last decade to the rise of the middle class (Box 2), defined as people with incomes between $10 and $50 a day (Figure 1.1). LAC's middle class grew 3.6 percent in 2013, but that was below its average in the previous three years (5.4 percent annually). Despite these important gains, most Latin Americans who are not poor face a high risk of falling into poverty because they have income between $4 and $10 a day. This group, the vulnerable, continues to be the largest in the region at 38 percent of the population.

The bottom 40 percent of the income distribution has experienced slowing income growth since the 2008-2009 global financial crisis. The World Bank uses the income growth of people in the bottom 40 percent as an indicator to monitor trends in shared prosperity. During the past five years (2008-2013, or the closest years of data availability), this group's income continued to grow more (or fall less, as in Honduras and Guatemala) than that of the mean population in all countries except Costa Rica (Figure 1.3). However, income growth was slower than in the previous five years for most countries. As of 2013, LAC's bottom 40 population was characterized by lower education and lower female labor force participation rates than the top 60 percent (Annex 4). In addition, the households in the bottom 40 had more children and were significantly more likely to live in rural areas.

BOX 1. Poverty in Haiti[6]

For the first time in more than a decade, Haiti recently released a new national survey on household living conditions, known as ECVMAS 2012. Historically, the analysis of monetary poverty in Haiti has been hampered by the lack both of credible, frequent statistical information and an official national measurement methodology. Before the 2012 survey, the most recent household living conditions survey dated back to 2001 (*Enquete sur les Conditions de Vie en Haiti–ECVH*) and included only income data. Those data, together with international poverty lines, were used by the government and its partners to calculate income-based poverty rates.

The new survey had its origins in the aftermath of the 2010 earthquake, when the Haitian Statistics and IT Institute (IHSI), the French research center DIAL (*Développement, Institutions et Mondialisation*) and the World Bank started collaborating to produce a new living conditions survey, representative at the national, urban-rural, and departmental levels. The resulting consumption data made possible the definition of a national official poverty line by an inter-institutional committee, with the technical assistance of the World Bank, as well as the calculation of consumption-based poverty rates. The resulting poverty indicators are not internationally comparable because they are based on different income aggregates. But they line up closely with international values used in this report. The extreme poverty line in Haiti, for example, is $1.23, very close to the international extreme poverty line of $1.25, while the total poverty line is $2.41, also close to the extreme poverty line used in LAC of $2.50 per day.[7]

Poverty is widespread in Haiti. In 2012, the overall poverty rate was 58.5 percent, and the extreme poverty rate was 23.8 percent. To put this into regional perspective, LAC's global extreme poverty rate, based on a $1.25 line close to the Haitian extreme poverty line, was just 4.1 percent in 2012. Poverty is considerably more common in rural areas and in the north (Figure B1.1). More than 80 percent of the extreme poor live in rural areas. Thirty-eight percent of the rural population is not able to satisfy its nutritional needs, compared with 12 percent in urban areas and 5 percent in the Metropolitan Area.

Despite the devastation of the 2010 earthquake, extreme poverty rates are lower across the country, especially in urban areas, than they were in 2000. Extreme poverty declined from 31.4 percent in 2000 to 23.8 percent in 2012,[8] driven by increasing labor income and private transfers in urban areas. While it moved from around 21 and 20 percent down to 12 and 5 percent in other urban areas and the Metropolitan Area respectively, extreme poverty essentially held steady in rural areas.

Figure B1.1. Poverty remains high throughout Haiti
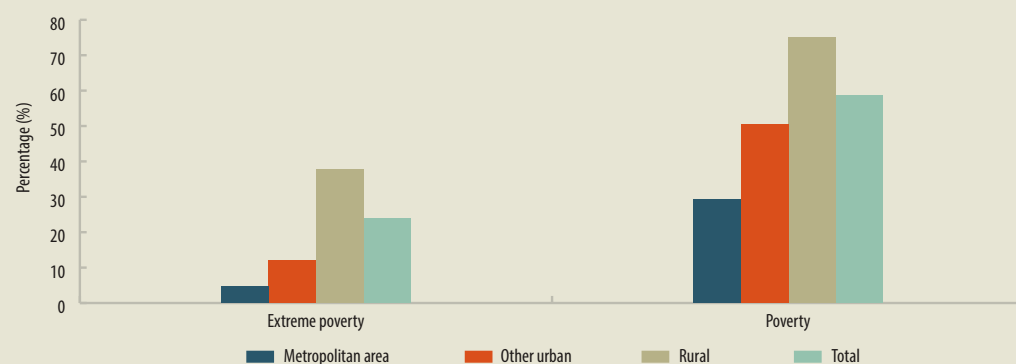
Source: World Bank and Observatoire National de la Pauvreté et de l'Exclusion Sociale (2014). Note: Poverty is defined as $2.41 (in 2005 PPP values) per capita per day while extreme poverty is defined as $1.23.

6   The results presented here are based on World Bank and *Observatoire National de la Pauvreté et de l'Exclusion Sociale (2014)*.
7   In local currency the extreme poverty line is G 41.6 and the moderate line is G 81.7.
8   The 2000 poverty rates are from the Fafo Institute for Applied International Studies (2001), a Norwegian research center, based on the IHSI *Enquête Budget et Consommation des Ménages 1999/2000*. The consumption poverty indicators for 2000 were calculated based on a national food poverty line estimated in a slightly different manner than the official 2012 methodology. The consumption aggregate for extreme poverty in 2000 was developed using over 50 items in the food basket, while the 2012 aggregate was based on a food basket of 26 items that reflects 85 percent of the value of the food consumed among the reference population in all regions of Haiti (deciles 2–6). Furthermore, the aggregate for 2000 does not include imputed rents, while the aggregate for 2012 does. Simulations show that, even excluding imputed rents from the 2012 aggregate, the declining trend in extreme poverty holds.

Figure 1.2. Progress against poverty was unequally distributed across sub-regions of LAC, 2003-2013
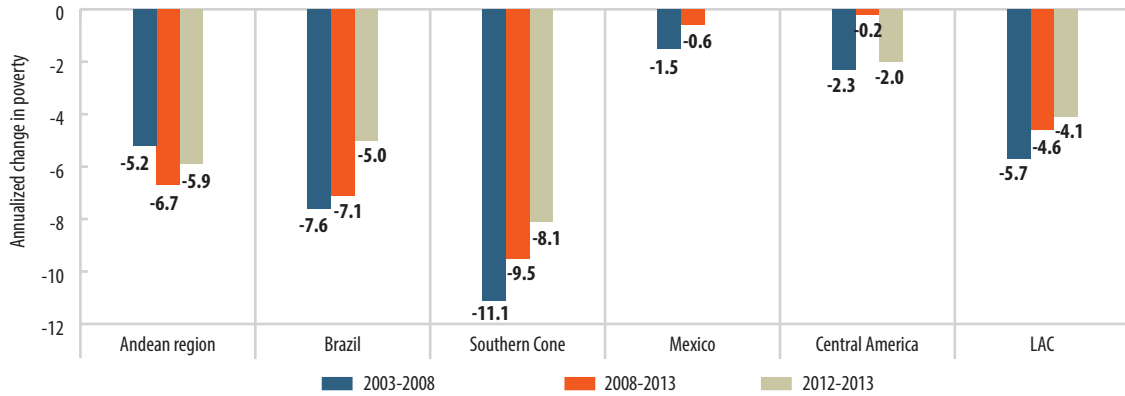
Source: Authors' calculations using SEDLAC data (CEDLAS and the World Bank). Note: The poor are defined as people with per capita income lower than $4 a day (2005 US$ purchasing parity power per day). In order to analyze the same set of countries every year, interpolation was applied when country data were not available for a given year. The Andean region is Bolivia, Colombia, Ecuador, and Peru; the Southern Cone is Argentina, Chile, Uruguay, and Paraguay; and Central America is Costa Rica, Dominican Republic, El Salvador, Guatemala, Honduras, Nicaragua, and Panama. Data for Mexico were unavailable for 2013. In this figure, Mexico's annualized poverty reduction shown for the period 2008-2013 refers to 2008-2012.

Figure 1.3. Progress in shared prosperity has slowed in most LAC countries during the past five years.
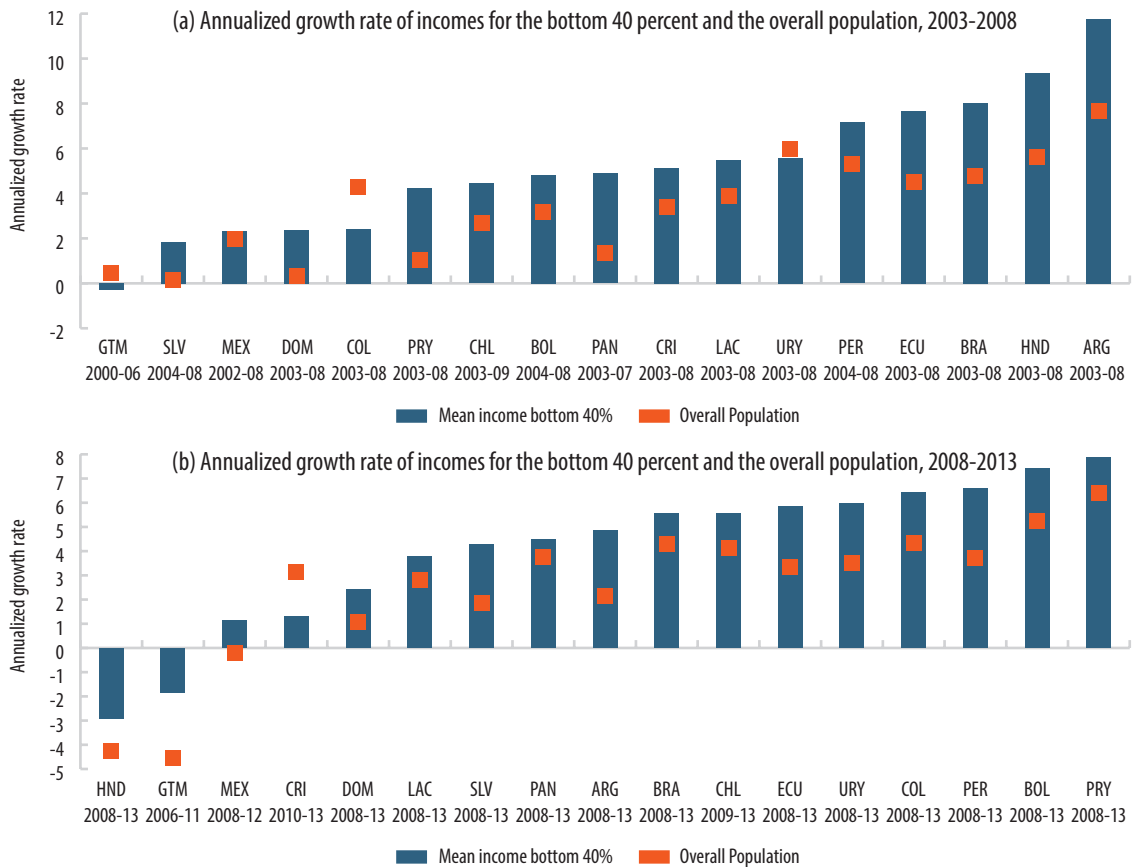
Source: Authors' calculation using SEDLAC data (CEDLAS and the World Bank). Note: The figure shows the annualized growth of incomes for the bottom 40 percent and the overall population between 2003-2008 and 2008-2013, or the nearest years in cases in which these surveys are not available for selected years.

BOX 2. Chronic poverty in LAC[9]

Figure 1.1 depicts net flows out of poverty in the region between 2003 and 2013. The gross flows were more complex, with some people leaving poverty, some entering it, and some having no change in their status. Studying these gross movements (or lack of movement) and the circumstances of people involved is highly relevant, because effective policies to eliminate chronic poverty might differ considerably from those needed to address transient poverty. Vakis et al. (2015) analyze income mobility in LAC between 2004 and 2012, paying special attention to people who remained in poverty between both years. The authors apply an innovative technique developed by Dang et al. (2014) and improved by Dang and Lanjouw (2014) that allows estimating income mobility using cross-sectional data.[10] Four groups are defined: (1) those originally poor who remained in poverty (the chronic poor), (2) those who escaped poverty, (3) those originally non-poor who entered poverty, and (4) those who were never poor.

Twenty-three percent of LAC's total population (slightly more than half of the originally poor) escaped poverty between 2004 and 2012. In contrast, only four percent (about eight percent of the originally non-poor) moved into poverty. The numbers are generally positive, yielding a downward trend in poverty. But at the same time, they point to a need for further progress: One in five Latin Americans remained in poverty between both years. Moreover, large variations existed between countries. Argentina, Uruguay, and Chile had the lowest rates of chronic poverty (about 10 percent), while Nicaragua, Honduras, and Guatemala had the highest (more than 35 percent).

Table B.2.1. Income mobility in LAC, 2004-2012

		Year 2012		
		Poor	Non-poor	Total
Year 2004	Poor	21.6	23.4	44.9
	Non-poor	4.2	50.9	55.1
	Total	25.7	74.2	100.0

Source: Vakis et al. (2014) using SEDLAC data (CEDLAS and the World Bank). Note: Estimates of poverty at the regional level are population-weighted averages of country-specific estimates. Country-specific figures come from 2004 or 2012 surveys, or the nearest year in cases in which 2004 and/or 2012 data are unavailable. The poor are people with a per capita daily income lower than $4 a day. Indicators for LAC are calculated using data from Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, and Uruguay.

Behind the slower progress in shared prosperity and poverty reduction is dampened economic growth in the region. Annual GDP per capita growth in the region declined from five percent in 2010 to only 1.6 percent in 2013 and an estimated negative 0.3 percent in 2014 (Figure 1.4).[11] These rates are considerably lower than in the mid-2000s—economic growth briskly accelerated between 2003 and 2007.

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9   This box largely relies on Vakis et al. (2015).
10   The technique developed by Dang et al. (2014) constructs synthetic panels using repeated cross-sectional data. Lower- and upper-bound estimates of income are obtained, which serve to sandwich true income mobility. Cruces et al. (2014) validated the technique in three countries in LAC (Chile, Nicaragua, and Peru) and lower- bound estimates were applied to all LAC countries by Ferreira et al. (2012). Dang and Lanjouw (2014) improved this technique by obtaining point estimates based on a parametric approach. Vakis et al. (2015) restrict estimates to households whose head is between 25 and 65 years of age and therefore estimates of poverty are slightly different from those presented in Figure 1.1.
11   World Bank (2015).

Figure 1.4. Economic growth has decreased substantially and inequality remained stagnant in LAC since 2010

Source: GDP per capita is from the World Development Indicators (WDI) and the 2014 GDP per capita projection is from World Bank (2015). For the LAC's Gini coefficient, calculation was made using SEDLAC data (CEDLAS and the World Bank). Note: Numbers are calculated using pooled data from Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Hondu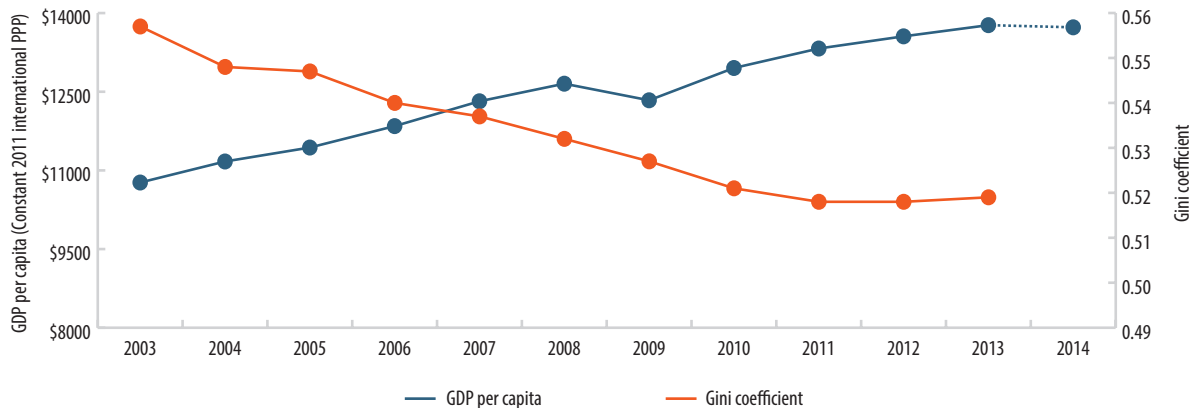ras, Mexico, Nicaragua, Panama, Paraguay, Peru, and Uruguay. In order to analyze the same set of countries every year, interpolation was applied when country data were not available for a given year. Inequality measures include households with zero incomes. Results are similar with the exclusion of these households. For methodological details, see Annex 1. For the Gini coefficient of each country see Annex 2.

After more than a decade of steady decline, inequality has remained stagnant since 2010. Income inequality measured by the Gini coefficient declined considerably in LAC between 2003 and 2010 (Figure 1.4 and Box 3).[12] However, the rate of reduction slowed in 2010, with the Gini coefficient remaining flat through 2013 at around 0.52 points. This is consistent with the trend first noted in the 2014 Poverty and Labor Brief.[13] This inequality stagnation is mainly driven by Mexico and several Central American countries which have seen actual increases in inequality, but is also felt in some Andean countries and in Brazil, where inequality reduction has slowed in recent years (Annex 2, Table A.2).[14]

Gains in poverty reduction were mainly driven by overall growth in income levels, rather than changes in the distribution of income. The Datt-Ravallion (1992) decomposition indicates that about 73 percent of the fall in poverty (7.7 percentage points) between 2003 and 2008 was the result of higher incomes while changes in the distribution of income accounted for only 27 percent (Figure 1.5a). As the reduction in inequality slowed between 2008 and 2013, the share of poverty reduction resulting from income growth grew slightly, to almost 77 percent, even though growth was lower in this period.[15] However, during the 2008-2013 period, redistribution was the salient driver of poverty reduction in Mexico, and in the Southern Cone it was almost as important as growth. In Brazil it played a notably smaller role compared to the previous period. In Central America, however, redistribution exerted a regressive influence on poverty reduction (Figure 1.5b).

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12   The Gini coefficient measures income inequality, using values between zero for perfect equality and one for perfect inequality. Since the coefficient does not satisfy group decomposability, the regional Gini coefficient is computed based on pooled country-specific data previously collapsed into 8000 percentiles. As a result, this measure captures the income inequality between the region's populations, and thus differs from measures based on country-specific indicators.
13   World Bank (2014a). Increases in inequality are seen using the harmonized SEDLAC database and do not necessarily match official trends. However, because official indicators do not rely on comparable data, they cannot be used for international comparisons.
14   Cord et al. (2014).
15   Results were similar for extreme poverty (see Annex 5).

BOX 3: Income inequality stagnation in LAC is confirmed by multiple measures

Four different inequality measures show a slowdown of inequality reduction since 2010. Figure B3.1.a presents the evolution of income inequality measured by the following indicators: (1) the weighted averages of country-specific Gini coefficients, (2) the unweighted average of country-specific Gini coefficients, (3) the Theil index, and (4) the Mean-log deviation. The notable reduction of inequality between 2003 and 2010 and the subsequent stagnation is confirmed in the weighted and unweighted averages of country-specific Gini coefficients and by the pooled Log-mean deviation. The Theil index shows a similar trend, decreasing from 0.63 to 0.53 between 2003 and 2011, rising in 2012 for the first time in the 2000s to decrease again in 2013 to the 2011 level.[16]

Income divergence between LAC's countries has been increasing, but remains a small part of the region's inequality. The Theil indicator can be decomposed into the sum of two terms: the inequality between countries and a weighted average of the inequality within each country. A decomposition of the Theil index reveals a divergence of incomes across countries as a growing, though still minor, source of the overall income inequality in LAC. Instead, the within component, that is, income inequality within each country, is responsible for the recent flattening of income inequality, explaining about 95 percent of total inequality in 2013 (Figure B3.1.b).[17]

Figure B3.1. The slowing down of income inequality reduction is captured by indicators other than the pooled Gini coefficient

a) Evolution of income inequality in LAC, 2003-2013

Gini (weighted average) — Gini (unweighted average) — Theil — Mean-log deviation

b) Decomposition of the Theil coefficient in LAC, 2003-2013

All — Within — Between

Source: Authors' calculation using SEDLAC data (CEDLAS and the World Bank). Note: The Theil Index and mean log deviation for LAC are calculated using pooled data from Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, and Uruguay. In order to analyze the same set of countries every year, interpolation was applied when country data were not available for a given year. Inequality measures include households with zero incomes. Results are similar with the exclusion of these households. For methodological details, see Annex 1.

