

The Strugglers: The New Poor in Latin America?

Nancy Birdsall, Nora Lustig, and Christian J. Meyer

Abstract

We identify a group of people in Latin America that are not poor but not middle class either - namely “strugglers” in households with daily income per capita between \$4 and \$10 (at constant 2005 PPP). This group will account for about a third of the region’s population over the next decades; as the size and income of the middle class rises, they could become increasingly marginalized. The cash transfers they receive are largely offset by indirect taxes; the benefit of schooling and other in-kind transfers they receive is questionable after adjusting for quality. We discuss implications for the social contract.

JEL Codes: D31, H22, I32, O15

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The Strugglers: The New Poor in Latin America?

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1. Introduction

In this paper we use an income-based classification of households (as in Ferreira et al., 2012, a World Bank report on economic mobility and the middle class), to identify and characterize a group of people in Latin America who are not poor by international standards but not yet part of the income-secure middle class. We call them “strugglers”, people living in households in which daily income per capita falls between \$4 and \$10 (at constant 2005 purchasing power parity (PPP) dollars).¹ We also refer to them using the word vulnerable, because of evidence that they are at substantial risk of falling into poverty, for example if any household member falls ill or suffers a drop in income because of an economic downturn.²

We project that in Latin America the struggler group, today between 35 and 40 percent of the population in most countries, will decline slowly as a share over the next four decades – still constituting about 30 percent in 2040. Using country-specific future rates of economic growth and assuming equally shared rates of growth within countries and thus no changes in their current distributions of income, we show that in the upper-middle income countries including Argentina, Brazil, and Chile, the absolute gap in income between the strugglers and the under \$4 poor on the one hand, and the income-secure middle class on the other hand, will increase in each of the next three decades. That raises the risk of greater social stratification between the middle class and what could become the increasingly marginalized group that we refer to in the title as the “new poor”.

Adding to the risk of stratification is our finding that the struggler group benefits little if at all from the current fiscal system. The modest cash transfers they receive are offset by the indirect taxes they pay. They do benefit from in-kind transfers for schooling and health services. But evidence that up to 50 percent of middle class households in some countries, and even some struggler households, are opting out of public schools and paying for private schooling suggests that the fiscal incidence analysis overstates the true value of the in-kind benefits. Given these findings, we call for greater attention to the needs and interests of the strugglers in the design and implementation of growth and distribution-friendly social and economic policies.

The rest of this paper is structured as follows. In section 2, we explain the logic behind setting absolute income thresholds to identify “classes”, set out the empirical basis for the income thresholds of \$4 to \$10, and present basic socio-economic characteristics of those households. In section 3 we present projections of the size of the \$4-\$10 group through 2050 in selected countries of Latin America and explore the implications of the projected increase in their absolute and relative size compared to the secure middle class. In section 4 we use harmonized household survey data from several Latin American countries to assess the relationship of the strugglers to

¹Throughout the rest of this paper, all monetary values are in 2005 PPP dollars unless noted otherwise.

²This is the term used by López-Calva and Ortiz-Juarez (2011).

the state as taxpayers and beneficiaries of government spending and social insurance programs. We report estimates of the taxes they pay and the benefits they receive, including cash transfers, access to social insurance, and the monetary value of health, schooling, and other public services. We compare the strugglers on these dimensions to the poor below them and the secure middle class and rich above them, as information potentially relevant to their economic and political interests. In section 5, we speculate on the implications of our analysis for the politics of the evolving social contract in Latin America.

2. Identifying Latin America's Vulnerable Strugglers

2.1. Why \$4 to \$10?

The \$4 to \$10 per capita per day thresholds are meant to identify people that are unlikely to be poor in absolute terms using the conventional international poverty lines of \$1.25 for extreme poverty and \$2 for moderate poverty, but are not yet in the middle class. We set our thresholds in absolute terms (rather than in relative terms for each person or household within his country) for two reasons. First and foremost, absolute thresholds make it possible to study changes within countries over time in what might be called the income composition of a society or nation, looking at both population and income shares of specific groups identified in real income terms. Second, as Birdsall (2010) argues, an absolute threshold (in that case for identifying the minimum income to be middle class) allows comparisons across countries, and makes sense to the extent that in the relatively open economies of most developing countries today, consumption potential is determined in part by global prices, including of food and fuel. In addition, it is possible that consumption standards and preferences, or the consumption basket itself, are set at the global level, at least for households that have escaped absolute poverty.