16   Results are also similar with additional inequality measures not shown in Figure B3.1.a, such as the ratio between the 90th and the 10th percentile, and the Atkinson index.
17   Cord et al. (2014).

Figure 1.5. Economic growth has been the leading driver of LAC's poverty reduction
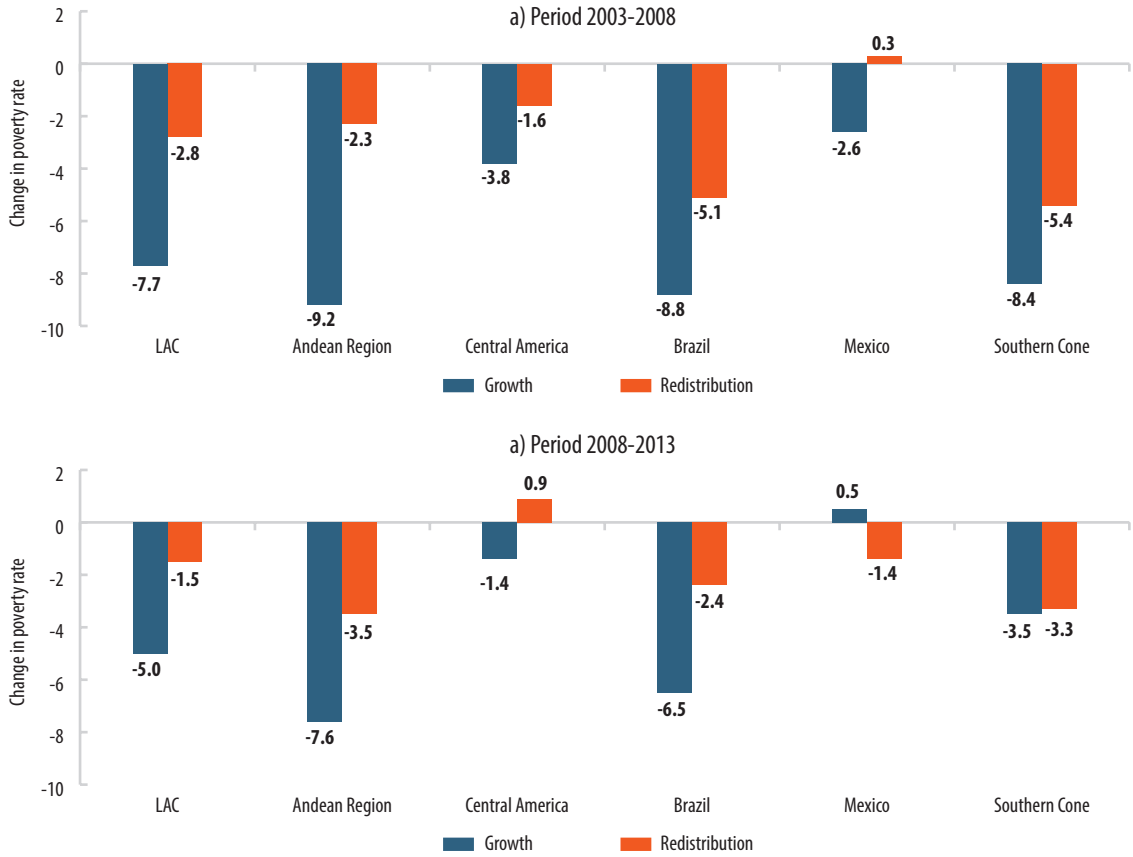
a) Period 2003-2008

Y-axis: Change in poverty rate

Region	Growth	Redistribution
LAC	-7.7	-2.8
Andean Region	-9.2	-2.3
Central America	-3.8	-1.6
Brazil	-8.8	-5.1
Mexico	-2.6	0.3
Southern Cone	-8.4	-5.4

Legend: ■ Growth ■ Redistribution

a) Period 2008-2013

Y-axis: Change in poverty rate

Region	Growth	Redistribution
LAC	-5.0	-1.5
Andean Region	-7.6	-3.5
Central America	-1.4	0.9
Brazil	-6.5	-2.4
Mexico	0.5	-1.4
Southern Cone	-3.5	-3.3

Legend: ■ Growth ■ Redistribution

Source: Authors' calculations using SEDLAC data (CEDLAS and the World Bank). Note: The figure shows the Datt-Ravalion (1992) decomposition of poverty changes. See Annex 7 for details on the methodology. LAC and sub-regional estimates are calculated using pooled data from the relevant set of countries. In order to analyze the same set of countries every year, interpolation was applied when country data were not available for a given year. For methodological details, refer to Annex 1.

Figure 1.6. Low-income households saw lower and less pro-poor growth than during the early 2000s

Y-axis: Annual average growth percapita income

X-axis groups: 2003-2008, 2008-2010, 2010-2013

Legend: ■ Labor income ■ Non-labor income — Total income
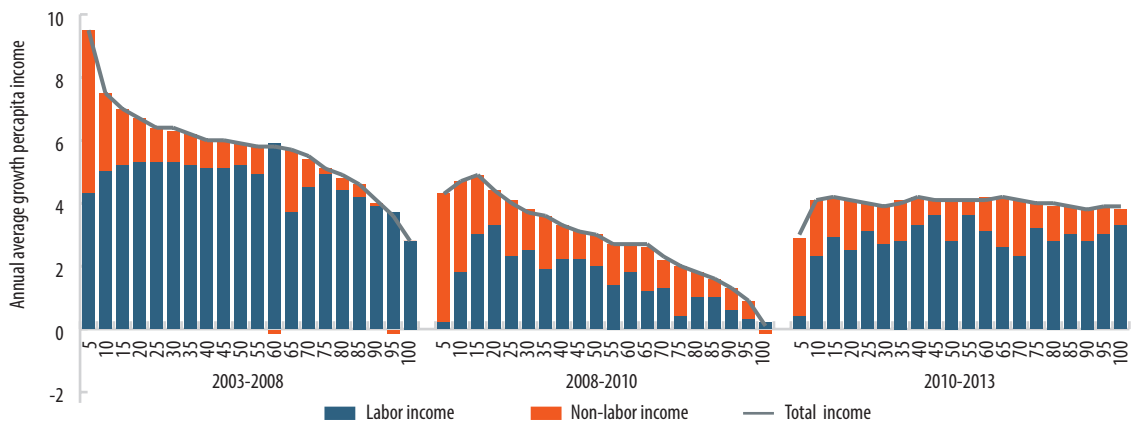
Source: Authors' calculations using SEDLAC data (World Bank and CEDLAS). Note: The growth incidence curves are calculated using pooled harmonized data from 17 countries. In order to analyze the same set of countries every year, interpolation was applied when country data were not available for a given year. For methodological details, see Annex 1. Non-labor income refers to public monetary and in-kind transfers, contributory and non-contributory pensions, capital incomes (such as profits and benefits; rents; and interest and benefits), and private transfers and remittances.

The recent stagnation of income inequality and the lower rate of growth have yielded a pattern of growth that is less pro-poor. The growth incidence curve (GIC), which shows the annualized growth rate of per capita income for every percentile of the income distribution, reveals a much higher growth of incomes at the lower end of the income distribution than at the top between 2003 and 2008 (Figure 1.6).[18] During the 2008-2009 global financial crisis, growth was lower, but continued to be pro-poor as the middle class and especially the wealthier households were harder hit by the crisis. Since 2010, the GIC has become flatter in the region, with a fairly constant growth rate of about four percent for all percentiles, except the bottom decile, which was lower. Both labor and non-labor income grew less during the past five years compared to the first period, but more than during the financial crisis. Non-labor income growth has been more pro-poor and its contribution increased throughout the income distribution during the global financial crisis. Among the poorest groups, in fact, income growth has been largely limited to non-labor income.

Labor markets have been the main channel through which growth reduced poverty in LAC since 2003, although their importance decreased in 2008-2013 compared to the earlier period. Using the methodology introduced by Barros et al. (2006) and Azevedo, Sanfelice, and Cong Nguyen (2012), it is possible to isolate the role played by different income sources in reducing poverty. Higher labor income accounted for 58 percent of the overall LAC reduction in poverty in 2003-2008 and 49 percent in 2008-2013 (see Figure 1.7).[19] Nonetheless, this regional trend did not hold in every area: In Mexico and Central America, the parts of the region hardest hit by the 2008-2009 global financial crisis, labor incomes actually fell, increasing poverty in those countries (see Annex 6). Demographic changes, including falling fertility rates, played a generally positive role: The region's falling age dependency ratio accounted for ten percent of the poverty reduction between 2003 and 2008 and 12 percent between 2008 and 2013 as more household members came to be of working-age.[20] Despite the importance of labor earnings, increases in non-labor income, such as public transfers, pensions, private transfers, and capital incomes, contributed 33 percent to the reduction of poverty in 2003-2008 and 39 percent in 2008-13. Results were similar for extreme poverty (see Annex 5).

Labor income poverty continued its downward trend in many countries in 2014. Given that labor income is the primary driver of poverty reduction, it is important to monitor the share of households that are unable to satisfy basic needs relying only on their labor income. The Labor Income Poverty Index (LIPI)[21] measures poverty based on whether households have less per capita labor income than the regional poverty lines. Given that it relies on quarterly and monthly labor surveys, the LIPI provides high-frequency and almost up-to-date poverty measures.[22] Poverty measured by the LIPI coefficient has decreased in almost all of the countries since the second quarter of 2010 (Figure 1.8), though the pace of reduction has decreased over time and even flattened in many countries in recent years. Mexico was the only exception: After remaining almost stagnant since the 2009 crisis, labor income poverty in Mexico has increased since 2013.[23] Suggesting slowing poverty reduction ahead, the most recent quarters of available data in Argentina, Brazil, and Peru showed signs of increasing labor income poverty.

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18   For more details on the GIC methodology, see Ravallion and Chen (2003).
19   Changes in labor income were calculated using adult workers between the ages of 15 and 69 only.
20   In previous Poverty and Labor Briefs, this decomposition did not adjust for demographic changes, the share of the household that is of working age. As a result, earlier estimates of the impact of labor income on poverty were higher as they captured the demographic change as part of changes in the employment level. See Annex 8 for a deeper explanation of the methodology.
21   The index was first applied in Mexico by CONEVAL.
22   Since it relies on higher-frequency labor data, the LIPI is only available for the eight countries in LAC in which these data are available: Argentina, Brazil, Colombia, Ecuador, Mexico, Nicaragua, Peru, and Uruguay (see Annex 3).
23   A potential problem in the calculation of the LIPI using Mexican data has recently been identified: The rate of labor income non-response and zero responses for those who are employed in the labor force survey (ENOE) increased from 10 percent to 22 percent between 2005 and 2012 (Campos-Vazquez, 2013, and Rodriguez-Oreggia and Lopez Videla, 2014). The LIPI reported here is based on harmonized LABLAC data and, to address the increase in non-response of earnings in the Mexican data, excludes in its Mexico calculations households with members who reported working but did not report income. This adjustment reduces the change in poverty from five percentage points to two percentage points. Tests were conducted on the data of the other countries in the LABLAC data source; no issues with high rates of non-response were found.

Figure 1.7. Labor market earnings have been the primary driver of poverty reduction

a) LAC, 2003-2008

b) LAC, 2008-2013
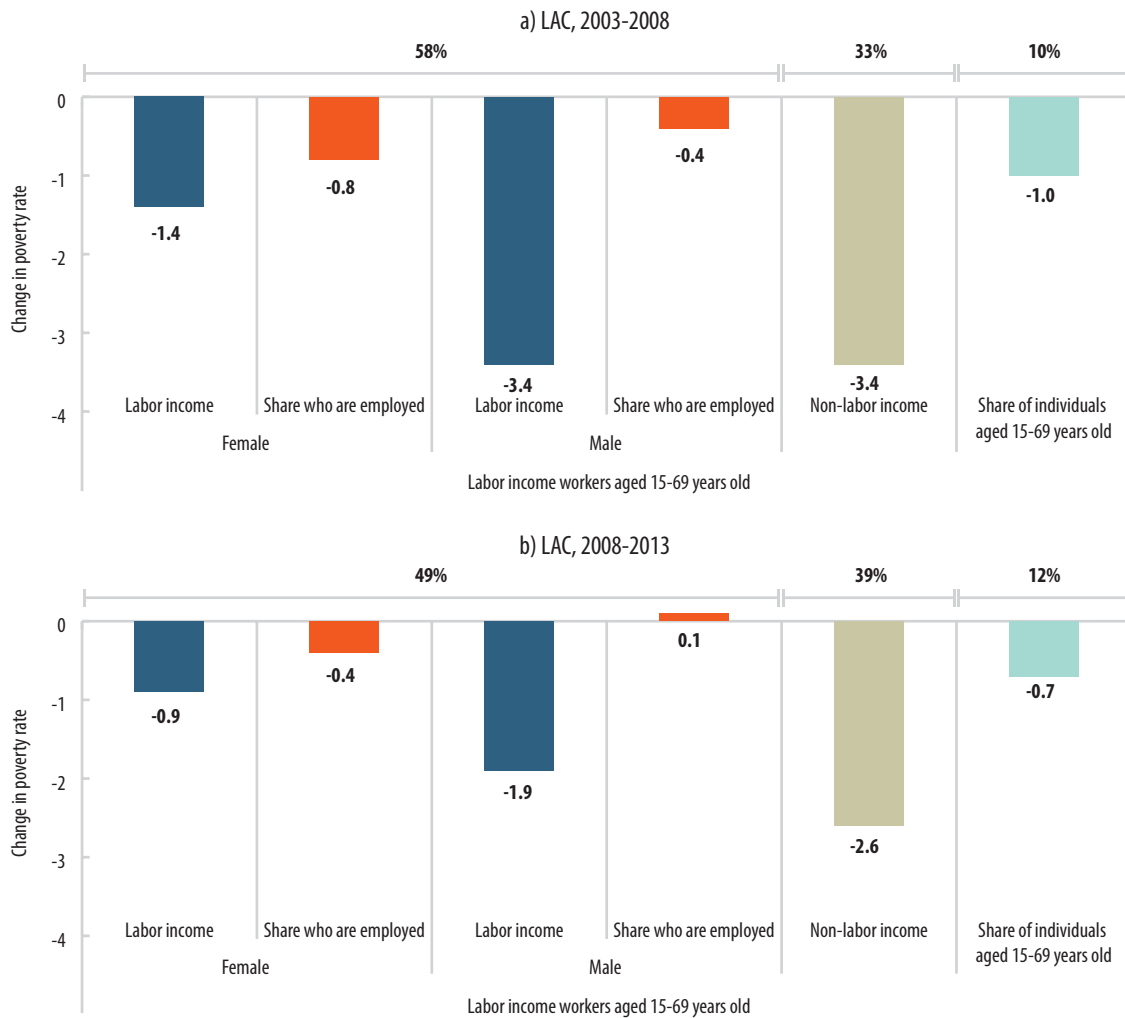
Source: Authors' calculations using SEDLAC data (World Bank and CEDLAS). Note: The poor are people with a per capita income lower than $4 a day (2005 US$ purchasing parity power per day). The figure presents the Shapley decomposition of poverty changes. See Annex 8 for details on the methodology based on Barros et al. (2006) and Azevedo, Sanfelice, and Cong Nguyen (2012). LAC estimates are calculated using pooled data from the relevant set of countries. Labor income and share who are employed are only calculated for adults ages 15 to 69. Non-labor income refers to public monetary and in-kind transfers, contributory and non-contributory pensions, capital incomes (such as profits and benefits; rents; and interest and benefits), and private transfers and remittances. In order to analyze the same set of countries every year, interpolation was applied when country data were not available for a given year. For methodological details, see Annex 1.

A broad range of labor market changes has contributed to poverty and income inequality reduction over the past decade in LAC. The following section analyzes more deeply LAC's labor markets, presenting recent human capital accumulation trends, sectoral shifts, and labor demand factors driving wage increases. Increases in educational attainment and structural changes in labor markets, as measured by sector of employment and type of employment, are not large enough to explain the notable wage growth that much of the region has enjoyed. Rather, credit goes to the region's commodity boom, especially concerning the least skilled, while the implementation of minimum wages over the past decade boosted wages even in the informal sector.

Figure 1.8. Labor income poverty ($4 a day) has decreased in most countries since 2010
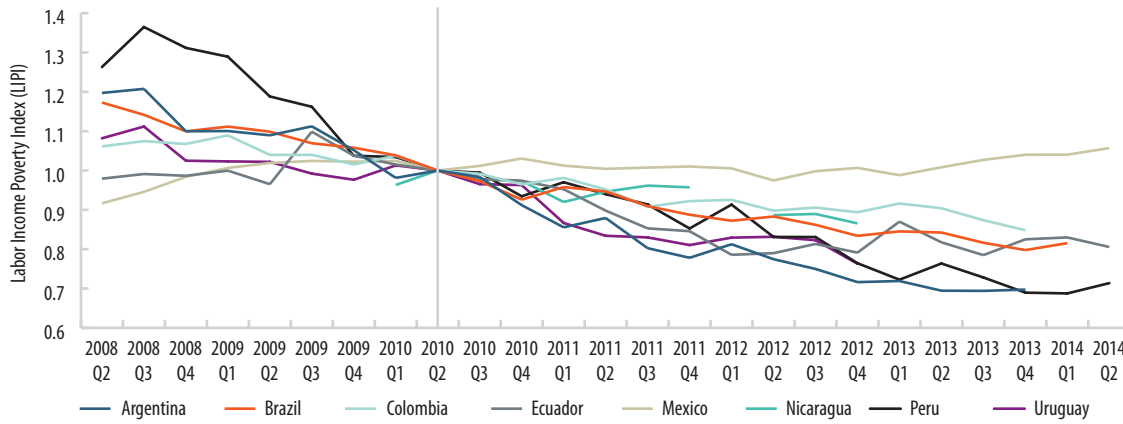
Source: Authors' calculations using LABLAC data (World Bank and CEDLAS). Note: The LAC Moderate poverty line ($4/day) was used to compute the LIPI. The second quarter of 2010 is the reference period (vertical gray line). LIPI is only available in eight countries in LAC: Argentina, Brazil, Colombia, Ecuador, Mexico, Nicaragua, Peru, and Uruguay (see Annex 3, Table A.4).

Section 2. The labor market drivers of poverty reduction in LAC

Increased labor earnings accounted for over half of the region's poverty reduction between 2003 and 2013. According to the asset-based model, poverty changes in LAC can be attributed to changes in the quantity of assets (for example, education), the intensity with which the households use these assets (such as labor force participation), and the returns obtained from trading them (in this case, wages).[24] For a typical household, the most important asset is its human capital—its members' labor market potential. However, labor income does not depend only on workers' characteristics, but is determined in large part by external factors, such as labor market forces (supply and demand) and policies. This brief is unable to determine exactly how LAC's labor markets reduced poverty. But it builds in this section on the report "Shared Prosperity and Poverty Eradication in Latin America and the Caribbean" to examine both the changes in quantity and intensity of use of assets, specifically human capital and labor force participation, and changes in the region's labor markets that foster higher returns wages.[25] It also examines how labor market policies, particularly the minimum wage, could affect wages even among workers who are not formally covered by these policies. Part 1 explores changes in the quantity and intensity of use of assets in the labor force. Parts 2 and 3 explore some hypotheses underlying the growth of returns to labor in the region, with Part 2 focusing on market factors and Part 3 on minimum wage legislation.

Much of the labor income of the poor is earned by unskilled and low-skilled workers. It is important to consider households not just by their poverty status, which can be transitional, but also by their skill level. Most of the analysis presented in this section breaks workers into three skill levels: the unskilled, who did not complete primary schooling (including those with no formal schooling at all); the low-skilled, who completed primary

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24   Attanasio (1994), Camber (2006), Lopez-Calva and Rodriguez (2014), and Cord, Genoni, and Rodriguez-Castelan (2015). The asset-based model also includes the household's exposure to risk and access to transfers as two additional components affecting household income.
25   Cord, Genoni, and Rodriguez-Castelan (2015).