The \$4 threshold at the bottom is meant to exclude households that are in some absolute sense poor in most middle-income developing countries. It is below the national poverty lines in countries of Latin America, but above the national extreme poverty (indigence) lines in the region. It is also above the poverty lines in most countries of other developing country regions. Ravallion et al. (2009) make the point that national poverty lines rise markedly across developing countries with average income; that reflects the reality that security with respect to basic needs is difficult to define in absolute terms (as Adam Smith famously noted, it is about the proper shirt that makes a man feel presentable in his community). \$4 is also sufficiently above the international absolute poverty lines to avoid including many households that are only temporarily above those lines.

There is considerable evidence from developing countries that the number of people that live below the poverty line is substantially greater over several months or years than the number that are poor at any one moment. Pritchett, Suryahadi, and Sumarto (2000) use two panel datasets from Indonesia to estimate that 30 to 50 percent of households above a given poverty threshold

face a risk of 50 percent or more of falling below it. Dercon and Shapiro (2007) summarize the empirical evidence on poverty mobility from longitudinal data. Similarly, Kanbur et al. (2000), Lustig (1995), and Lustig (2000) record substantial increases in “poverty” conventionally defined during crises, in part because a high proportion of the non-poor lives so close to the poverty line – where they are vulnerable during a downturn, presumably because their permanent income is too low for them to have accumulated the precautionary savings or assets typical of middle class households.³

Our \$10 threshold at the top is meant to exclude households likely to be in the secure (or consolidated) middle class. Birdsall (2010) suggests \$10 per capita per day as the absolute minimum income in the developing world for a person to have the economic security associated with middle class status in today’s global economy – and therefore the incentives and the potential to exercise political rights in his or her own interests. Others including Kharas (2010), Milanovic and Yitzhaki (2002), and Ferreira et al. (2012) have also used a threshold of \$10 or around \$10 as a starting point for membership in the middle class.

For Latin America in particular, the \$10 threshold as the lower bound for the middle class is well-grounded conceptually and empirically – which in turn justifies it as the upper bound for the strugglers. First, López-Calva and Ortiz-Juarez (2011) show that at income per capita below \$10, households in Peru, Chile, and Mexico were much more vulnerable to falling into poverty over a five-year period (circa 2001 to 2006) than households at or above \$10. At or above \$10 per capita, households only had a 10 percent probability of falling below their national moderate poverty lines ranging from \$4 to \$5.

However, households with slightly lower income were as much as two times more likely to fall into poverty. In Mexico, households at \$6 per capita per day had a 22 to 24 percent probability of falling into poverty. In Chile, which has a much lower poverty incidence and is about 40 percent richer at the median, households at about \$6 per capita had a 24 to 40 percent probability of falling into poverty; even in the richest country of the region, households commonly perceived as “not poor” were highly vulnerable to declines in their income.

These results are consistent with the more general finding that many households above the national poverty lines in Latin America have been vulnerable to major declines in income during the region’s periodic banking crises, and more recently in the case of externally-driven food, fuel, and external financial crises (as in 2008 and 2009). During Argentina’s 2001/2 financial crisis, the share of poor people below \$2.50 a day rose from 14 percent in 2000 to almost 30 percent in 2002. In Mexico, the share rose from 20 percent in 1994 to 34 percent in 1996 following the 1995 financial crisis.⁴

To help us assess more closely the probability of households already above \$4 a day falling

³The text in this paragraph is adapted from Birdsall (2010).

⁴Lustig (2000), World Bank (2000), CEDLAS and the World Bank (2013).

back below \$4 a day, and the relevance of economy-wide and household-specific shocks, López-Calva undertook his vulnerability analysis focused specifically on the strugglers using the same panel data from Mexico, Peru and Chile. In Mexico 23.3 percent and in Peru 18.7 percent of the households that were in our struggler group in 2002 had transitioned into the poor group by 2005 (by 2006 in Peru).⁵

Considerable vulnerability of households in the \$4-\$10 group in the face of major economy-wide shocks of the type that drove people below the poverty line in Mexico in 1995 and Argentina in 2001/02 is not surprising. The panel data suggest the relevance of household-specific shocks as well. In Mexico those without any form of social insurance to cover health and old age pensions (probably because none of their adult members is employed in the formal sector) were systematically more likely to have fallen into poverty in the five-year period studied. Not surprisingly another factor that seems to matter is income from work; in all three countries an increase in the number of workers in a household of a given size reduced vulnerability. Households in which a worker had a regular salary or wage were also less vulnerable. In Mexico having a worker in the army or police or in “skilled manual” work provided additional protection, as did relatively greater education than others in the group. In Peru having a worker in government or clerical activities provided additional protection.⁶

A second basis for the \$10 threshold at the top comes from people’s own perceptions. In the analysis of surveys in which respondents in seven countries of the region were asked to report their class, it was at or around \$10 a day that respondents identified themselves as middle class rather than poorer (Figure 1).⁷ On the one hand, self-identification as middle class at about \$10 could be a coincidence. On the other hand, it suggests that respondents in the region, when asked to put themselves into one or another class, view middle class status – whether explicitly or intuitively – in some part as having to do with reasonably good income security. It may also mean that reasonably good income security is closely associated with other characteristics that respondents perceived as middle class. Between \$4 and \$10 per capita per day, most respondents instead identified themselves as lower class. Figure 1 shows a sharp peak of self-identified lower-class people in the vulnerable income group below \$10 per capita per day.

Our use of the \$4 and \$10 thresholds is best viewed as a rough proxy for identifying not “defining” a struggler group. Several considerations dictate modesty in our use of these two thresholds. First, it is a well-known fact that sharp income-based thresholds are artefacts that

⁵We are grateful to Luis Felipe López-Calva for undertaking the vulnerability analysis for the struggler group. See Appendix Table A1 for the detailed results of his analysis.

⁶See Appendix Table A2 to Table A4. Banerjee and Duflo (2008) emphasize for their \$2-\$4 and \$6-\$10 households their low likelihood of steady (formal sector) wage or salary work.

⁷The surveys (“Ecosocial”) in which respondents self-identified their class did not include data on household income. Income was estimated using data on household assets, matched to another set of survey data that includes both income and the same subset of assets (“SEDLAC”). For further discussion of the methodology that links the surveys’ information, see Ferreira et al. (2012).

in reality cannot identify the differences in living standards with the surgical precision that they pretend to have. If this is true for defining extreme and moderate poverty, it is equally so for other socio-economic groups such as the struggler group and the middle class. Just as the poor are identified in terms of multiple dimensions,⁸ the group we call the strugglers should be too. Second, absolute thresholds to define the struggler group are likely to differ across countries and within countries over time.⁹

2.2. Who Are the Strugglers?

What are the characteristics of struggler households and how do they compare to households that are poorer and richer than they are? Our comparisons follow the approach in Ferreira et al. (2012) using four income-based groups of households: the poor with daily income per capita below \$4, the strugglers with income between \$4 and \$10, the income-secure middle class with income between \$10 and \$50, and the rich with incomes of more than \$50. Household survey data comes from the Socio-Economic Database for Latin America and the Caribbean (SEDLAC).¹⁰ Our dataset contains survey micro data from eight countries of the region in three different periods over twenty years. The data have been made comparable with respect to such variables as income and education as well as household assets and employment variables.

In 2008/2009, the median daily income of the strugglers was \$6.50 per capita, and adults in struggler households had in most countries completed primary school but not more.¹¹ In comparison, for the group identified as the middle class, the median daily income was \$16.20 per capita and most adults had completed secondary school. Table 1 provides an overview of the median income of the struggler group in each country compared to the median income of the population. In six of the eight countries, the median household of the population falls into our \$4 to \$10 per capita struggler group. In Honduras, the median household is slightly poorer, in Chile slightly richer.