Figure 2.1. Poverty has remained higher among the unskilled and low-skilled in LAC
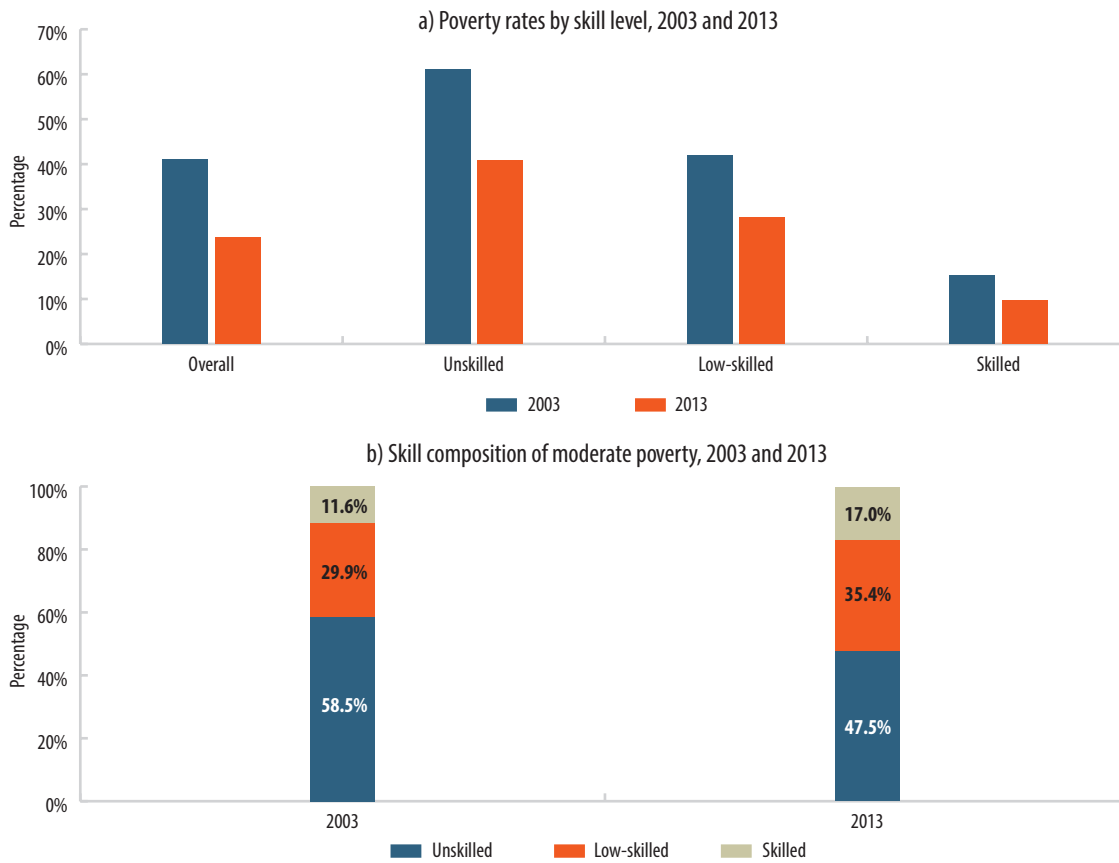
a) Poverty rates by skill level, 2003 and 2013

b) Skill composition of moderate poverty, 2003 and 2013

Source: SEDLAC (CEDLAS and the World Bank). Note: LAC and sub-regional figures are calculated using the circa database (see Annex 1). Panel "a" reports the poverty rate ($4 a day poverty line) by the skill level of the main earner in the household while Panel "b" presents the skill composition for the main earner in poor households.

school but did not complete secondary; and the skilled, who have at least a secondary-school education.[26] To identify the labor market changes that have the most potential for reducing poverty, the brief focuses on the unskilled and how their employment has changed.

The unskilled have the highest poverty rates and represent nearly half of those living in poverty in LAC in 2013 (Figure 2.1a and 2.1b). Even as the poverty rate of households led by unskilled adults decreased by twenty percentage points between 2003 and 2013, these households remained a disproportionate share of LAC's poor. Making up only 28 percent of the region's population, they are 54 percent of households in extreme poverty, 48 percent of those in moderate poverty and include 41 percent of adults in the bottom 40 percent in 2013 (Annex 10). Headed by people with an average of just under four years of schooling in 2013 (the low-skilled had an average of eight years), they lag significantly in educational attainment. These households are home to a disproportionate 44 percent of the region's population over the age of 65, and 29 percent of the region's children under 17. About 35 percent of the households live in rural areas, where poverty remains higher; this compares with 21 percent of the low-skilled and only seven percent of the skilled. Meanwhile, nearly two-thirds of the unskilled and almost 80 percent of low-skilled households are urban.

26   Though formal schooling is not a perfect reflection of skills, it is a useful tool for understanding the relationship between skills and labor income.

I. Quantity and intensity of use of assets: More human capital but falling participation by the unskilled and low- skilled

While LAC's working-age population continues to be dominated by unskilled and low-skilled adults, the region has invested heavily in increasing its stock of human capital. Across the region, school enrollment and educational attainment trends have been positive, with significant growth in the share of the working-age population that has attained a basic education. Between 2003 and 2013, the share of adults with more than six years of formal schooling rose from 56 percent to 66 percent. This shift occurred throughout the income distribution, with the share of unskilled adults in the bottom 40 percent falling by over 18 percentage points (Figure 2.2 and Annex 9). At the top of the income distribution, there was a fall in the share of adults in the top two quintiles who did not complete secondary school.

Increases in the quantity of assets—skills as represented by education—contributed to poverty reduction in the region. Almost a fifth (17 percent) of the reduction in labor income poverty across the region between 2003 and 2013 was associated with increases in the educational endowments of the labor force (Figure 2.3).[27] In Central America and Mexico, increases in education were relatively more important. But this did not reflect better gains in education so much as the overall smaller poverty reduction in those sub-regions. In the Southern Cone, the sub-region with the highest educational attainment in LAC, and in the Andean region, increases in educational attainment drove only five and nine percent of poverty reduction, respectively. Increases in human capital also contributed indirectly to poverty reduction and labor market improvements as the region's growing middle class has increased demand for less-skilled labor in sectors such as services. In addition, human capital spillovers may arise if the presence of educated workers makes their peers more productive.[28] In line with earlier research, a fall in the education premium (employers' willingness to pay higher wages to workers with higher education) during this period, as reflected in the education prices effect on labor income poverty, would be correlated with increases in poverty, in the absence of the shift in educational attainment.[29]

Nonetheless, low quality of schooling, as well as other issues such as malnutrition, limit the region's ability to create more human capital. The 2014 Poverty and Labor Brief documented a continued inequity in childhood access to public goods and services, particularly good-quality education and improved sanitation. While access to schooling has increased, several sources indicate that, on average, the quality of this schooling is low by international standards and worse for lower income groups, limiting its impact on poverty reduction and labor market improvements.[30] Malnutrition and poor childhood health undermine access to education. Between 2000 and 2011 most LAC countries achieved a reduction in rates of anemia in children under five years old; in Peru the percentage of children decreased from 51.6 percent to 33.2 percent. Despite these improvements, the anemia rate in LAC was 29.1, below the world average of 42.5 but above that of high income countries (15.5).[31]

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27   Yun (2004) proposes a methodology to apply the Blinder (1973) and Oaxaca (1973) decomposition in non-linear model specifications. Applying this methodology, the change in the probability of being labor income-poor in LAC between 2003 and 2013 is decomposed in the traditional price (coefficients) and endowments (characteristics) effect. The price effect shows the part of poverty reduction which could be explained by the changes in the probability of being poor of the different socio-economic groups identified by the control variables. The endowments effect computes the reduction in poverty related to the shift in the characteristics of the population, for instance, an increase in educational attainment or a change in sector of employment. In this specification, endowments are educational attainment, gender, age group, urban status, sector of employment, type of employment, number of employed household members, and country fixed effects. The price effect of education is interpreted as the change in labor income returns to low-skilled and skilled workers, relative to the returns received by unskilled labor (the omitted category).
28   Moretti (2004); Acemoglu and Angrist (2000).
29   For example, Bourguignon, Ferreira, and Lustig (2005).
30   World Bank (2014), Ferreira et al. (2012), Barros et al. (2009), and Molinas et al. (2012).
31   World Development Indicators (2014).

Figure 2.2. Educational attainment increased between 2003 and 2013
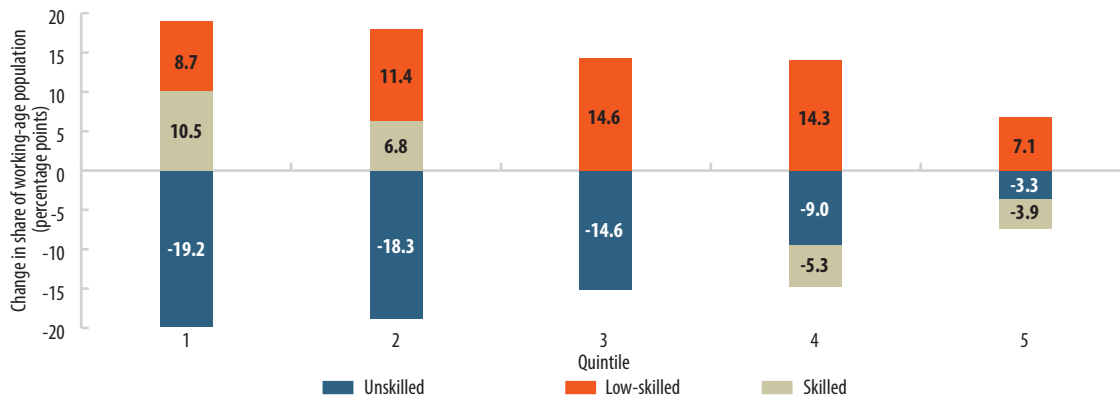
Figure 2.3. Gains in education are associated with poverty reduction in LAC between 2003 and 2013

Figure 2.4. Labor force participation rates have fallen for the youngest and the oldest while increasing for prime-aged women, 2003-2013

Even as the region has increased its human capital, labor force participation—the intensity of use of human capital—did not increase and, as a result, has not been a driver of the region's poverty reduction. Indeed, poverty fell even though labor force participation did too for the bottom 40 percent. Most countries in LAC have significantly lower adult labor force participation rates among the bottom 40 than the top 60 percent—and the difference in these rates has increased in many countries.[32] This implies that, even as schooling has trended upward across the region, less well-off households have reduced the intensity with which they are using their human capital, thus limiting their ability to benefit from and contribute to growth. With potentially important implications for economic growth and poverty reduction, labor force participation among the unskilled has fallen across most age groups since 2003 (Figure 2.4). This group was already the most likely to be poor and the least likely to be in the labor force. However, there was substantial variation across the region and different groups—with participation increasing in some countries and among prime-age women (ages 25 to 55).

Between 2003 and 2013, the largest reductions in labor force participation rates occurred among youth and unskilled men. The labor force participation of men with less than primary education fell across all age groups, including by 2.4 percentage points for those of prime working age. Among those between 15 and 18 years old, participation decreased on average by 7.9 percentage points–the fall was 5.3 percentage points for women in that age group. While this reflects in part a seven percent increase in school enrolment among older teens, it also shows that unattached youth—those who are neither working nor in school—are still a sizeable group at 14.6 percent of 15 to 18 year olds in 2013.[33] The labor force participation rate of teenagers aged 15 to 18 who did not finish primary school fell on the order of ten percentage points between 2003 and 2013 for women and 14 percentage points for men. LAC's unattached youth often have low levels of education and limited employment opportunities, and are at a higher risk of being poor and engaging in risky behavior. Youth violence and gangs are an important concern in the region, particularly in Central America, where men ages 15-34 account for the majority of gang members and homicide victims.[34]
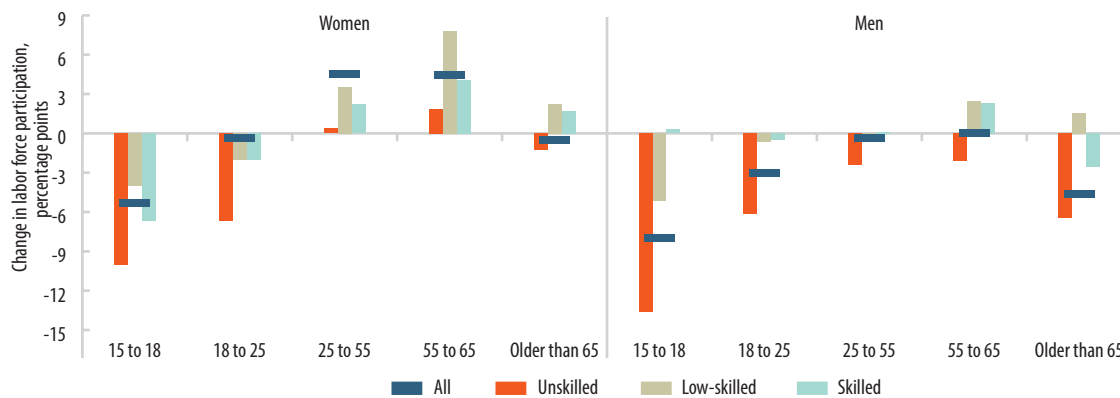
Even as participation rates have fallen among the oldest and youngest, one group has increased its presence in the work force: prime-age women. Women between the ages of 25 and 65 increased their participation by 4.5 percentage points, making them the only group to raise their rate across all the different skill levels. Unlike unskilled men, unskilled prime-age women increased their participation, but this increase was far lower than that of women with more schooling. Low-skilled women, those who finished primary school but not secondary, increased their rate the most.

In some countries in the region, labor force participation is falling not only among the youngest and the oldest members of the population but also among prime-age adults (25-65) in the bottom 40 percent. This is seen in Ecuador, Argentina, Brazil, Guatemala, and Bolivia (Figure 2.5). Preliminary regression analysis suggests that access to transfers (both public and private), higher numbers of other adults in the household working, and high unemployment rates are correlated with lower labor force participation for both men and women with less than primary schooling. Increased access to transfers, such as remittances in Guatemala and public transfers in Ecuador and Brazil, can serve to raise the reservation wage, the lowest wage at which a worker will accept a job. At the same time, high or long-term unemployment can increase the number of discouraged

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32   Cord, Genoni, and Rodriguez-Castelan (2015); Annex 13.
33   Authors' own calculations based on the methodology of "Out of School and Out of Work: A Diagnostic of Ninis in Latin America," a work in progress by De Hoyos, Popova, and Rogers (World Bank).
34   World Bank (2011).

Figure 2.5. The bottom 40 are less likely to be in the labor force, and this gap increased between 2003 and 2013 in LAC
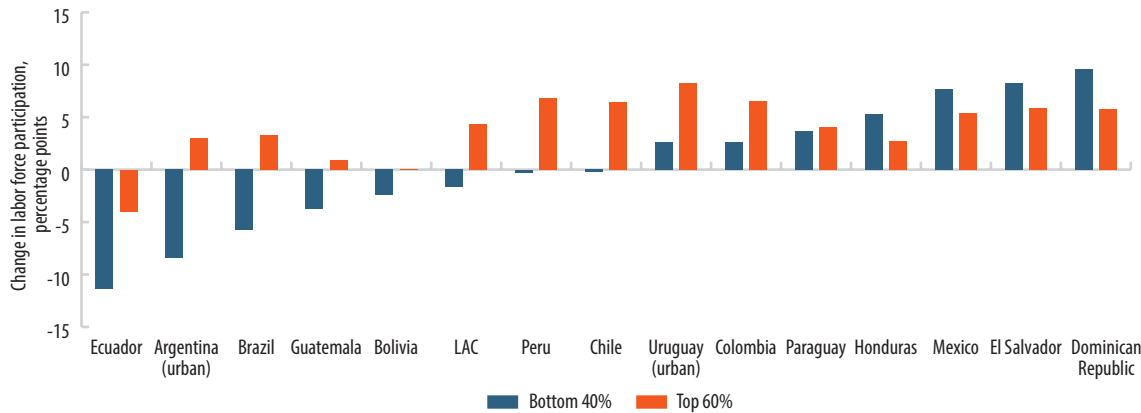
workers dropping out of the labor force (see Annex 13 for regression results). These results shed only partial light on the factors driving reduction in participation-the region needs deeper analysis on this topic because it has important implications for policy-making.

As the least skilled increasingly drop out of the labor force, their ability to participate in and benefit from economic growth declines. Moreover, their absence from the labor force can create a drag on strategies for curbing poverty. Fortunately, this fall in participation for the bottom 40 has not been region-wide. In some countries participation of the bottom 40 has increased more than it has in the top 60, notably in the Dominican Republic, El Salvador, Mexico and Honduras. And while the numbers of unattached youth remain high and have implications for future growth, the region's women have continued to increasingly join the labor force, providing an important boost to household incomes and contributing to poverty reduction.[35]

II. Returns to assets: Changes in the structure of the labor market do not explain the overall growth in income.

Changes in the labor supply—both labor force participation and human capital accumulation—across LAC explain only part of the declines in poverty in the region. According to the asset framework, increases in the returns to labor can also play an important role. This subsection documents the impressive rise in earnings for the least skilled across the region between 2003 and 2013 and investigates some of the potential drivers behind this change. It explores the hypothesis that earnings increases resulted largely from higher job quality as measured by three dimensions: increased formal employment, increased employment in large firms, and shifts towards more productive sectors. The basic finding is that changes in the quality of jobs have been small in the region and hence do not explain the rise in earnings. Instead, general wage increases due to external conditions and policies such as minimum wages appear to have played an important role.

Wage growth between 2003 and 2013 for the unskilled was higher than for other skill levels, registering an especially strong increase in Brazil and significant gains in Mexico, where wages for all other skill categories either stagnated or fell. For the region as a whole, both male and female unskilled workers expe-

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35   World Bank (2012).

Figure 2.6. Wages for the least skilled grew significantly across most of the region
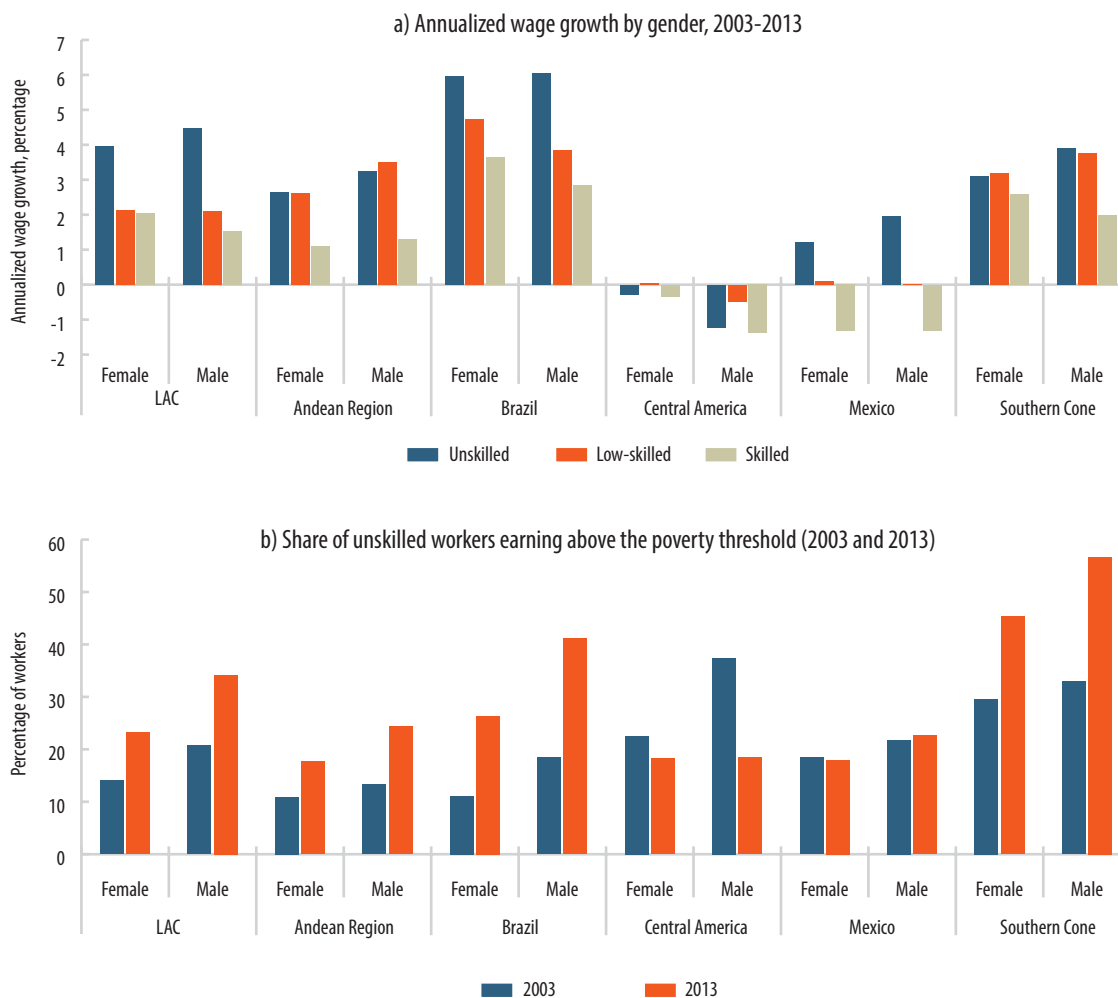
a) Annualized wage growth by gender, 2003-2013

Legend: Unskilled, Low-skilled, Skilled

b) Share of unskilled workers earning above the poverty threshold (2003 and 2013)

Legend: 2003, 2013

Source: SEDLAC (CEDLAS and the World Bank). Note: LAC and sub-regional figures are calculated using the circa database (see Annex 1). Panel "a" reports the annualized growth of hourly wages by skill level and gender between 2003 and 2013. The sample is limited to workers between the ages of 18 and 65 years old who received wages. Panel "b" measures the proportion of workers who earn above the minimum income needed to maintain a family of four above the $4 a day per capita poverty line if working full time; this is defined as an hourly wage below $2.25 (PPP 2005).

rienced increases in their labor income at an annualized rate of over four percent, higher than the region's GDP per capita growth, while low-skilled and skilled workers registered an increase of two percent (Figure 2.6a). But the performances of the sub-regions were starkly different: While in Brazil, the Andean region, and the Southern Cone, income for unskilled and low-skilled workers registered real annualized growth of three percent or above, in Central America all skill levels experienced real wage losses and in Mexico only the unskilled had real gains. Even as wages grew, unskilled workers were very unlikely to earn enough to maintain a family of four over the poverty threshold even if working 50 hours a week (Figure 2.6b). But on average, the news was better: The share of people with sufficient earnings to stay out of poverty increased, particularly in the Southern Cone (though it declined in Central America). The generally greater increases for the unskilled and low-skilled reduced the education premium in the region. This was closely related to the region's reduction in inequality over the decade.[36]

36   de la Torre, A. J. Messina, and S. Pienknagura (2012).