Table 2 compares household income and adults' completed years of schooling at the medians. The median income of the strugglers is much closer to that of the poor than to that of the middle class, though that is partly by construction since the middle class thresholds are \$40

⁸See Alkire and Foster (2011) and UNDP (2010) for a comprehensive discussion and application of multidimensional poverty measures.

⁹How much any particular threshold matters as a proxy for well-being will also differ across countries and over time as a function of opportunities for upward (and downward) social mobility relative to other income groups. See Birdsall and Graham (2000a) and other essays in Birdsall and Graham (2000b).

¹⁰SEDLAC is a joint project by the Center for Distributional, Labor and Social Studies (CEDLAS) at the University of La Plata and the World Bank. Based on the micro data from SEDLAC, research staff at the World Bank have done additional cleaning and corrections. Also see Birdsall (2012), who uses these data to describe the characteristics of the Latin American middle class.

¹¹Birdsall and Meyer (2014) explain the logic of using median household income (or consumption expenditure) per capita as a simple, robust, and durable indicator of typical individual material well-being.

apart. Consistent with the high concentration of income in Latin America at the top, the middle class median income is closer to the strugglers than to the rich elite.

More striking in some ways is the sharp distinction between the strugglers and the middle class (and between the middle class and the rich) in years of schooling. Except in Chile and Peru, a median adult in struggler households has typically not benefited from secondary schooling. In comparison, the median adult in the group that we identify as middle class has completed secondary education. Schooling access has increased substantially in the region in the last 20 years, and that has apparently been closely associated with the increase in the number of people who are now in the middle class.¹² Those now in the struggler group include those who would have been poor if they had not managed to finish primary school, but also those who, unable to finish secondary school, were unable to make the transition to the middle class.

How might we characterize struggler households in terms of their relation to the market as consumers and workers? Unfortunately, consumption surveys in Latin America are scarce. Mexico is among the few countries that systematically collect data on both income and expenditures. Based on the results for 2012, the \$4 to \$10 income household in Mexico is spending between 24 and 36 percent of its disposable income and between 33 and 42 percent of its total consumption expenditure on food.¹³ In the rich OECD countries the typical food share of the poor is about 15 percent (Pritchett and Spivack, 2013). Compared to the poor in OECD countries, the strugglers in Mexico are clearly income-insecure. At the same time, compared to their poor counterparts in Mexico, the strugglers have a bit of budget space to consume some such “middle-class” goods such as refrigerators and motor scooters.

Data from household surveys on respondents’ occupations, the types of firms (private, public, “small”) and sectors in which they work (agriculture, mining, services, education, etc.) and their type of employment (employee, self-employed), suggest that the strugglers are more likely to work in the informal sector than their richer counterparts. As noted above, among those in the group relatively less likely to fall into poverty were those benefiting from a “paystub”, as clerical workers or in the army or police. Indeed, it is probably when you have a “paystub” that you are more likely to be in the secure middle class. Workers in the struggler group (along with those in the poorest group) are more likely to be in primary activities (such as agriculture, mining, and fishing), while those in the middle class are more likely to be in health, education, and public services.

The strugglers also differ from the middle class in terms of employment status. On average,¹⁴

¹²Birdsall, 2012, Table 7.

¹³Based on our own calculations using household survey data from the Encuesta Nacional de Ingresos y Gastos de los Hogares (ENIGH) 2012. The food share reflects the likelihood that most \$4–\$10 households are probably “income-insecure”.

¹⁴Taking an unweighted average of workers’ employment status across all eight countries in our sample, using the latest year for which we have survey data.

compared to the middle class, a worker in the struggler group is less likely to be an employer, slightly more likely to be working without salary or to be self-employed, and slightly more likely to be unemployed. Similarly, an average worker in the struggler group is less likely than a middle class worker to be employed in the public sector.¹⁵

While there is considerable variation across countries, our household-survey evidence suggests that in 2008/2009 as much as 64 percent of workers in the \$4–\$10 group were “employees” in Brazil (40 percent in Colombia and 72 percent in Chile) – more than among the poor but less than among the middle class in each country. Adults in vulnerable, struggler households are more likely to work in “small” than in “private” or “public” firms, again a lower percentage than that of the poor but higher than that of the middle class. And a significant share is likely to be self-employed (14 percent in Chile, and over 40 percent in Colombia, the Dominican Republic and Peru), presumably working in the informal or “semi-formal” sectors.¹⁶ As noted above, within the struggler group in the panels in Mexico, Chile and Peru, it was those with less regular paystubs – i.e., those more likely working in the informal sector – that were more vulnerable to falling below the \$4 line over five years.

What about strugglers’ relation to the state as taxpayers and beneficiaries of publicly managed social insurance and safety net programs? We turn to this question using more detailed analysis in Section 4 below. On average, across eight countries in our sample between 2006 and 2009, 53 percent of workers in the struggler group were covered by the social security system. This is a significantly larger share than workers in the poor group (33 percent covered) but a significantly smaller share than workers in the middle class (72 percent covered). These numbers partly reflect impressive progress towards universal social safety nets over the last two decades. In Brazil, Chile, and other countries of the region, health and pension insurance are now universal – and thus no longer tied to formal employment. Mexico introduced universal health coverage through its *Seguro Popular* program in mid-2012;¹⁷ our 2008 data indicate that in that year just 34 percent of \$4–\$10 households were covered by some form of social insurance, compared to 55 percent of middle class households. However, in countries with only employment-based contributory health and pension systems, the household data show that a worker in the struggler group is less likely to be enrolled in the contributory system than a worker in the middle class, presumably because he or she is more likely to be in the informal, unprotected sector.

On the one hand, the recent data suggest that the work status of the struggler group distin-

¹⁵Birdsall, 2012, Tables 13 and 14.

¹⁶Birdsall, 2012, Tables 14 and 15. We implicitly take a worker-centered perspective of informality: Perry et al. (2007) describe three “margins of informality”: The intra-firm margin, where firms are partly formal and partly not, the inter-sectoral margin between informal and formal firms, and the inter-sectoral margin between formal workers and informal workers. While acknowledging that these are not mutually exclusive, we focus on the third margin.

¹⁷Knaul et al. (2012) summarize the evolution of universal health coverage in Mexico.

guishes them from the poor – in particular a larger share are employees (vs. self-employed) than is the case for workers in poorer households. On the other hand, even among “employees” in the struggler group, many are in fact vulnerable, that is unsheltered from adverse shocks and without formal mechanisms of insurance.

This is consistent with earlier results from Latin America and other regions.¹⁸ Using similar data from SEDLAC, Gasparini and Tornarolli (2007) report that informality continues to be a widespread and persistent characteristic of Latin America’s labor markets. Tokman (2011) reports that across 17 Latin American countries, the informal economy accounted for 64 percent of non-agricultural employment in 2008, an increase from about 59 percent in 1990.¹⁹

The characteristics of strugglers as workers suggest, as we note in our concluding section, that a key challenge in the region is the extension and, in some cases, reform and redesign of social insurance to benefit this group. As Levy (2008) and others have shown, the challenge is to do so in a manner that does not introduce new and perverse incentives for informality and associated evasion of taxes.²⁰

Finally, it should be noted that informality may be “voluntary”.²¹ Among higher-income households the self-employed may be lawyers and other professionals or small but successful contractors avoiding the regulatory and tax burdens associated with formality. However in general it is still the case that climbing out of vulnerability into the middle class in most countries of the region and indeed the world is associated for the great majority of people with a regular wage or salaried job.

3. The Strugglers in Latin America and the Developing World: Looking Ahead

In this section, we provide projections of the size of our four absolute income groups in Latin America over the next four decades and comment briefly on the implication of the shifts in their relative sizes for the politics behind the likely evolution of the social contract.

We base our projections on country-specific long-term growth forecasts derived from a model by Foure et al. (2012);) we use the growth forecasts to project changes in the size and relative shares of the four income groups in each country on the assumption of equally shared rates of

¹⁸Among others, see Perry et al., 2007; Banerjee and Duflo, 2007; Banerjee and Duflo, 2008.

¹⁹Tokman defines “informal economy” as the sum of workers in the informal sector (self-employed, employers, and workers in micro-enterprises and domestic services) and all other wage earners without a labor contract or social protection, as measured by contribution to a pension system.