Figure 2.7. Wages grew for all type of jobs and sectors in South America

a) Annualized wage growth by employment type, 2003-2013

Annualized wage growth

8
7
6
5
4
3
2
1
0
-1
-2
-3

Self-employed | Waged in small firm | Waged in large firm — LAC
Self-employed | Waged in small firm | Waged in large firm — Andean Region
Self-employed | Waged in small firm | Waged in large firm — Brazil
Self-employed | Waged in small firm | Waged in large firm — Central America
Self-employed | Waged in small firm | Waged in large firm — Mexico
Self-employed | Waged in small firm | Waged in large firm — Southern Cone

b) Annualized wage growth by sector, 2003-2013

Annualized wage growth

8
7
6
5
4
3
2
1
0
-1
-2

Low wage | Medium–low wage | Medium wage | Medium–high wage | High wage — LAC
Low wage | Medium–low wage | Medium wage | Medium–high wage | High wage — Andean Region
Low wage | Medium–low wage | Medium wage | Medium–high wage | High wage — Brazil
Low wage | Medium–low wage | Medium wage | Medium–high wage | High wage — Central America
Low wage | Medium–low wage | Medium wage | Medium–high wage | High wage — Mexico
Low wage | Medium–low wage | Medium wage | Medium–high wage | High wage — Southern Cone

Source: SEDLAC (CEDLAS and the World Bank). Data for Mexico are from LABLAC (CEDLAS and the World Bank). Note: LAC and sub-regional figures are calculated using the circa database (see Annex 1). Estimates are limited to workers between the ages of 18 and 65 years old who received wages. "Type of employment" excludes employers, professional self-employed (those with a university degree or higher) and public workers. Small firms are defined as those that have five or fewer workers. For "Type of sector," the sectors were grouped at the country level to allow for differences in wage returns from each sector across countries within the same sub-region. Sectors were ranked based on the median hourly wage of each sector in 2003 for a set of 15 sectors and then collapsed into groups of three to define the five sector-wage groups. See Annex 14 for country-level sector ranking.

What are the possible factors behind this widespread increase in wages, particularly for the unskilled?
One possible explanation for the sustained growth in labor income is that, within skill groups, workers were transitioning to higher-productivity jobs. They could be moving from a worse job to a better job within a particular economic sector (construction, for example), or moving between different economic sectors (from agriculture to services, say). Alternatively, wages could have risen within narrowly defined economic sectors due to a general increase in worker productivity (potentially due to improved infrastructure or technology) or increased labor demand due to positive shocks. Instead, what we see is that Brazil, the Andean region, and the Southern Cone registered significant wage increases for all types of workers and sectors of employment, with an even faster income growth for unskilled and low-skilled workers while the composition of jobs changed little (Figure 2.7 and Annex 15).

In general, the region achieved only small improvements in job quality, with informality remaining the norm among the unskilled and low-skilled. Large firms, defined here as those with more than five workers, often have higher productivity and are more likely to provide formal employment and benefits than small firms. Workers in large firms had better job outcomes on average, regardless of skill level. In countries throughout the region, for example, unskilled workers in large firms were far more likely to have access to pensions than other unskilled workers (Figure 2.8). Over 80 percent of unskilled workers in large firms in Brazil, Chile, and Uruguay had access to pensions in 2013. On the other hand, almost no unskilled workers in small firms in Bolivia, Guatemala, Peru, and El Salvador had this benefit.

In most parts of the region, the share of the unskilled and low-skilled working in large firms increased, generally helping them stay out of poverty and enjoy benefits such as pensions. In Brazil, the share of unskilled workers with jobs in large firms increased by almost four percentage points to 27.6 percent while for low-skilled workers it was up by three percentage points to 42.7 percent (Table 2.1). But the biggest gain was for skilled workers, with a rise of 5 percentage points. In the Southern Cone, the share of unskilled and low-skilled workers in large firms increased by 1.5 and four percentage points to 26.6 percent and 36.6 percent respectively. Central America and Mexico, however, bucked the trend: there both types of workers were more likely to be self-employed or in small firms in 2013 than they had been in 2003. Only skilled workers in Central America and Mexico became more likely to work in large firms.

Despite the gains in large firm employment, low-productivity self-employment and small enterprises continued to account for much of unskilled and low-skilled employment. The vast majority of unskilled self-employed workers were subsistence entrepreneurs, making their living this way for lack of better options. This follows a global pattern: worldwide, close to 70 percent of self-employed workers come from poor households.[37] Similarly, despite a wealth of entrepreneurs in LAC, firms are smaller in size and less likely to innovate and grow, compared to other regions at comparable levels of development.[38] This contributes to LAC's continued low growth in productivity (see Box 4).

Agriculture and commerce, two low-paying yet labor-intensive sectors, are the top two sectors of employment for the unskilled in all sub-regions. Agriculture continues to be the main sector of employment for the unskilled throughout the region, accounting for 45 percent of unskilled jobs in the Andean region and around a third in Central America and Mexico. Commerce—unskilled services including wholesale and retail trade as well as restaurants and hotels—ranges from 19 percent of the unskilled in Brazil to 24 percent in Mexico. Concerning the low-skilled, commerce is also their biggest sector of employment across the five sub-regions, ranging from 25 percent in the Southern Cone to 32 percent in Mexico.

Unskilled workers in sub-regions with lower wage growth experienced a small shift towards lower-pay sectors, while in the other sub-regions the unskilled moved slightly towards better-paying sectors (Figure 2.9). Even when the main shifts were from low- paying to medium/low-paying sectors, the increase in income could be sizeable: In Brazil, for example, the median unskilled worker in the wholesale and retail trade sector (part of the medium/low wage group) earned over 40 percent more than the median unskilled worker in agriculture (low wage group). In Mexico and Central America, where wage growth was muted, the share of unskilled workers in the lowest-paid sectors increased as their share in higher-paying sectors fell.[39] On the other hand, the share of unskilled workers fell in the lowest-paying sectors in Brazil, the Andean region, and the Southern Cone as unskilled workers transitioned towards higher-paying sectors.

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37   Cho, Robalino, and Watson (2014).
38   Lederman et al. (2014).
39   Before the global financial crisis, there was a shift in unskilled employment away from agriculture in Mexico as well. However, the crisis reversed this trend (Cord et al. 2014).

Figure 2.8. Unskilled employment in small firms often mean jobs of lower quality relative to large-firm employment, as measured by pension access, 2003-2013
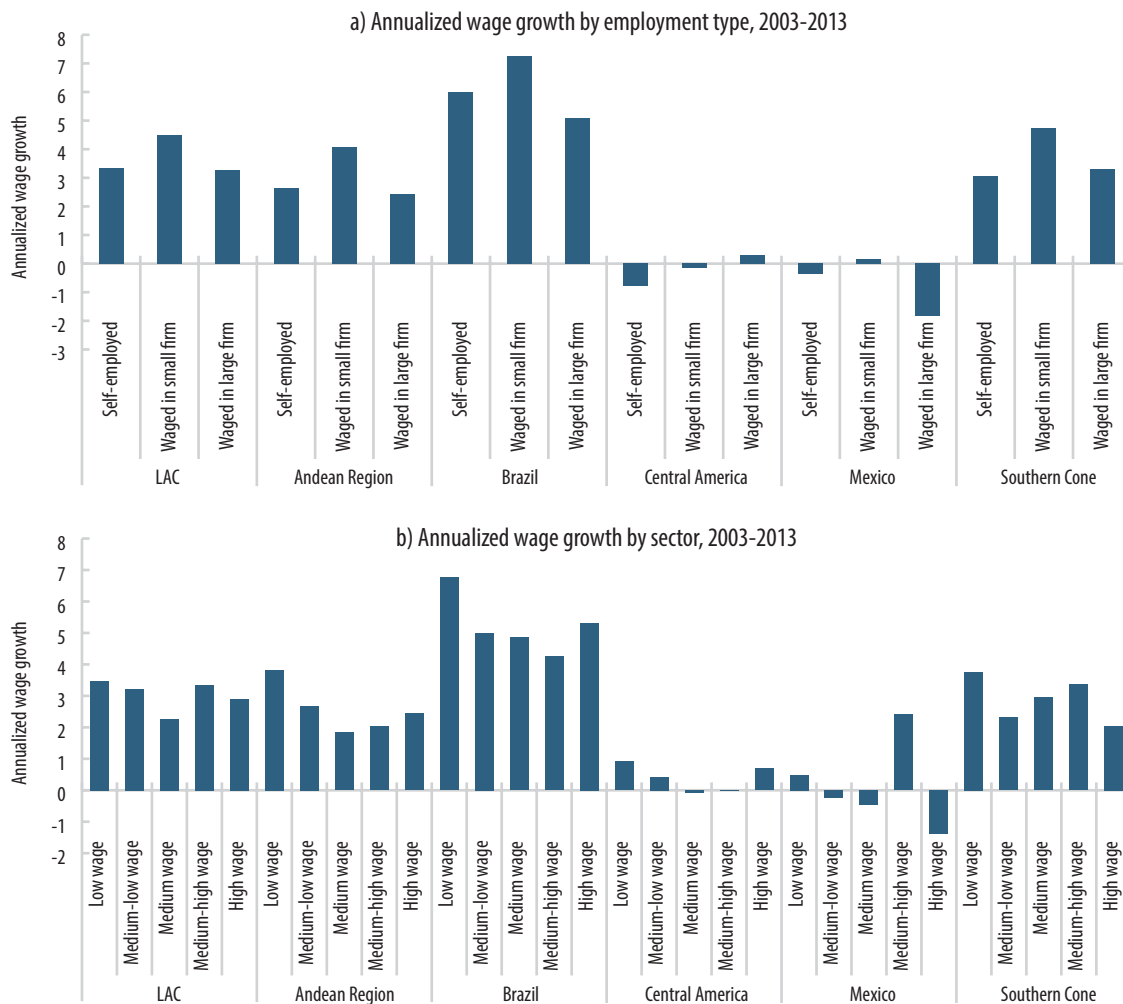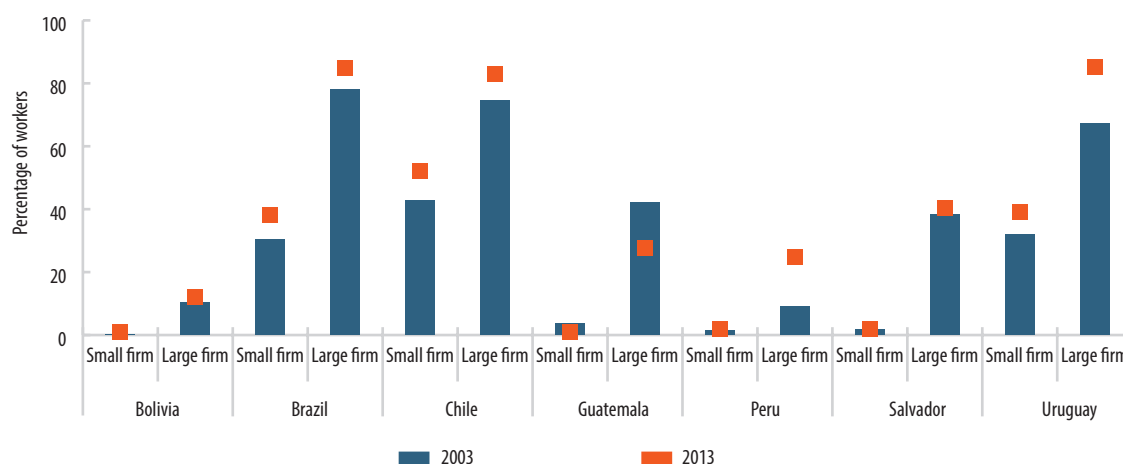

Source: SEDLAC (CEDLAS and the World Bank) and LABLAC (CEDLAS and the World Bank) for Mexico. Note: LAC and sub-regional figures are calculated using the circa database (see Annex 1). This graph is limited to workers between 18 and 65 years old who received wages. Small firms are defined as those that have five or fewer workers. Employers, the self-employed, and public employees are excluded from the figure. Comparable information on access to pensions by different type of jobs in 2003 and 2013 is only available for the countries included in this figure.

Table 2.1. Self-employment and microenterprise employment rates among the unskilled and low-skilled remained high in LAC

Skill level	Region	Self-employed (%)		Small firm (%)		Large firm (%)	
		2003	2013	2003	2013	2003	2013
Unskilled	Andean region	63.6	64.1	16.0	17.1	12.3	12.2
	Brazil	33.7	33.1	34.2	32.6	23.9	27.6
	Central America	46.0	48.5	21.9	24.7	22.0	19.3
	Mexico	37.7	35.3	32.9	38.6	22.2	19.4
	Southern Cone	40.5	38.4	27.0	26.9	25.1	26.6
Low-skilled	Andean region	46.1	49.8	22.9	21.6	21.3	20.1
	Brazil	22.6	23.2	24.6	25.6	39.3	42.7
	Central America	30.3	31.4	19.4	23.3	36.6	34.0
	Mexico	22.4	21.6	27.0	31.5	39.0	37.5
	Southern Cone	27.3	24.7	27.3	27.5	32.7	36.6
Skilled	Andean region	22.2	21.3	15.3	15.0	30.4	34.0
	Brazil	11.8	11.0	11.8	13.1	41.6	46.7
	Central America	12.2	14	8.1	10.4	43.8	45.4
	Mexico	8.9	9.7	11.2	14.7	39.8	41.7
	Southern Cone	12.1	10.5	14.2	14.9	41.8	43.7

Source: SEDLAC (CEDLAS and the World Bank) and LABLAC (CEDLAS and the World Bank) for Mexico. Note: Sub-regional figures are calculated using the circa database (see Annex 1). This table is limited to workers between the ages of 18 and 65 who received wages. Small firms are defined as those that have five or fewer workers. Employers, the professional self-employed (the self-employed with a university degree), and public employees are excluded from this table.

BOX 4. Productivity in LAC remains low and increasingly tied to services

In contrast with the East Asian experience, the structural change of employment in LAC in recent decades has been productivity-reducing. Labor productivity growth can be achieved by increased productivity within economic sectors or by a flow of workers from low- to high-productivity sectors (the structural change component).[40] From 1990 to 2005, LAC only slightly underperformed Asian countries in productivity growth within sectors: The average contribution of within sector growth was 2.2 percentage points compared to 3.1 points in Asia. However, there was a big difference in the structural change component. While structural change has contributed over 0.5 percentage points to annual productivity growth in Asia, it actually reduced growth by about 1 percentage point per year in LAC, explaining 60 percent of the annual productivity growth gap between Asia and LAC.[41] Country-specific analysis suggests that an increasing share of employment in the low-productivity service sector is to blame.

Even as services account for a growing share of total employment and value-added in Latin American economies, productivity in this sector is particularly low and virtually stagnant. From 1990 to 2005, labor productivity in the service sector in LAC grew by only 0.1 percent per year, in comparison with 2.5 percent in East Asia and 1.4 percent in high-income countries.[42] Productivity dispersion, and thus inefficient capital allocation, is large among LAC firms, particularly in the service sector. In frictionless markets, capital is allocated to the most efficient firms and no productivity dispersion occurs in equilibrium. The greater the frictions, such as credit market constraints and tax variations, the larger the losses associated with the absorption of capital by inefficient firms.[43] For example, while in the U.S. manufacturing sector the range of productivity between firms in the 90th and 10th percentile of total factor productivity (TFP) is 2.06 log points, in LAC it is 2.53 points, and even larger at 2.66 points for the service sector.[44] Such inefficiencies in capital allocation can have important aggregate effects in terms of lost output: If low productivity firms in LAC achieved the median productivity in their sector, average labor productivity for a typical country would be 13 percent higher in manufacturing and 14 percent higher in services.[45]

Figure 2.9. Changes in sectoral composition of unskilled workers by sector-wage groups, 2003-2013
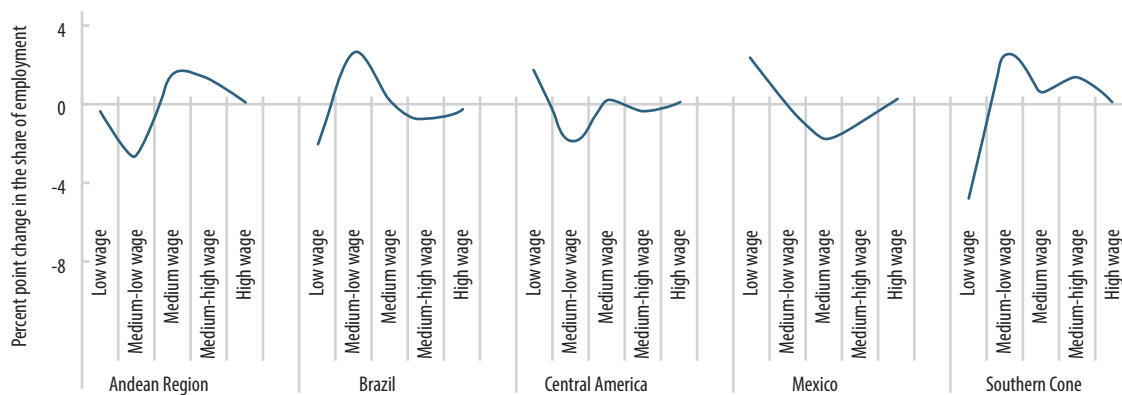
Source: SEDLAC (CEDLAS and the World Bank). Note: LAC and sub-regional figures are calculated using the circa database (see Annex 1). The figures report the percentage point change in the share of workers in each group of sectors. The figure is limited to all workers between the ages of 18 and 65 who received wages. Sectors were grouped at the country level to allow for differences across countries within the same sub-region. Sectors were ranked based on the median hourly wage of each sector in 2003 for a set of 15 sectors and then collapsed into groups of three to define the five sector-wage groups (see Annex 14).

40   Traditional models of development emphasize this second component, highlighting the opportunities for moving workers from inefficient primary activities to modern manufacturing (Lewis 1954).
41   McMillan and Rodrik (2011). Labor productivity was measured using data from the Groningen Growth and Development Center (GGDC) database and defined as the ratio of sector-level value-added and total employment.
42   Pagés (2010). As de la Torre et al. (2013) highlight, the performance of service productivity in LAC was nonetheless significantly better in the period 2002-2005 than in the previous decade.
43   Pagés (2010).
44   Arias-Ortiz et al. (2014). Ranges of productivity were calculated using ES 2010 by calculating the median across sectors in a given country, and then calculating the medians across countries.
45   A typical sector or country is defined as the median country or sector, along with the characteristic being considered.

Figure 2.10. Increases in earnings within sectors drove the labor income poverty reduction
of the unskilled, 2003-2013

Poverty reduction of the unskilled was associated with increases in earnings *within* sectors, rather than shifts of employment across sectors. In Brazil, the Southern Cone, and the Andean region, the reduction of poverty among the unskilled was largely associated with increases in earnings in the services (construction, commerce, and hospitality) and agricultural sectors (Figure 2.10). Even though construction was associated with some reduction in poverty among Mexico's unskilled workers, in Mexico and Central America poverty rates increased across most sectors (Annex 12). Agriculture continued to be the sector most associated with rural extreme poverty in the region, notably among self-employed farmers (see Box 5).

Sectoral shifts and job-quality improvements have been small across LAC, suggesting that they explain little of the wage growth experienced by unskilled and low-skilled workers since 2003. Rather, overall growth in wage levels across all types of employment played an important role, potentially due to the remarkable commodities "super-cycle" that LAC enjoyed in the first decade of the 21st century. The important gains in terms of trade for the region, a gift from international commodity prices, could be one factor that boosted overall demand and general growth of wages. One of the main drivers of this super-cycle was China's urbanization and industrialization.[46] Global commodities prices soared almost threefold between 2000 and 2008, and have remained high since then despite a temporary decline in the aftermath of the global financial crisis.[47] Overall, LAC did very well by this "commodity bonanza," recording sharp increases in its terms of trade. But as often happens in a region as diverse as LAC, some countries gained while others lost. Brazil, all the Andean countries and most of the Southern Cone enjoyed major benefits as commodity exporters. At the other extreme, Mexico and Central American countries such as Honduras and Guatemala were left out of the boom.

Commodity-boom countries saw real wage gains for all sectors and skills, whereas the majority of workers in non-boom countries faced real wage losses or stagnation. Particularly in commodity-boom countries, unskilled workers benefited from higher increases in real wages for all broadly defined sectors (Figure 2.11). In non-boom countries this picture was more nuanced: unskilled workers fared similarly to their low-skilled peers.

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46   Canuto (2014).
47   IMF (2014).

BOX 5. Agriculture and rural poverty

In the last 50 years, LAC has gone from being a predominantly rural region to an urban one. It has one of the lowest levels of rural inhabitation in the world – 20.5 percent in 2014. Lack of employment and limited access to social services in rural areas have led millions of people to migrate to the region's cities in hopes of bettering their lives.[48] This has created a shift of labor away from agriculture to other sectors and has increased the income of the bottom 40.[49] Highlighting the importance of urbanization in decreasing poverty, countries where poverty gains have been more muted, particularly in Central America, are further behind in the migration to the cities (see Figure B4.1a).

Poor rural households rely mainly on agricultural work to boost their labor income. Agriculture provided the primary employment of 70 percent of household heads living in extreme poverty in 2013 (Figure B4.1b), with agricultural self-employment alone accounting for 40 percent. While this latter proportion has fallen since 2003 from 46 percent, it remains the single-largest segment of the rural extreme poor. As a result, eradicating extreme poverty in LAC requires particular attention to the needs of agricultural workers and owners of small farms.

Figure B5.1. Rural poverty has proven more intractable, and remains largely related to agricultural work

a) Countries with larger rural populations have seen smaller reductions in poverty since 2003

b) The agricultural self-employed are the largest group of the rural extreme poor

	Self-employed, agriculture	Wage worker, agriculture	Other, agriculture	Working in other sector	Not employed
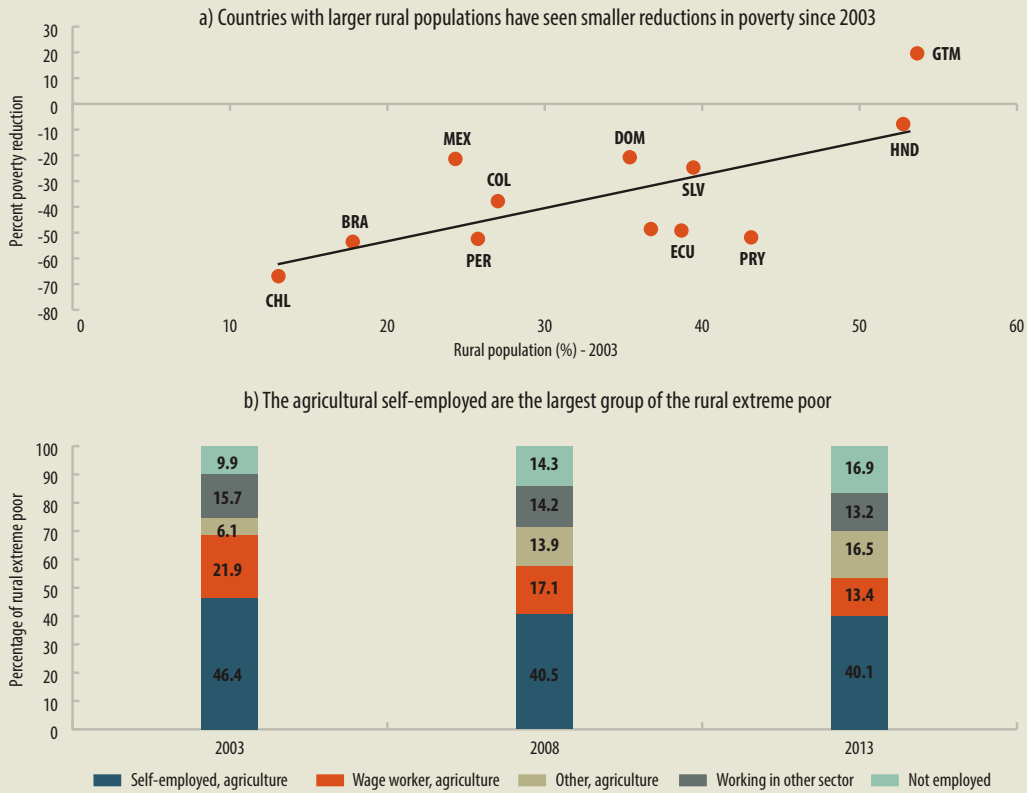
Source: SEDLAC (CEDLAS and the World Bank) and United Nations, Department of Economic and Social Affairs, Population Division (2014). Note: Figure "a" reports the percentage change in poor population ($4 per day) between 2003 and 2013 versus the share of rural population in 2003. Figure "b" reports the composition of the rural extreme poor ($2.50 per day) regarding labor status. For countries where no data are available in those specific years, the closest year is used. Figures exclude Argentina and Uruguay due to data limitations.

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48   Rodriguez (2008)
49   de la Torre, A. J. Messina, and S. Pienknagura (2012)

Figure 2.11. Wage growth was high across sectors in countries with commodity booms
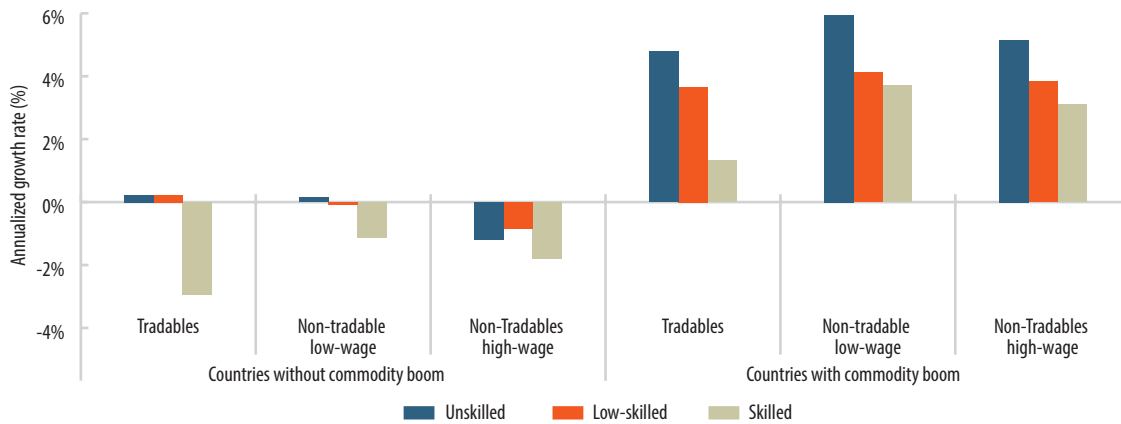
Source: SEDLAC (CEDLAS and the World Bank). Note: The numbers for the groups of countries are calculated using the circa database (see Annex 1). The figure reports the annualized growth of average wages for workers older than 15 years. Commodity-boom countries are countries that registered annualized growth in terms of trade above two percent in the period 2003-13 (Chile, Bolivia, Colombia, Peru, Ecuador, Brazil, and Argentina). Countries without a commodity boom are Dominican Republic, Guatemala, Honduras, Mexico, Paraguay, El Salvador, and Uruguay. Due to data limitations, Costa Rica, Nicaragua, and Panama are excluded. Tradable sector includes: primary activities, mining and manufacturing. Non-tradable low-wages sector includes: construction, wholesale and retail trade, hotels and restaurants, public administration, and domestic work. High-wages non-tradables are: electricity and gas, transport and communications, financials, real estate, education and health, and extraterritorial organizations.

Figure 2.12. Poverty and inequality reduction were much larger in commodity-boom countries, 2003-2013
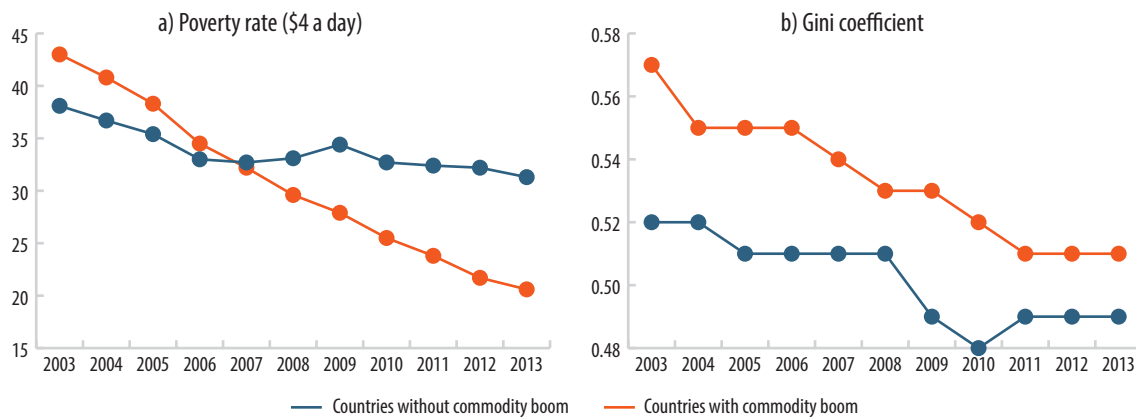
Source: SEDLAC (CEDLAS and the World Bank). Note: The inequality figures are the weighted average of country-specific Gini coefficients. In order to analyze the same set of countries every year, interpolation was applied when country data were not available for a given year (see Annex 1). Commodity-boom countries are countries which registered annualized growth in terms of trade above two percent in the 2003-2013 period (Chile, Bolivia, Colombia, Peru, Ecuador, Brazil, and Argentina). Non-Boom countries are Dominican Republic, Guatemala, Honduras, Mexico, Paraguay, El Salvador, and Uruguay. Due to data limitations, Costa Rica, Nicaragua, and Panama are excluded.

This is in line with the larger reduction in inequality in the commodity-boom countries (Figure 2.12) and the compression of the education premium in the region.[50] Furthermore, poverty reduction was much larger in countries that enjoyed important gains in their terms of trade: Poverty fell by over 20 percentage points in commodity-boom countries, while the reduction in non-boom countries was much smaller. Going forward, as the commodities super-cycle comes to an end and growth decelerates, wage gains will have to rely on increasing productivity and on movements of labor to higher-productivity sectors.[51]

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50   World Bank (2014).
51   As discussed by McMillan and Rodrik (2011), the pattern of structural change of labor allocation in Latin America is compatible with a "Dutch disease" type of story, where a positive shock in primary export commodities leads to overvalued real exchange rate and decreases the competitiveness of the modern tradable sector. A review of the empirical literature on Dutch disease (Magud and Sosa 2010) suggests that inflows of foreign exchange are indeed associated with exchange rate appreciation and lower net exports,

III. Returns to assets: Setting minimum wages to cover more workers

The region's governments have helped raise labor income by enacting minimum wage legislation. Throughout the region, countries have adopted policies to improve labor market outcomes, including day care and early education to increase female labor force participation, training programs, formality incentives, and minimum-wage legislation. Minimum wages were introduced in Latin America in the 1960s with two main objectives: fair pay and poverty alleviation. Even though the minimum wage now exists in every LAC country, its coverage, criteria, and effectiveness vary across the region.[52] Some countries have a single minimum wage (for instance, Brazil and Colombia), while others have multiple minimum wages depending on type or sector of employment (for example, Mexico, Ecuador, Dominican Republic, Guatemala, Paraguay, and Costa Rica). In addition, the coverage of the minimum wage is sometimes only regional, as in Mexico.

Some countries in the region, particularly the poorest, have set their minimum wages significantly higher than expected given their income levels, reducing the share of workers covered. Four of the poorest countries, Guatemala, Haiti, Honduras, and Nicaragua, have the highest minimum wages as a percentage of GDP per capita, with Honduras well above the other three (Figure 2.13). Minimum wages that are too high do not effectively set a floor for the wages of the poorest. As a result, 32.1 percent of urban workers in Honduras earn less than 90 percent of the minimum wage, compared to only 7.8 percent in Brazil (Table 2.3). On the other hand, Mexico's minimum wage is the lowest relative to its GDP per capita, while Brazil and Colombia lie among the average. Whatever its form, the minimum wage's potential to reduce poverty depends on the extent to which it is binding for formal workers and serves as an unofficial reference price in the economy at large including in the informal sector. This dichotomy is explored below for four countries, Honduras and Mexico, illustrating extreme values of the minimum wage in the region, and Brazil and Colombia, illustrating average values.

Figure 2.13. Minimum wage legislation in LAC varies significantly across countries, 2013
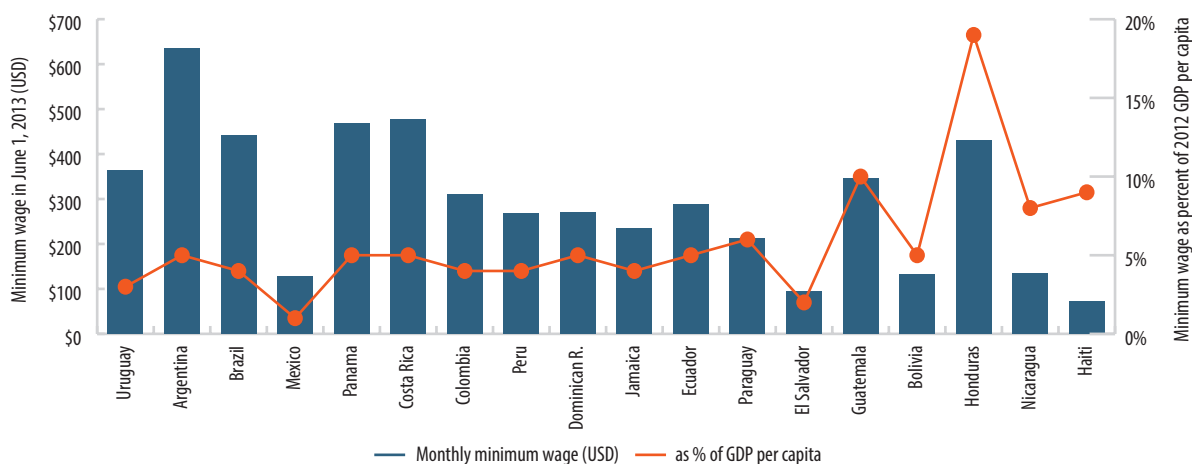
Source: Garriga et al. (2014). Note: Countries are sorted by decreasing 2012 GDP per capita. Minimum wage values are from the Doing Business Project (International Finance Corporation) and GDP per capita in current US dollars is from the World Development Indicators.

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but not with lower GDP growth. Cherif (2013) provides empirical evidence that windfall oil revenues can lead to productivity divergence between the exporting country's manufacturing sector and that of its trade partners, demanding sharp adjustments when oil is depleted or prices decrease.

52   Cunningham (2007).

Unskilled and low-skilled workers and people in lower-productivity jobs (the self-employed, small-firm employees, and informal workers) often earn less than the minimum wage. At 53.4 percent, Honduras had the highest proportion of unskilled workers earning less than the minimum wage, whereas Brazil had the lowest at 15.5 percent (Table 2.3). Fewer workers earned less than 90 percent of the minimum wage in large firms and the public sector compared to small firms. Women were also more likely than men to earn less than the minimum wage in Brazil and Mexico, with this gap being particularly significant in Mexico.

Table 2.3. Share of workers in each sector earning less than and at the minimum wage, 2013								
	Less than 90% of MW				Within +/-10% of MW			
	Brazil	**Colombia**	**Honduras**	**Mexico**	**Brazil**	**Colombia**	**Honduras**	**Mexico**
Workers	14.4	37.5	64.7	15.7	15.9	10.0	12.3	3.8
Urban wage workers	8.4	15.6	39.8	8.0	18.8	8.9	20.5	3.3
Skills								
Unskilled	15.5	40.5	53.4	22.6	10.5	6.9	3.8	4.0
Low-skilled	9.6	30.8	41.4	12.3	12.2	8.5	8.2	2.9
Skilled	4.5	16.9	19.0	5.1	9.1	5.8	10.1	1.7
Employment status								
Wage worker	9.8	17.7	50.9	9.5	17.6	9.4	16.8	3.5
Self-employed	30.8	61.1	83.8	46.8	9.8	10.8	6.0	5.3
Type of firm								
Large private	2.5	9.0	29.1	4.3	15.9	7.5	25.5	2.4
Small private	24.6	53.1	73.3	27.5	13.6	11.4	6.4	5.3
Public employees	3.1	2.2	15.4	3.2	13.9	1.3	10.2	1.6
Sector								
Formal	2.7	9.8	39.4	8.7	14.4	6.4	17.5	2.8
Informal	26.7	54.5	74.5	26.5	14.7	12.0	6.0	5.2
Gender								
Female	9.6	25.2	29.1	13.7	10.5	4.5	4.7	2.9
Male	8.9	25.2	53.4	9.1	9.8	9.3	10.0	2.4
Setting								
Rural	18.3	35.1	49.1	21.1	2.8	5.9	4.0	3.1
Urban	7.8	22.6	32.1	9.1	11.3	7.1	10.2	2.6

Source: SEDLAC (CEDLAS and the World Bank). Note: Table reports the share of workers earning less than 90 percent of the minimum wage and within 10 percent of the minimum wage. Numbers reported for Mexico are for 2012. All employed adults who received wages are included. Workers who work in small firms were included in the informal sector, while workers in large firms and in the public sector were included in the formal sector. Only people who worked full time (between 30 and 50 hours) are included.