²⁰Levy (2008) and Levy and Schady (2013) provide evidence that subsidies and social policies can encourage informality at lower levels of income because of their structure. See also Gregory (1986); Maloney (1999, 2004); Perry et al. (2007).

²¹Maloney (2004) summarizes that “workers with few skills that would be rewarded in the formal sector may prefer to be independent: S/he may prefer being the master of a lowly repair shop to endlessly repeating assembly tasks in a formal maquila. Neither job will lead to an exit from poverty, but the informal option may actually offer a measure of dignity and autonomy that the formal job does not” (p. 15).

income growth across each country’s entire distribution.

We begin with country-specific distributions of household income and consumption expenditures from the World Bank’s World Income Distribution (WYD) dataset.²² The dataset provides mean income/consumption for 20 equally-sized ventiles of each country’s distribution in 2005, which we convert into purchasing power parity dollar using price data from the 2005 round of the International Comparison Program (ICP). We match the country distributions with UN population projections (UN DESA, 2011). We then re-scale the resulting distributions using the long-term country growth forecasts. In each year after 2005, we assume that mean income/consumption in every ventile increases by 70 percent of the projected real GDP per capita (at PPP) growth rate.²³

Equally shared rates of growth mean that the shape of the underlying income distribution is assumed to be constant over time, i.e. we assume there are no changes in the country-specific current levels of inequality. This is reasonable in the absence of any accepted model for predicting medium-term changes in distributions.²⁴ We then identify the struggler group with incomes of \$4 to \$10 per capita per day under the assumption that incomes are distributed uniformly within every ventile.²⁵

The resulting projections indicate that in 2040 in Latin America, about a third of the population will be in the struggler group of \$4 to \$10, somewhat more in the poorer countries of the region and somewhat less in the upper-middle-income countries including Argentina, Brazil, and

²²This harmonized global dataset of household income and consumption expenditure surveys, compiled by Branko Milanovic (2010), is freely available at <http://econ.worldbank.org/projects/inequality> (last accessed November 23, 2012).

²³As Deaton (2005) and others have pointed out, household consumption or income derived from survey data usually grows much slower than comparable data from national accounts. Based on 556 survey-based estimates of mean consumption or income per capita from 127 countries, Deaton shows that the growth rate of survey consumption is about half of the growth rates of national accounts consumption. Ravallion (2012) more recently demonstrated that survey means in 95 countries on average grew 1.2 percentage points more slowly than national accounts (with a large standard deviation of 4.0 percentage points). Following Dadush and Shaw (2011), we assume a 70 percent pass-through from GDP growth to household consumption or income growth. Appendix Table A5 include a higher-growth scenario that assumes a full pass-through from real GDP growth.

²⁴There has been a decline in inequality in many countries of the region since 2003 (López-Calva and Lustig, eds. (2010), attributed to a combination of falling returns to higher education with increases in graduates and cash transfers to the poor (López-Calva and Lustig, 2010), and to job creation for less skilled people, associated with the commodity boom (de la Torre et al., 2012). There is no consensus, however, on the long-run determinants of changes in income inequality (e.g. for Latin America, see De Gregorio, 2014). Cornia and Martorano (2013) summarize long-term trends in within-country income inequality around the world. They argue that the bifurcation of inequality trends over the last decade – with Latin America and some South-East Asian countries experiencing declines in inequality while OECD countries and other developing regions experiencing increases – can largely be attributed to institutional factors and policy decisions. Birdsall et al. (2011) comment on the likelihood of continued declines or not among countries of Latin America but do not venture into more specific predictions. We do not want to make assumptions about future policy and structural adjustments that might affect inequality one way another.

²⁵This follows Ahluwalia, Carter, and Chenery (1979) and Dadush and Shaw (2011). Anand and Kanbur (1991) provide a useful examination and sensitivity analysis of the original projection methodology by Ahluwalia, Carter, and Chenery.

Chile (Table 3).