Figure 2.14. Minimum wages affect both formal and informal workers
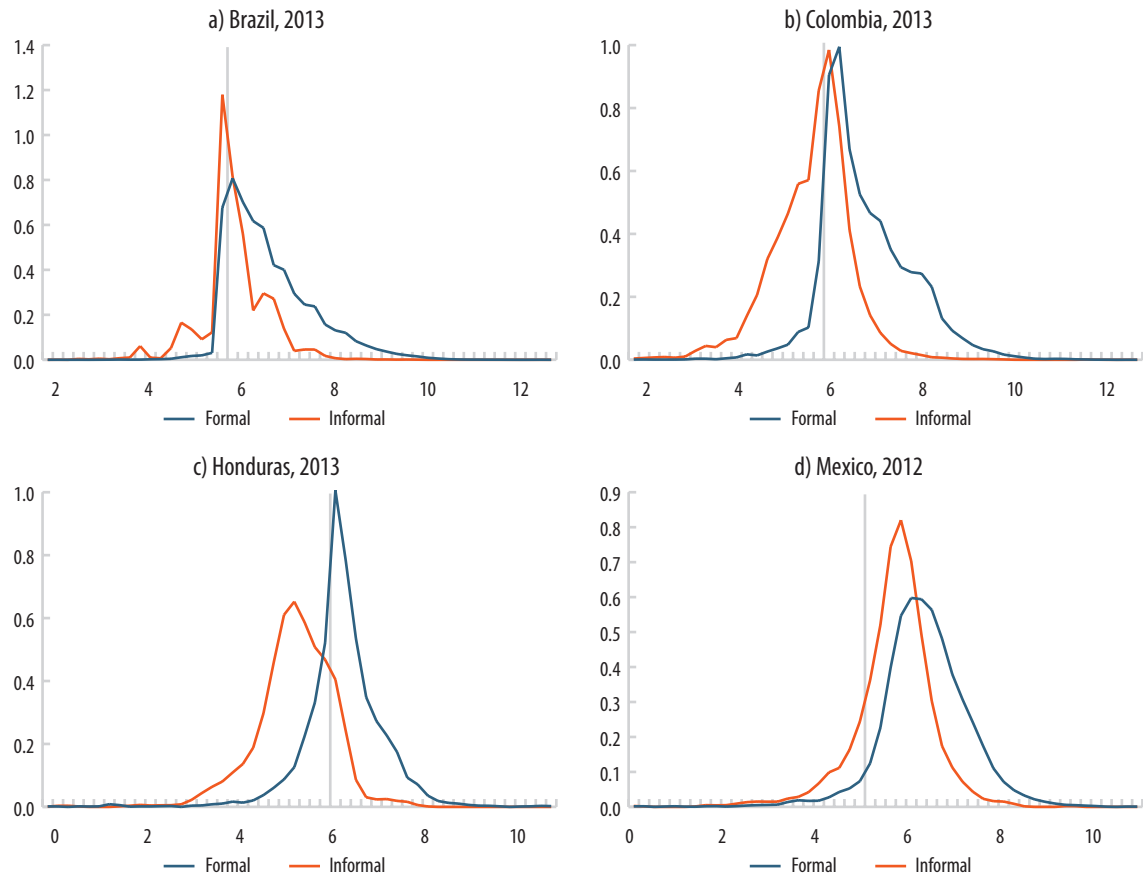
a) Brazil, 2013

b) Colombia, 2013

c) Honduras, 2013

d) Mexico, 2012

Legends: Formal, Informal

Source: SEDLAC (CEDLAS and the World Bank). Note: The inequality figures are the weighted average of country-specific Gini coefficients. In order to analyze the same set of countries every year, interpolation was applied when country data were not available for a given year (see Annex 1). Commodity-boom countries are countries which registered annualized growth in terms of trade above two percent in the 2003-2013 period (Chile, Bolivia, Colombia, Peru, Ecuador, Brazil, and Argentina). Non-Boom countries are Dominican Republic, Guatemala, Honduras, Mexico, Paraguay, El Salvador, and Uruguay. Due to data limitations, Costa Rica, Nicaragua, and Panama are excluded.

Even among full-time formal workers in urban areas, minimum wages in LAC are often not enforced. In each of the four countries, the minimum wage was not fully enforced in the formal sector, identified here as employment in the public sector or in private firms with more than five workers. In other words, every distribution shows that some urban workers who are in the formal sector and working full time, the group most likely covered by the minimum wage, in fact earned below the minimum (Figure 2.14). The minimum wage is considered binding if the wage distribution shows a high concentration of workers earning it.[53] That is, in an otherwise smooth distribution, wages are more frequent around the level of the minimum, resulting in a "spike" in the distribution.[54] In Brazil, Honduras, and to a lesser degree, Colombia, the minimum wage is binding in the formal sector. On the other hand, in Mexico, since the minimum wage is relatively low, it is not binding in the country's formal sectors.

[53]   The minimum wage "is binding if it actually affects wage distribution, whether through enforcement or other factors. It is completely binding if it creates a wage floor, whereas it is somewhat binding if it creates a distortion of the wage distribution, which may not be a wage floor" (Cunningham 2007).
[54]   To ascertain the extent to which the minimum wage is binding, we estimate kernel density plots using the methodology of DiNardo, Fortin, and Lemieux (1996) and Maloney and Nuñez (2004). The analysis is limited to full-time employees in urban areas (excluding self-employed) due to data limitations and differences in treatment of part-time work across countries. The minimum wage data come from various government sources and are converted to 2005 US$ PPP. Mexico and Honduras have multiple minimum wages, so the most common ones were used in this analysis, for Mexico, Area 1 minimum wage (this includes Mexico City), for Honduras the unweighted average of all minimum wages. For further details on the sources and values of the minimum wage, see Annex 16.

Figure 2.15. High increases in minimum wages can contribute to increasing the wage gap between the formal and informal sectors

e) Honduras, 2008

f) Honduras, 2011

g) Brazil, 2005

h) Brazil, 2008
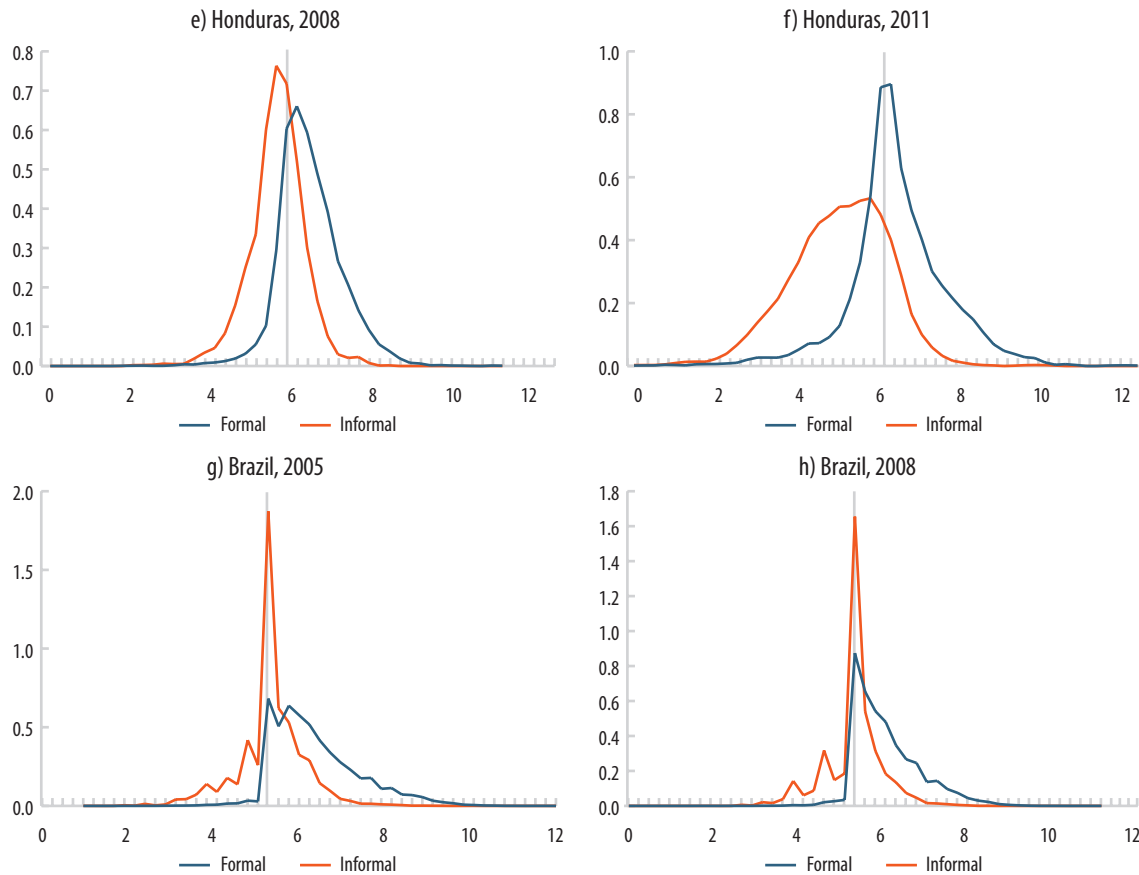
Source: SEDLAC (CEDLAS and the World Bank). Note: These figures present kernel density plots for informal and formal workers. The vertical line represents the minimum wage. The analysis is limited to full-time employees in urban areas (excluding self-employed) due to data limitations and differences in treatment of part-time work across countries. All employed adults who received wages are included. Workers employed in small firms are included in the informal sector, while workers in large firms and in the public sector are included in the formal sector. Only people who worked full time (between 30 and 50 hours) are included.

Though informal workers lack certain employment benefits and protections, the minimum wage often operates as a strong pay signal, sometimes called a "lighthouse effect," for the informal sector.[55] Workers in small firms are primarily in the informal sector (Table 2.1) and are not covered by minimum wage legislation. Therefore, their wage distribution should not be directly affected by the minimum. However, wage distributions suggest that the minimum wage operates as a strong pay signal for the informal sector (identified here as small firms) in Brazil, Colombia, and Mexico but not in Honduras. In fact, the peak at the vertical minimum wage line in Brazil is more evident in the informal than formal sector, suggesting that the minimum is more binding and relevant for workers in the informal sector, where many of the unskilled and low-skilled work. On the labor supply side, this could result from the minimum wage acting as a benchmark for fair wages in the economy and thus increasing the bargaining power of informal workers. From the labor demand side, informal employers may be willing to pay equivalent formal sector wages to prevent losing their employees to similar jobs in the formal sector.[56]

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55   Maloney and Nuñez (2004); Boeri, Garibaldi, and Ribeiro (2010). The term "lighthouse effect" was introduced by Souza and Baltar (1980) to note this phenomenon in Brazil.
56   Falk, Fehr, and Zehnder (2006); Maloney and Nuñez (2004); Souza and Baltar (1980).

As shown by Honduras' 2008 minimum wage hike, setting the wage too high can weaken its effect on the informal sector. In 2008, Honduras' minimum wage was increased by 60 percent. That year, 66 percent of urban wage workers earned at or above the minimum, but with the new legislation this number fell, and was at 47 percent three years later in 2011 (Figure 2.15). Honduras' high minimum wage potentially discourages firms from creating more jobs, particularly in the formal sector. Moreover, the increase seems to have distorted the use of the minimum wage as a pay signal in the informal sector, affecting primarily the less well-off. In 2011, only 26 percent of informal workers earned at or above the minimum wage, a reduction of nearly a third from the 2008 rate of 36 percent. In contrast is the experience of Brazil, which raised its minimum wage by 15 percent in 2005 and 17 percent in 2006. The degree to which the wage was binding had not changed significantly as of 2008. This may be due to two factors: Brazil's minimum wage is more in line with its output and the minimum wage hikes were smaller than those in Honduras.[57]

Though setting a minimum wage can lead to wage growth, even among informal workers, it needs to be set carefully so as not to lower job creation. Increasing labor costs can push some of the unskilled out of the labor market or into low-productivity self-employment. The literature finds that a ten percent increase in the minimum wage corresponds to a mean wage increase of one to six percent but to a job loss of about two percent.[58] This effect tends to be concentrated among formal-sector workers and in some cases alters informal sector employment as well. In Brazil, an increase in the minimum wage was associated with job loss for youth (workers aged 16-24), low-skilled workers, and women whose wages were clustered around the minimum wage. In addition, some studies in Brazil have found that higher minimum wages forced formal workers into informal jobs.[59] In contrast, there is no noticeable pattern in Mexico. No employment effects have been found there for either the formal or informal sectors, indicating that the country's relatively low minimum wage has had little effect on labor outcomes.[60]

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57   Between 2008 and 2015, the minimum wage in Brazil has been adjusted each year by the inflation of the previous year and GDP growth with a two-year lag, thus guaranteeing positive real adjustments in the minimum wage when GDP expands.
58   Bell (1997), Cunningham (2007), Cunningham and Siga (2006), Gindling and Terrell (2009), Lemos (2002), Maloney and Nuñez (2004).
59   Barros and Carneiro (2004), Carneiro and Corseuil (2001), Corseuil and Morgado (2000).
60   Cunningham and Siga (2006).

Conclusions

While LAC continues its progress towards becoming a middle-class region, in 2013 poverty re-duction was slower than in previous years.** After falling by an average of six percent per year between 2009 and 2012, poverty declined by four percent between 2012 and 2013. The bottom 40 percent of the population has also seen decelerating income growth since the 2008-2009 global financial crisis. Driving the lower gains in shared prosperity and poverty reduction is the region's slowing economic growth. Similarly, after more than a decade of steady decline, inequality has been stagnant since 2010 and remains high, depressing the rate of poverty reduction.

Increased labor income, spurred both by increases in human capital and rising wage levels, has been a significant driver of poverty reduction in LAC since 2003. During the high growth years (2003-2008), in-creased labor earnings contributed nearly 60 percent of the region's poverty reduction, while during the five-year period spanning the financial crisis and recovery, only half of the poverty reduction was attributable to increased labor earnings.

The region's push to increase its human capital has yielded dividends; improvements in the composition of the labor force are evident across the region. The share of the unskilled (adults who did not complete primary school) among the moderate poor has dropped from nearly 60 percent in 2003 to less than 50 percent. Nonetheless, the quality of schooling is low by international standards and worse for lower-income groups. A significant share of the region's young people is neither in school nor working, leaving many particularly vulner-able to crime and violence while limiting their future earnings potential.

Labor force participation among the unskilled and low-skilled has fallen across the region, though it has been rising for the skilled. This has limited the ability of the poor to contribute to and benefit from economic growth. Labor force participation has fallen the most among the young and the elderly, with a small decline even among working-age men (25-64). But it has risen for working-age women, particularly those with more schooling.

A key factor driving the fall in poverty is high wage growth, particularly for unskilled workers, both female and male. Overall in LAC, wages for unskilled female workers rose by nearly four percent between 2003 and 2013, and 4.5 percent for unskilled males, compared to two percent or less for low-skilled and skilled men and women.

The increase in wages was far from uniform in the region. Two diverse stories arise when looking at wage growth in LAC: Brazil, the Andean region, and the Southern Cone, which have benefitted from increased commodity prices, enjoyed significant wage growth, particularly for unskilled and low-skilled workers, whereas in Mexico and Central America, which missed out on large gains in terms of trade, most skill levels experienced wage losses. Small structural improvements in the labor market and general wage increases in the commodity boom countries helped generate higher wages for unskilled workers. Active labor market interventions in the region, particularly minimum wage legislation, also contributed to higher wages, both among formal and informal workers in some countries.

The quality of jobs for unskilled workers improved slightly in Brazil, the Andean region, and the Southern Cone, while it deteriorated in Mexico and Central America. There was a small rise in the share of the unskilled employed in large firms in the Southern Cone and Brazil, while there was a decrease in the group's employment in such firms in Mexico and Central America. Similarly, the share of the unskilled employed in low-wage sectors declined in the commodity boom countries and rose in Mexico and Central America. However, shifts by workers from low-paying sectors, particularly agriculture, to higher-paying sectors did not play a major role in driving poverty reduction. Agriculture and low-wage service employment continued to be key sources of income for the poor in LAC.

Going forward, the region's limited fiscal resources will restrict ability to foster further gains for the poor through expanded social programs and transfers. This is particularly relevant for the extreme poor, who continue to face limited access to opportunities and labor markets. Understanding the constraints to their participation in the market and improving their quality of education will be crucial to continuing the region's drive to eradicate poverty.

As the commodity boom fades and growth wanes, there is a risk that the social gains achieved in the century's first decade will erode. The gains were not largely driven by structural shifts in the domestic economies but by externally-determined export prices. And even as the region has invested in poverty reduction and services and schooling essential for future growth, these investments have yet to translate into significant productivity gains. Encouraging structural shifts, with a focus on finding the best ways to stoke the drivers of productivity, will be an important challenge going forward for sustained inclusive growth.

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Annex 1. Harmonized databases in LAC and estimation of regional poverty and inequality numbers

To track trends in poverty, inequality, and unemployment across the region, it is important to have timely, reliable, transparent, and comparable statistics. Since 1996, the Poverty Global Practice (GPVDR) for the Latin America and Caribbean Region (LAC) of the World Bank has been investing in statistics, providing targeted support to governments in the region to help improve the quality of the numbers on which analysis and policy-making depend.

An important capstone of this effort is the partnership with the Center for Distributional Labor and Social Studies (CEDLAS) at the University of La Plata, Argentina, to support the Socio-Economic Database for LAC (SEDLAC http://sedlac.econo.unlp.edu.ar/eng/). This project allows for timely access to high-quality, harmonized databases of socio-economic and labor market statistics, covering more than 300 surveys.

This brief uses the harmonized SEDLAC data to provide the most accurate and comparable assessment of poverty and labor market trends in the region. The estimation of LAC poverty rates is based on microdata of 17 countries for which some database is available for the 2000s. These countries are Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Peru, Paraguay, and Uruguay. Whenever possible, statistics are also computed for three additional sub-regions: Central America (composed of Costa Rica, Dominican Republic, El Salvador, Guatemala, Honduras, Nicaragua, and Panama), the Andean region (Bolivia, Colombia, Ecuador, and Peru), and the Southern Cone (Argentina, Chile, Uruguay, and Paraguay).

Whenever possible, annual household surveys from 2000 to 2013 have been used to estimate annual poverty rates. However, some countries do not conduct these surveys every year. For years in which a given country does not have a household survey, regional poverty rates have been estimated by adjusting available surveys using macro-economic information on private consumption growth rates from the World Bank's World Development Indicators.

Because it does not satisfy group decomposability, the regional Gini coefficient cannot be computed as a population-weighted average of country-specific Gini coefficients. Instead, the regional coefficient is computed based on pooled country-specific data previously collapsed into 8000 percentiles.

Estimation of regional labor market indicators

The labor market indicators for LAC and groups of countries are calculated using a "circa" database for the years 2003, 2008, and 2013. This database stacks SEDLAC surveys for 16 countries for which some database is available around the three circa years listed above. For countries where no data are available in those specific years, the closest year is used. Countries without databases close to the three target years (plus or minus two years of the year desired) were excluded. The countries included in this database are Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Panama, Peru, Paraguay, and Uruguay.

Due to comparability issues with the definition of self-employment in the SEDLAC data for Mexico, all tabulations using self-employment for Mexico rely on the LABLAC data, the harmonized labor force survey, using the last quarter of data in the *Encuesta Nacional de Ocupación y Empleo* from 2005 through 2013.

Annex 2. Poverty rates and Gini coefficients by country, 2008-2013

Table A.1. Extreme ($2.50 a day) and total poverty ($4 a day) by country, 2008-2013												
	Extreme poverty						**Total poverty**					
	2008	2009	2010	2011	2012	2013	2008	2009	2010	2011	2012	2013
Argentina	8.2	8.0	6.1	4.6	4.7	4.5	17.3	16.3	14.1	11.6	10.8	10.8
Bolivia	22.8	20.6		16.1	17.1	14.4	40.4	35.1		29.0	29.2	27.2
Brazil	14.7	13.9		11.7	9.6	9.4	28.6	26.9		23.8	20.8	19.8
Chile		4.1		2.9		2.0		11.6		9.9		6.8
Colombia	24.4	21.9	19.6	16.8	17.5	15.2	41.6	39.6	36.5	32.8	32.9	30.8
Costa Rica	6.9	7.5	4.6	5.1	4.7	4.6	17.0	17.4	12.7	13.0	12.2	12.2
Dominican Republic	18.4	16.4	16.1	14.0	14.6	13.9	37.9	34.7	35.1	33.3	33.3	33.1
Ecuador	19.3	18.9	15.9	13.5	12.9	10.5	36.8	37.1	33.4	29.5	27.8	26.1
El Salvador	20.1	18.7	19.8	16.6	14.7	12.7	40.9	38.9	39.3	37.9	34.8	31.8
Guatemala				40.5						62.4		
Honduras	34.0	31.3	34.0	37.4	42.4	39.6	52.1	50.0	53.3	56.4	61.3	59.4
Mexico	13.6		12.6		11.4		28.5		28.2		27.6	
Nicaragua		29.3						52.2				
Panama	14.5	12.3	13.2	11.6	11.8	9.9	26.2	25.3	24.0	21.2	20.9	20.4
Paraguay	17.0	17.9	16.1	14.3	12.0	8.3	35.2	32.5	30.5	27.5	24.1	20.2
Peru	17.7	15.6	13.2	11.8	10.9	9.8	31.8	29.6	26.1	24.3	22.1	21.3
Uruguay	4.1	3.5	2.8	2.6	2.6	2.4	13.8	11.9	10.7	8.6	8.3	7.8
Andean region	21.5	19.4	17.0	14.7	14.8	12.8	37.8	35.7	32.4	29.3	28.5	26.8
Central America	25.5	25.1	25.6	25.5	26.0	24.9	44.2	43.8	44.3	44.4	44.6	43.7
Southern Cone	7.7	7.7	6.3	5.1	4.8	4.0	17.4	16.5	14.8	12.8	11.5	10.6
LAC	16.1	15.6	14.1	13.1	12.2	11.5	30.8	30.1	28.0	26.8	25.3	24.3

Source: Authors' calculations using SEDLAC data (CEDLAS and the World Bank). Note: Poverty lines and incomes are in 2005 US$ purchasing parity power (PPP) per day. LAC and sub-regional poverty indicators are calculated using pooled data from the relevant set of countries. In order to analyze the same set of countries every year, interpolation was applied when country data were not available for a given year. For methodological details, see Annex 1.