In other words, the strugglers will still be at least 30 percent of the population in most countries of the region for the next three or four decades, despite projected overall economic growth. That is the natural outcome of equally shared growth moving many households above the poverty line into the vulnerable category, and at the same time moving many households out of the struggler group into the middle class. Meanwhile the middle class will grow steadily, from about 30 percent now to about 40 percent by 2040 and 50 percent by 2050 (Table 4).

In short, our projections suggest that Latin America will become gradually a middle-class region, as millions of today's strugglers and their equivalents move above \$10 per day.²⁶ At the same time, those left behind living below \$10 a day will still constitute a large group relative to the rest of the population, particularly if the strugglers are grouped with the declining number of poor below \$4 a day.

As the overall income distribution shifts upward, the struggler group moves from the middle of their national distributions to the bottom end. In Brazil in 2010, the strugglers are between the 35th and 65th percentiles of the income distribution; by 2050 they will have fallen to between the 15th to 40th percentiles. In Chile, they will fall from between the 15th and 50th percentiles now to mostly between the 5th and the 30th percentiles. As a result, except in the poorest low-income countries of the region, as the middle class expands, the struggler households will become in their own countries in relative terms the "poor", that is a group living at increasingly lower income compared to the median for their countries as a whole.

For example, if we combine the truly poor with our struggler group, the resulting "new poor" will constitute 40 percent of Brazil's population in 2050. By that year the ratio of the median daily income of that 40 percent to the median income of the entire population is projected to have fallen substantially from two-thirds to a little more than one-third. For Bolivia we forecast the ratio of the median daily income of the combined poor and strugglers to the median of the entire population to fall from more than 1.0 to around 0.4, so that the "new poor" are less than half as well off as the typical person at the median. (In Western Europe, "at-risk-of-poverty" lines are commonly defined at 0.6 of national median disposable income.) The poor and strugglers together could thus constitute a "new poor" underclass, similar to that of the poor in the United States (where median income of the bottom 40 percent of the population has been stagnating in real terms for the last four decades or longer²⁷). To some extent the declining ratios of median income overall to median income of households below \$10 per capita per day is an artifact of the income ranges we have imposed; median income of the total population rises with growth but rises little at all within the confined \$4-\$10 group. On the other hand, it is still the case that

²⁶In contrast, India and other South Asian countries will have just about 20 percent of their populations above \$10 in 2030. See Meyer and Birdsall (2012) for an explanation of these estimates.

²⁷US Census Bureau (2012), Current Population Survey.

under our assumption of growth that is equally shared, there will be 40 percent of people in 2050 in Brazil (30 percent of strugglers plus 10 percent poor) living below \$10 whose median income as a group will leave them further behind in absolute terms the income of all those above \$10. The question is whether the “new poor” in 2030 and beyond will have the opportunities and protection associated with upward social mobility, or will be excluded from those opportunities and protection because those can only be purchased privately on the market. (Evidence in the United States reveals a growing risk that social mobility is low and even declining.²⁸) If yes, they are likely to support pro-growth business-friendly economic policies on the grounds they can benefit.²⁹ If not, they are more likely to demand subsidies and other more immediate forms of redistribution.

4. How Do Governments Treat Them? Taxes and Benefits in Bolivia, Brazil, Guatemala, Mexico, Peru, and Uruguay

In this section we analyze the relationship of the strugglers to the state. In a first subsection we use detailed data on fiscal incidence assembled and analyzed under the auspices of the Commitment to Equity Project³⁰ for six countries in Latin America. Paralleling the approach from the previous section, we make comparisons across income-based groups of households: the poor, the strugglers, the middle class, and the rich.

In a second subsection, we use the limited information we have from our household survey data and other sources to explore the quality of public schooling that the strugglers receive. We then combine that information with the fiscal incidence analysis and with the indications of vulnerability of this group reflected in their access to insurance against health and employment shocks noted above, to reach a preliminary conclusion about their overall relationship to the state.

²⁸Jäntti et al., 2006; Isaacs et al., 2008.

²⁹López-Calva, Rigolini and Torche (2012) show that for the most part the values and beliefs of middle class people in Latin America (identified as those with 10–50 per capita daily income) are not different from the values and beliefs of poorer people, once the income difference is taken into account. If struggler households believe they have opportunities to rise into the middle class, they are likely to share middle class views of, for example, the advantages of business-friendly economic policies. That is consistent with Piketty’s (1995) view that in countries like the U.S. the expectation of the less rich that they could become rich reduces their interest in redistributive tax and other policies.