Table A. 2. Gini coefficients by country, 2008-2013

	2008	2009	2010	2011	2012	2013
Argentina	45.9	44.9	44.2	43.3	42.3	41.9
Bolivia	51.4	49.4		46.2	46.5	47.9
Brazil	53.9	53.4		52.5	52.1	52.2
Chile		51.9		50.8		50.4
Colombia	55.8	55.7	55.3	54.0	53.4	53.3
Costa Rica	48.6	50.4	48.0	48.5	48.5	49.1
Dominican Republic	49.0	48.9	47.2	47.4	45.7	47.1
Ecuador	50.2	48.9	48.9	45.8	46.2	47.1
El Salvador	46.6	45.9	44.5	42.4	41.8	43.5
Guatemala				52.3		
Honduras	55.6	51.6	53.4	57.2	57.3	53.5
Mexico	50.2		47.2		49.1	
Nicaragua		45.7				
Panama	52.6	52.0	51.9	51.8	51.9	51.6
Paraguay	51.0	49.6	51.8	52.6	48.2	48.2
Peru	48.5	48.0	46.2	45.5	45.1	44.7
Uruguay	46.5	46.5	45.5	43.6	41.5	42.1
Andean region	52.5	52.0	51.1	49.7	49.3	49.4
Central America	52.9	52.7	52.5	53.3	53.3	53.4
Southern Cone	49.3	48.6	48.2	47.4	46.4	46.2
LAC	52.9	52.4	51.7	51.5	51.5	51.6

Source: Authors' calculations using SEDLAC data (CEDLAS and the World Bank). Note: Incomes are in 2005 US$ purchasing parity power (PPP) per day. LAC and sub-regional Gini coefficients are calculated using pooled data from the relevant set of countries. In order to analyze the same set of countries every year, interpolation was applied when country data were not available for a given year. Inequality measures include households with zero incomes. Results are similar when these households are excluded. For methodological details, see Annex 1.

Annex 3. Surveys used in the SEDLAC and LABLAC harmonization

Table A. 3. Surveys used in SEDLAC			
Country	**Name of the survey**	**Acronym**	**Coverage**
Argentina	Encuesta Permanente de Hogares- Continua	EPH-C	Urban-31 Cities
Bolivia	Encuesta Continua de Hogares- MECOVI	ECH	National
Brazil	Pesquisa Nacional por Amostra de Domicilios	PNAD	National
Chile	Encuesta de Caracterización Socioeconómica Nacional	CASEN	National
Colombia	Gran Encuesta Integrada de Hogares	GEIH	National
Costa Rica	Encuesta Nacional de Hogares	ENAHO	National
Dominican Republic	Encuesta Nacional de Fuerza de Trabajo	ENFT	National
Ecuador	Encuesta de Empleo, Desempleo, y Subempleo	ENEMDU	National
El Salvador	Encuesta de Hogares de Propósitos Múltiples	EHPM	National
Guatemala	Encuesta Nacional de Condiciones de Vida	ENCOVI	National
Haiti	Enquête sur les Conditions de Vie des Ménages après le Séisme	ECVMAS	National
Honduras	Encuesta Permanente de Hogares de Propósitos Múltiples	EPHPM	National
Mexico	Encuesta Nacional de Ingresos y Gastos de los Hogares	ENIGH	National
Nicaragua	Encuesta Nacional de Hogares Sobre Medición de Niveles de Vida	EMNV	National
Panama	Encuesta de Hogares	EH	National
Paraguay	Encuesta Permanente de Hogares	EPH	National
Peru	Encuesta Nacional de Hogares	ENAHO	National
Uruguay	Encuesta Continua de Hogares	ECH	Urban-Montevideo and Interior >5000 inhabitants

Note: Metropolitan regions in Brazil refer to Recife, Salvador, Belo Horizonte, Rio de Janeiro, São Paulo, and Porto Alegre.

Table A. 4. Surveys used in LABLAC

Country	Name of the survey	Acronym	Coverage
Argentina	Encuesta Permanente de Hogares-Continua	EPH-C	Urban
Brazil	Pesquisa Mensal de Emprego	PME	Urban from metropolitan regions covered[a]
Colombia	Gran Encuesta Integrada de Hogares	GEIH	National (urban & rural)
Ecuador	Encuesta de Empleo, Desempleo y Subempleo	ENEMDU	National (urban & rural)
Mexico	Encuesta Nacional de Ocupación y Empleo	ENOE	National (urban & rural)
Nicaragua	Encuesta Continua de Hogares	ECH	National (urban & rural)
Peru	Encuesta Permanente de Empleo	EPE	Urban (Metropolitan Lima)
Uruguay	Encuesta Continua de Hogares	ECH	National (urban & rural)

Note: Metropolitan regions in Brazil refer to Recife, Salvador, Belo Horizonte, Rio de Janeiro, São Paulo, and Porto Alegre.

Annex 4. Profiles of LAC's bottom 40 percent and top 60 percent (2013)

Table A.4.			
Indicators	**Bottom 40**	**Top 60**	**All**
Household			
Households with female head (%)	33.4	33.2	33.3
Household size	4.1	3.0	3.4
Age of the head of household	46.0	50.5	49.0
Years of education of the head of household	5.8	9.0	8.0
Number of children (ages 0-14)	1.5	0.6	0.9
Proportion of members (ages 0-14) (%)	31.3	13.6	19.4
Proportion of members (ages 15-24) (%)	17.1	14.6	15.4
Proportion of members (ages 25-65) (%)	43.5	58.0	53.2
Proportion of members (ages 66+) (%)	8.2	13.9	12.0
School enrollment (ages 6-14) (%)	94.8	96.8	95.8
School enrollment (ages 15-24) (%)	44.5	55.3	51.1
Years of education (ages 15 and older)	6.6	9.4	8.5
Households living in urban areas (%)	67.0	87.9	81.1
Daily per capita income (2005 US$ PPP)	3.5	21.0	15.2
Monthly per capita income (2005 US$ PPP)	106.7	637.6	463.5
Skills			
Low skilled (%)	39.1	28.7	32.2
Skilled (%)	20.6	49.4	39.6
Unskilled (%)	40.3	21.9	28.2
Labor force			
Labor force participation (%)	59.7	68.3	65.4
Male labor force participation (%)	77.4	79.4	78.7
Female labor force participation (%)	44.4	57.8	53.1
Employment status			
Employers (%)	4.7	5.6	5.3
Wage employees (%)	50.6	70.0	64.2
Self-employed (%)	31.5	20.6	23.9
Unpaid workers (%)	13.3	3.8	6.6
Unemployed (%)	9.8	3.9	5.8
Type of firm			
Public employees (%)	3.9	13.8	10.8
Workers in small private firms (%)	76.9	53.8	61.2
Workers in large private firms (%)	23.1	46.2	38.8
Employment sector			
Primary sector (%)	34.0	9.3	16.6
Manufacturing (%)	11.4	13.5	12.9
Construction and utilities (%)	13.0	14.7	14.2
Retail (%)	23.0	26.2	25.2
Services (%)	18.5	36.5	31.1

Source: Authors' calculations using SEDLAC data (CEDLAS and the World Bank). Note: LAC indicators are calculated using pooled data from the relevant set of countries. In order to analyze the complete set of countries in the relevant year, interpolation was applied when country data were not available for that given year. For methodological details, refer to Annex 1.

Annex 5. Decomposition of extreme poverty ($2.50/day) changes, 2003-2013

Figure A.5. Decomposition of extreme poverty ($2.50/day) changes, 2003-2013
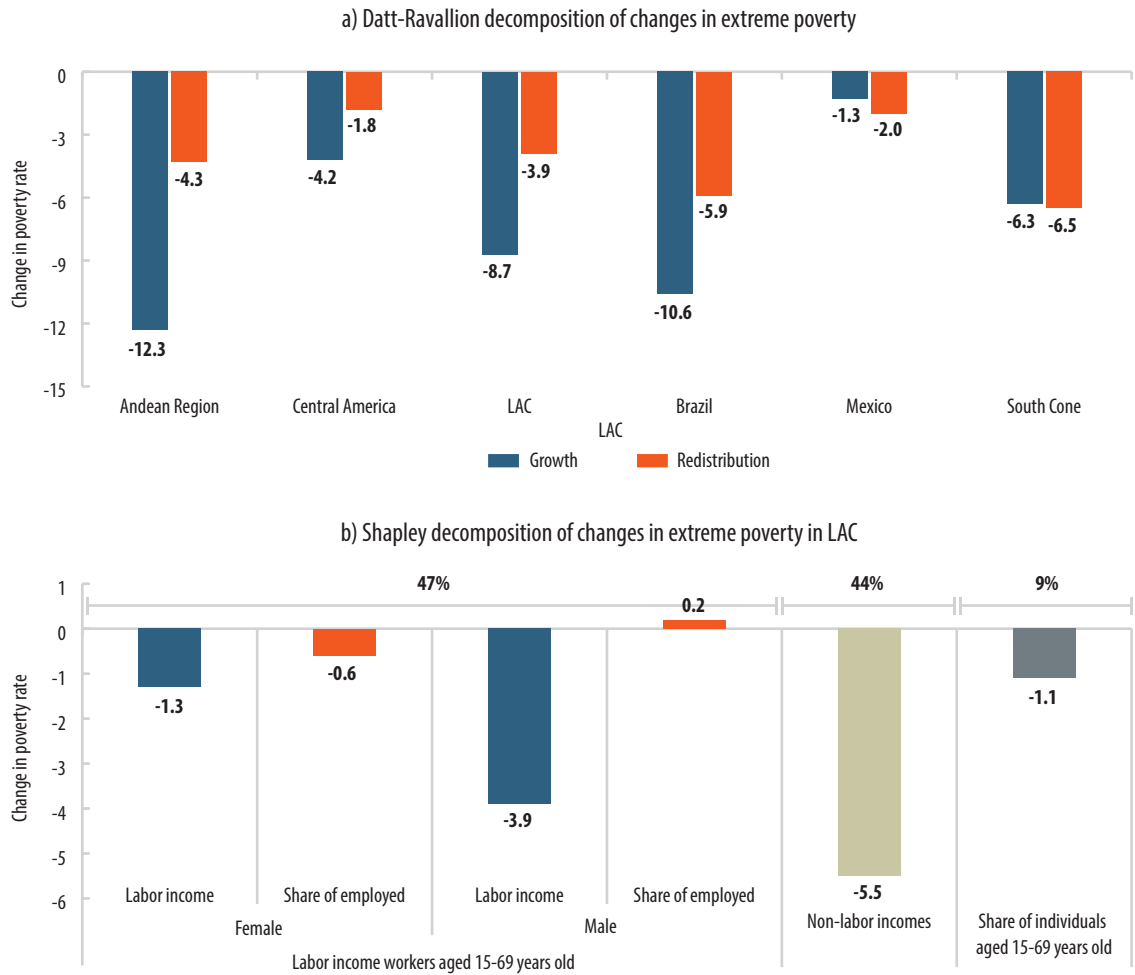
a) Datt-Ravallion decomposition of changes in extreme poverty

b) Shapley decomposition of changes in extreme poverty in LAC

Source: Authors' calculations using SEDLAC data (CEDLAS and the World Bank). Note: LAC and sub-regional estimates are calculated using pooled data from the relevant set of countries (see Annex 1). In order to analyze the same set of countries every year, interpolation was applied when country data were not available for a given year. For methodological details, see Annex 1. Panel "a" shows the Datt-Ravalion (1992) decomposition of poverty changes (see Annex 7 for details on the methodology), while Panel "b" presents the Shapley decomposition of poverty changes (see Annex 8 for details on the methodology).

Annex 6. Decomposition of poverty ($4/day) changes by sub-region, 2003-2013

Figure A.6. Decomposition of poverty ($4/day) changes by sub-region, 2003-2013
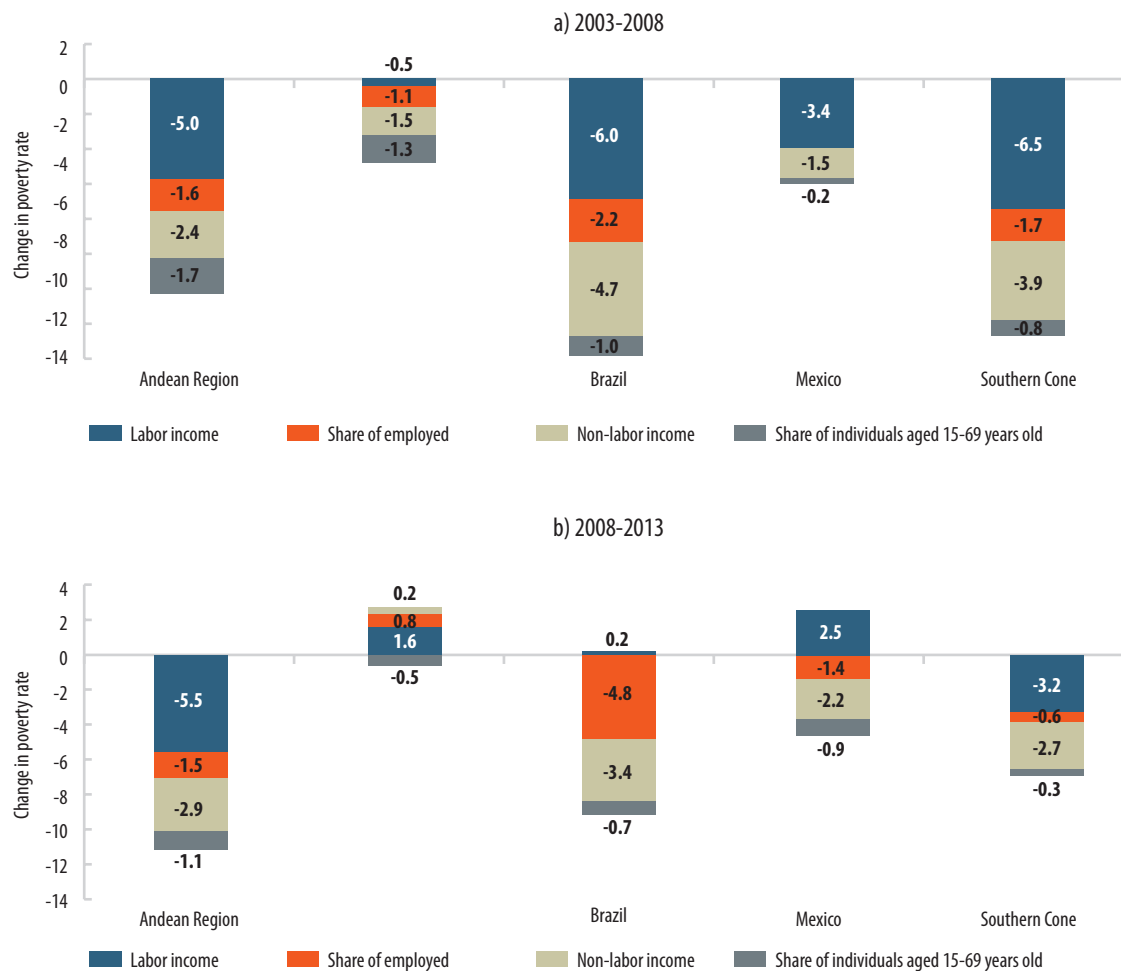
a) 2003-2008

Andean Region	Brazil	Mexico	Southern Cone
-5.0	-6.0	-3.4	-6.5
-1.6	-2.2	-1.5	-1.7
-2.4	-4.7	-0.2	-3.9
-1.7	-1.0		-0.8
-0.5 (top)			
-1.1			
-1.5			
-1.3			

■ Labor income   ■ Share of employed   ■ Non-labor income   ■ Share of individuals aged 15-69 years old

b) 2008-2013

Andean Region	Brazil	Mexico	Southern Cone
-5.5	0.2	2.5	-3.2
-1.5	-4.8	-1.4	-0.6
-2.9	-3.4	-2.2	-2.7
-1.1	-0.7	-0.9	-0.3
0.2 (top)			
0.8			
1.6			
-0.5			

■ Labor income   ■ Share of employed   ■ Non-labor income   ■ Share of individuals aged 15-69 years old

Source: Authors' calculations using SEDLAC data (CEDLAS and the World Bank). Note: LAC and sub-regional estimates are calculated using pooled data from the relevant set of countries (see Annex 1). In order to analyze the same set of countries every year, interpolation was applied when country data were not available for a given year. For methodological details, see Annex 1. The figure presents the Shapley decomposition of poverty changes (see Annex 8 for details on the methodology).

Annex 7. Growth and distribution decomposition

The decomposition of poverty changes on growth and income distribution was proposed by Datt and Ravallion (1992). Under this methodology, poverty changes have two components: (1) **The income growth component** is the change in poverty due to a change in the mean income in the absence of changes in income distribution, and (2) **the redistribution component** is the change in poverty due to changes in the Lorenz curve while keeping the mean income constant.

Formally, let be $P_t(\mu_t, L_t)$ the poverty rate in time $t=\{1,2\}$ that depends on the mean income μ_t and the Lorenz curve L_t. By taking $t=1$ as the period of reference, the decomposition of the change in the poverty rate from period 1 to period 2 in its growth and redistribution components is:

$$P_2 - P_1 = \Delta P = [P(\mu_2, L_1) - P(\mu_1, L_1)] + [P(\mu_1, L_2) - P(\mu_1, L_1)] + R(r=1)$$

In Datt's and Ravallion's words, "The **growth component** ($P(\mu_2, L_1) - P(\mu_1, L_1)$) of a change in the poverty rate is defined as the change in poverty due to a change in the mean while holding the Lorenz curve constant at some reference level L_r. The **redistribution component** ($P(\mu_1, L_2) - P(\mu_1, L_1)$) is the change in poverty due to a change in the Lorenz curve while keeping the mean income constant at the reference level μ_r"(Datt and Ravallion 1992, 277).

The residual component $R(r=1)$ exists because the poverty index is not additively separable between mean income growth and income distribution. In other words, the mean income growth is endogenous to the Lorenz curve. A solution to eliminate the residual component of the poverty change is to perform the decomposition of the change in poverty by changing the point of reference and averaging its components.[61] In this case, the second decomposition will be anchored to time period 2 ($r=2$):

$$P_2 - P_1 = \Delta P = [P(\mu_2, L_2) - P(\mu_1, L_2)] + [P(\mu_2, L_2) - P(\mu_2, L_1)] + R(r=2)$$

Thus, by construction:

$$R(r=1) = [P(\mu_2, L_1) - P(\mu_1, L_1)] + [P(\mu_2, L_2) - P(\mu_1, L_2)]$$
$$= [P(\mu_1, L_2) - P(\mu_1, L_1)] + [P(\mu_2, L_2) - P(\mu_2, L_1)]$$
$$= - R(r=2)$$

---

61   This is known as the Shapley value of components, which is used to correct for path dependency.

Annex 8. Shapley decomposition by components of a welfare measure

The Shapley decomposition by components of a welfare measure was developed by Azevedo, Nguyen, and Sanfelice (2012) and based on Barros et al. (2006). This methodology estimates the relative effect of changes in different income sources (i.e. labor income, non-labor income, and transfers) on changes in poverty and inequality during a specific period.

Mathematically, in order to decompose the changes in poverty and inequality by each of the income components, the per-capita income must be expressed as a function of its components. Barros et al. (2006) define income per capita as the sum of each individual's income divided by the number of household members n. The individual's income y_i can be split into labor income y_i^l and non-labor income y_i^{nl}. Non-labor income includes per-capita levels of pensions, capital, transfers (both public and private), and imputed rent, among other factors.

Departing from the methodology used in previous PLBs, in this one the decomposition adjusts for demographic transition while separating labor income by returns and employment level among the men and women of the household. Specifically, labor income is only earned by members of the household who are employed: n_o. These employed n_o are also a function of the number of members in the household who are of working age n_A. Based on these two conditions, the per-capita labor income of the household $\frac{1}{n}\sum_{i=1}^{n} y_i^l$ can be split into three components: per-worker labor income $(\sum_{i \in O}^{n_o} \frac{y_i^l}{n_o})$, employment rate of the household $(\frac{n_o}{n_A})$, and working age rate $(\frac{n_A}{n})$. In addition, labor income can be split into female and male labor income: $(\sum_{i \in F}^{n_{oF}} \frac{y_i^l}{n_{oF}})$ and $(\sum_{i \in M}^{n_{oM}} \frac{y_i^l}{n_{oM}})$. Note that other income g_i included non-labor income and labor income of non-working age adults.

Therefore, income per capita can be written as:

(1)
$$Y_{pc} = \frac{1}{n}\sum_{i=1}^{n} y_i = \frac{n_A}{n}\left(\frac{n_{oF}}{n_A}\left(\sum_{i \in F}^{n_{oF}}\left(\frac{y_i^l}{n_{oF}}\right)\right) + \frac{n_{oM}}{n_A}\left(\sum_{i \in M}^{n_{oM}}\left(\frac{y_i^l}{n_{oM}}\right)\right)\right) + \frac{1}{n}\sum_i^n g_i$$

Per-capita household income is a function $\delta($ of each of the j components, in this case $j=4$.

(2)
$$Y_{pc} = \delta(\frac{n_A}{n}, \frac{n_o}{n_A}, \frac{y_i^l}{n_o}, \frac{y_i^{nl}}{n})$$

Note that any poverty or inequality measure I is a function θ that depends on the income distribution across households. Defining $F(Y_{pc})$ as the cumulative distribution function of per-capita income and replacing equation (2), it concluded that any poverty or inequality measure is a function of the income components:

(3)
$$I = \theta\left(F\left(\delta\left(\frac{n_A}{n}, \frac{n_o}{n_A}, \frac{y_i^l}{n_o}, \frac{y_i^{nl}}{n}\right)\right)\right)$$

Based on equation (3), the change in the indicator is expressed over a period t and t-1 $\Delta I_{t,t-1} = I^t - I^{t-1}$ as a result of changes in the value of its components. Using Barros' method, the distribution of income is simulated by changing each of these i components, one at time, to calculate their contribution to the observed changes in poverty or inequality.

Using information from all components in each period, the participation of component j is estimated in the change of the analyzed indicator between t-1 and t. This can be done by constructing a counterfactual distribu-

tion for period *t*, by substituting the observed level of each income component in *(t-1)* for its value in *(t)*. Then, a counterfactual indicator for period t is computed based on the previous counterfactual distribution. The difference between the counterfactual and the observed value of the analyzed indicator is the effect of component j on the change of the indicator.

In the absence of panel data, Azevedo et al. (2012) use the rank preservation principle in order to transpose the distribution from one period to the other. This means that the distribution in each period is ranked using per capita income. Thus, the first observation in period *(t-1)* will be linked with the first observation in the period *(t)*. The difference between the observed indicator value and the counterfactual indicator is the effect $\sigma_{(\frac{n_o}{n_A})}$ of the occupied rate on the change of the analyzed indicator. This is described in the next equation (where the hat represents the counterfactual indicator in period *t*):

(4) $$\sigma_{(\frac{n_o}{n_A})} = \hat{I} - I = \theta\left(F\left(\delta\left(\frac{n_A}{n}, \frac{\hat{n_o}}{n_A}, \frac{y_i^l}{n_o}, \frac{y_i^{nl}}{n}\right)\right)\right) - \theta\left(F\left(\delta\left(\frac{n_A}{n}, \frac{n_o}{n_A}, \frac{y_i^l}{n_o}, \frac{y_i^{nl}}{n}\right)\right)\right)$$

The sum of the marginal effects of each component, however, does not give us the total change from *(t-1)* to *(t)* because the decomposition suffers from path dependence, the order in which each component is changed matters. Azevedo et al. (2012a) solve this problem using the Shapley value, which computes all possible *j!* ways to decompose the indicator. Then, the weighted average of these j effects is computed, which is the total effect of component *j* on the observed change of the indicator.

Annex 9. Change in the composition of working-age population, 2003-2013 (percentage points)

Table A.9.						
Region	**Education**	**Quintile of per capita income**				
		1	**2**	**3**	**4**	**5**
LAC	Unskilled	-19.2	-18.3	-14.6	-9.0	-3.3
	Low-skilled	10.5	6.8	-0.0	-5.3	-3.9
	Skilled	8.7	11.4	14.6	14.3	7.1
Andean region	Unskilled	-15.0	-12.0	-10.4	-6.9	-2.8
	Low-skilled	4.4	-1.4	-5.8	-6.0	-2.6
	Skilled	10.5	13.4	16.1	12.8	5.4
Brazil	Unskilled	-21.7	-25.0	-22.4	-14.9	-5.7
	Low-skilled	8.2	4.2	0.4	-2.7	-2.4
	Skilled	13.5	20.7	22.0	17.5	8.1
Central America	Unskilled	-11.3	-13.2	-13.4	-9.1	-6.9
	Low-skilled	9.7	9.6	7.4	1.3	-0.8
	Skilled	1.6	3.6	6.0	7.8	7.7
Mexico	Unskilled	-20.9	-12.4	-8.5	-5.2	-1.5
	Low-skilled	12.6	7.1	1.8	-2.1	-0.4
	Skilled	8.3	5.3	6.7	7.3	1.9
Southern Cone	Unskilled	-5.9	-6.6	-4.3	-2.6	-1.1
	Low-skilled	-5.8	-5.9	-7.8	-5.2	-2.2
	Skilled	11.7	12.5	12.1	7.8	3.3

Source: SEDLAC (CEDLAS and the World Bank). Note: LAC and sub-regional figures are calculated using the circa database (see Annex 1). The table reports the percentage point change in the education attainment composition of the working-age population (individuals aged 18-64) between 2003 and 2013, for the quintiles of per capita income.

Annex 10. Profiles of LAC's skill groups (2013)

Table A. 10.a					
	Unskilled	Low skilled	Medium skilled	High skilled	All
Profile of households, by education level of the main earner*					
Demographics [a]					
Share of population	27.7	30.0	28.9	13.4	100.0
Share of population living in poverty ($4/day)	47.5	35.4	15.5	1.6	100.0
Share of children (ages 0-17)	29.0	34.4	26.5	10.1	100.0
Share of working-age adults (ages 18-65)	25.1	28.6	31.2	15.1	100.0
Share of older adults (ages 66 and over)	43.6	22.7	20.9	12.8	100.0
Income [a]					
Median daily per capita income (2005 US $PPP)	5.0	6.2	9.7	19.5	7.6
Median daily per capita labor income (2005 US$ PPP)	2.8	4.6	7.1	14.3	5.4
Household without labor income	25.7	11.0	8.9	7.7	14.2
Education [b]					
School enrollment (ages 12-17)	81.2	83.0	91.3	93.2	85.8
School enrollment (ages 18-24)	24.4	27.9	41.1	76.7	37.4
Years of education (ages 18 and over)	3.9	7.8	10.9	14.3	8.5
Characteristics of the main earner [b]					
Average age	52.0	41.9	38.6	43.2	44.1
Female	29.8	26.4	34.6	42.1	32.0
Averages years of education	2.7	7.9	11.9	16.2	8.8
Proportion living in rural areas	35.1	21.0	8.0	4.3	19.0

	Unskilled	Low skilled	Medium skilled	High skilled	All
Labor profile of individuals (Ages 18-65) [c]					
Unemployment and labor force [c]					
Labor force participation	68.2	74.1	76.4	87.9	75.1
Female	51.1	56.2	66.7	83.3	62.1
Male	86.3	92.3	87.2	93.5	89.2
Unemployment rate	4.2	5.4	7.1	4.3	5.6
Female	5.2	6.2	8.8	4.9	6.7
Male	3.6	4.9	5.7	3.7	4.7
Type of employer [c]					
Private large firm	24.3	36.2	46.2	37.7	37.2
Small large firm	30.7	27.1	16.9	6.1	21.2
Public sector	3.7	5.6	15.1	36.7	13.1
Self-employed	38.1	27.3	17.9	n.a.	22.4
Employers and skilled self-employed	3.2	3.9	4.0	19.5	6.1
Sector of employment [c]					
Primary sector	28.9	13.8	4.3	2.4	12.0
Manufacturing	11.1	16.2	15.0	8.4	13.5
Construction and utilities	18.8	18.7	14.0	7.3	15.4
Retail	20.9	29.6	29.1	13.5	25.1
Services	20.4	21.7	37.6	68.4	33.9

Source: SEDLAC (CEDLAS and the World Bank) for all numbers and LABLAC (CEDLAS and World Bank) for Mexico's contribution to type of employment. Note: All indicators are calculated using a circa database (see Annex 1). All indicators are percentages unless otherwise noted. Households without labor income are categorized based on the skill level of the household head, while all other households are categorized based on the skill level of the highest earner.
Note: The unskilled are those who did not complete primary schooling (including those with no formal schooling); the low-skilled are those who completed primary school but did not complete secondary, and the skilled are those with at least a secondary school education. For most purposes, this brief considers these three groups. But in this annex, the skilled group is broken down for more detailed analysis into medium-skilled and high-skilled sub-groups.
a The figures are reported at individual level by the skill level of the main labor income earner of the household to which the individual belongs.
b The figures are reported at household level or main earner level by the skill level of the main labor income earner of the household.
c The figures are reported at individual level by the skill level of each individual. The analysis of type of employment and sector is limited to paid workers.

Annex 11. Sectoral gains and population shifts decomposition

The sectoral gains and population shifts decomposition was developed by Ravallion and Huppi (1991). This methodology decomposes changes in poverty into an intra-sectoral effect (changes in poverty levels within each group) and a population shift effect (changes in the socioeconomic characteristics of population).

Some change in poverty rates can be explained by population shifts across groups—for example, an increase in the urban population. This is different from change in poverty due to changes in the poverty rates within each group. Consider the following: In year 0 (t_0), urban households are less likely to be poor than rural households. If by year 1 (t_1), a portion of households migrated from rural to urban areas, the fraction of households that is rural falls while the fraction that is urban increases. If the likelihood of being poor in urban and rural areas remained the same, a decrease in the overall poverty incidence due only to the migration from rural to urban areas is expected.

The decomposition proposed by Ravallion and Huppi (1991) measures to what extent the change in poverty is explained by changes in the distribution of a given socioeconomic characteristic, and to what extent it is related to the change in poverty within each group. It decomposes changes in poverty as the sum of three components: the intra-sectoral effect, the population shift effect, and the residual, which is the interaction effect between these two components.

The intra-sectoral effect estimates what would have happened to the poverty measure if the distribution of the characteristic of interest across the population had remained constant and only the level of poverty within each group had changed. That is, it assumes no population shift. The population shift effect estimates the poverty measure if the poverty rates of each group had remained constant and the only change had been in the distribution of the characteristic of interest across the total population. In other words, it assumes that there are no changes in poverty within each group (intra-sectoral effect).

Mathematically, let P_t be the poverty measure in period t. The absolute change in the poverty measure can be re-expressed as:

$$P_{t+1} - P_t = \sum_{i=1}^{n} s_{it} \left(P_{i,t+1} - P_{i,t} \right) \qquad \textbf{Intra-sectoral effect}$$
$$+ \sum_{i=1}^{n} P_{i,t} \left(s_{i,t+1} - s_{i,t} \right) \qquad \textbf{Population shift effect}$$
$$+ \sum_{i=1}^{n} \left(P_{i,t+1} - P_{i,t} \right) \left(s_{i,t+1} - s_{i,t} \right) \qquad \textbf{Interaction effect}$$

where i represents the selected group and n the total number of groups. For example, when the decomposition is done over the level of education of the primary household earner, the group i could take values for: (1) completed less than primary education, (2) completed secondary education and (3) completed tertiary education, resulting in i = 1,2,3, and n = 3. $P_{i,t}$ is the poverty headcount ratio of the population that belongs to the group i in period t. Finally, $s_{i,t}$ is the share of the population that belongs to group i relative to the entire national population.

Annex 12. Probability of being poor in each sub-region, by sector of the household's main earner

Table A. 12.										
	Andean region		**Brazil**		**Central America**		**Mexico**		**Southern Cone**	
	2003	**2013**	**2003**	**2013**	**2003**	**2013**	**2003**	**2013**	**2003**	**2013**
Agriculture and fishing	69.7	68.1	68.2	63.8	69.2	83.3	69.6	75.7	43.4	39.8
Household services	49.6	42.6	54.7	42.6	47.0	63.2	31.9	43.0	40.7	33.6
Construction	41.5	30.2	42.0	32.4	29.4	55.0	30.1	39.1	36.2	26.8
Mining and utilities	32.7	20.8	25.2	15.4	23.8	36.9	5.6	14.3	6.6	4.9
Commerce and hospitality	36.4	35.4	32.4	27.4	30.1	44.5	16.9	37.5	26.1	20.9
Manufacturing	30.8	28.9	27.0	21.4	30.8	49.5	17.6	35.4	21.4	15.9
Transport	32.8	29.8	22.0	18.0	20.9	38.8	17.0	27.5	19.4	10.5
Other services	17.7	15.4	20.4	16.5	17.0	24.2	8.1	17.7	13.2	8.8

Source: Authors' calculations using SEDLAC data (CEDLAS and the World Bank).
Note: The sample was limited to the main earner (ages 18 to 65). Labor income poverty was around 39 percent in 2013.

Annex 13. Factors correlated with labor force participation of the bottom 40 (2013)

Table A. 13.						
	Unskilled		**Low-skilled**		**Skilled**	
	Women	**Men**	**Women**	**Men**	**Women**	**Men**
HH receives transfers	-0.0216***	-0.0480***	0.0150***	-0.00872***	0.0174***	-0.0158***
	(0.00529)	(0.00437)	(0.00498)	(0.00293)	(0.00609)	(0.00435)
Another member of HH is working	-0.0803***	0.0137***	-0.191***	-0.00689***	-0.187***	-0.0128***
	(0.00495)	(0.00328)	(0.00508)	(0.00263)	(0.00536)	(0.00361)
Regional unemployment rate (%)	-0.686***	0.494**	-2.187***	-0.286*	0.0482	0.345
	(0.262)	(0.213)	(0.276)	(0.166)	(0.297)	(0.212)
Constant	0.240***	0.719***	0.443***	0.782***	0.486***	0.637***
	(0.0269)	(0.0203)	(0.0202)	(0.0112)	(0.0182)	(0.0122)
Observations	55,975	45,279	50,721	43,743	39,454	28,415
R-squared	0.117	0.079	0.106	0.083	0.070	0.088

Source: Authors' own calculations using SEDLAC (CEDLAS and the World Bank). Regressions are linear probability models estimated for individuals aged 25-65 at bottom 40 percent of the per capita income distribution in each country circa 2013, by skill level. All regressions control for country-fixed effects, urban-rural settings, potential years of experience, and demographic dependency ratio of the household. The unemployment rate is estimated at the regional level for each country (for people aged 15+); regions are defined by the smallest level of geographical disaggregation available in each household survey. Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Annex 14. Sectors ranked by median hourly wage in 2003 across LAC countries

Table A. 13.

Sector	Argentina urban	Chile	Uruguay urban	Paraguay	Brazil	Bolivia	Colombia	Peru	Ecuador	Costa Rica	Dominican Republic	El Salvador	Panama	Honduras	Mexico
Activities of private households as employers															
Agriculture, hunting and forestry															
Wholesale and retail trade															
Construction															
Manufacturing															
Hotels and restaurants															
Other community, social and personal service activities															
Mining and quarrying															
Real estate, renting and business activities															
Health and social work															
Public administration and defense															
Transport, storage and communications															
Education															
Electricity, gas and water supply															
Financial intermediation															

Source: Authors' own calculations using SEDLAC (CEDLAS and the World Bank).

1 Low wage   2 Medium low wage   3 Medium wage   4 Medium high wage   5 High wage

Annex 15. Wage growth across types of employment and sectors by skill level, 2003-2013

Table A. 15.						
		Andean region	**Brazil**	**Central America**	**Mexico**	**Southern Cone**
Type of employment						
Unskilled	Self-employed	2.8	6.1	-1.3	-0.1	3.0
	Small firm	3.7	6.7	0.0	0.2	3.8
	Large firm	4.5	6.2	-0.6	-1.1	4.9
Low-skilled	Self-employed	2.7	4.0	-0.8	-1.2	2.9
	Small firm	4.3	6.8	-0.4	0.4	3.6
	Large firm	4.4	4.6	0.4	-1.1	4.2
Skilled	Self-employed	0.7	3.9	-1.6	-0.9	2.4
	Small firm	3.5	5.7	-1.6	-1.4	5.1
	Large firm	0.9	3.4	-0.8	-3.2	2.5
Type of sector						
Unskilled	Low wage	3.5	6.4	0.4	3.6	3.0
	Medium-low wage	2.8	5.8	-0.5	-2.1	3.9
	Medium wage	1.9	5.4	-0.9	-0.3	3.7
	Medium-high wage	1.8	6.2	-2.3	0.3	6.0
	High wage	3.1	4.7	-1.5	4.8	5.0
Low-skilled	Low wage	3.6	5.4	1.2	0.3	3.6
	Medium-low wage	3.7	3.8	0.2	0.1	3.2
	Medium wage	2.4	4.4	-0.7	-1.8	4.3
	Medium-high wage	2.9	5.3	-1.3	1.1	3.8
	High wage	2.4	3.0	-0.1	-0.2	2.2
Skilled	Low wage	2.4	3.4	-0.7	-2.4	3.3
	Medium-low wage	1.0	3.2	-0.1	-1.1	1.1
	Medium wage	0.5	3.0	-0.9	-1.4	2.0
	Medium-high wage	1.5	3.1	0.1	1.8	2.9
	High wage	2.2	4.4	0.7	-1.8	1.8

Source: SEDLAC (CEDLAS and the World Bank). Data for Mexico are from LABLAC (CEDLAS and the World Bank). Note: LAC and sub-regional numbers are calculated using the circa database (see Annex 1). Estimates are limited to workers between the ages of 18 and 65 years old who received wages. "Type of employment" excludes employers, professional self-employed (those with a university degree or higher), and public workers. Small firms are defined as those that have five or fewer workers. For "Type of sector," the sectors were grouped at the country level to allow for differences in wage returns from each sector across countries within the same sub-region. Sectors were ranked based on the median hourly wage of each sector in 2003 for a set of 15 sectors and then collapsed into groups of three to define the five sector-wage groups. See Annex 14 for country-level sector ranking.

Annex 16. Minimum wages and sources of data in select countries

Table A. 16.				
Country	**Source**	**Monthly MW (Local currency)**	**Monthly MW (US$ PPP 2005)**	**Year**
Brazil	Presidência da republica	300	191.0	2005
Brazil	Presidência da republica	415	231.5	2008
Brazil	Presidência da republica	678	287.6	2013
Colombia	Ministerio del Trabajo y Decretos del Gobierno Nacional	589,500	355.6	2013
Honduras	Secretaria de Trabajo y Seguridad Social	3400	279.7	2008
Honduras	Secretaria de Trabajo y Seguridad Social	5,524.7	385.5	2011
Honduras	Secretaria de Trabajo y Seguridad Social	6675.5	421.0	2013
Mexico	Secretaria del Trabajo y Previsión Social	1,866.9	182.5	2012

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