³⁰Led by Nora Lustig, the Commitment to Equity (CEQ) project is designed to analyze the impact of taxes and social spending on inequality and poverty, and to provide a roadmap for governments, multilateral institutions, and nongovernmental organizations in their efforts to build more equitable societies. For more information see <http://www.commitmentoequity.org/> (last accessed March 03, 2014). Also see articles in Lustig et al. (2014).

4.1. Fiscal Incidence Analysis

Are the strugglers net receivers from their countries' fiscal systems? We answer this question using three different concepts of income: disposable income (market income net of direct taxes and cash transfers), post-fiscal income (disposable income net of consumption taxes and subsidies) and final income (post-fiscal income plus the monetary value of in-kind public education and health services).

Table 5 shows the incidence of taxes and benefits by socioeconomic group for six countries. Personal income taxes are low for all groups; they reduce strugglers' income by just 1 percent. Cash transfers are also low, except in Brazil and Uruguay, where they increase disposable income by about 8 and 12 percent respectively.

But all groups except the poor – the strugglers along with the middle class and rich – pay high indirect (consumption) taxes. As a result of indirect taxes, with the exception of Uruguay, the struggler households are net payers to the fiscal system. In Uruguay, a substantial indirect tax burden is more than offset by direct cash transfers to the strugglers (who may already have emerged as the “new poor” referred to above in this high-income, low-inequality society).

Where the strugglers do benefit in all six countries shown is in access to publicly provided schooling and health services. Taking into account the imputed values of these in-kind transfers, the strugglers are net beneficiaries of the system overall, with the largest gains occurring in Uruguay and Brazil, where in-kind transfers increase market income by on average 47 and 30 percent, respectively. The lowest increase is for Peru.

Do the strugglers get their ‘fair share’ of the government benefits? The concept of ‘fair share’ depends on the type of benefit. For example, for direct transfers, given that a good part of those transfers are targeted to the poor by design, one would expect the strugglers to get less than their population share. For certain subsidies (for fuel or public transport), “fair” might imply that poor and struggler income households receive larger subsidies than middle class and rich households. For health and education services, a “fair” share to one or another group might imply a share at least as great as their population shares.³¹

However, in the case of one form of direct transfer, namely non-contributory pensions, a “fair share” might in fact be larger than the population share since many workers in the struggler group are informal workers without access to the insurance and consumption smoothing mechanisms of a pay-as-you-go or contributory pension system. But that is not the case except in Uruguay – where the strugglers like the poor get a higher share than their share of the population.

Table 6 presents concentration shares for each category of fiscal interventions by socioeconomic group. Most governments in the region spend more on non-contributory pensions than

³¹For full detail, see Appendix Table A6.

on conditional cash transfers (CCTs),³² and in most countries shown, non-contributory pensions represent the most important direct cash transfer for strugglers. Peru until recently did not have a non-contributory pension system,³³ so our data reflects the absence of an old-age safety net for workers in the informal sector, many of whom are in the struggler group. In Brazil, Guatemala and Uruguay, the strugglers' share of benefits from non-contributory pensions is higher than their population share, so that they receive higher per capita benefits than the middle class. In Bolivia and Mexico (and Argentina – see Lustig and Pessino, 2012), the concentration shares for the struggler group are lower than their population shares; they receive less in per capita terms than the middle class. Finally, the concentration shares for in-kind transfers in education and health for the strugglers are for most countries equal or slightly higher than their population shares, a “good-enough” result.

Of particular interest are the relative concentration shares of the strugglers compared to the middle class and the rich for tertiary education (Table 7).³⁴ For much of the 20th century, the only or the best universities in many countries of the region were the public universities. Admission to them was rationed by admission tests and highly skewed to upper-income households who could provide their children with good (often private) primary and secondary schooling and other advantages sufficient to ensure they did well on these tests. That situation appears to be changing for the better in at least some countries. The benefit shares of public tertiary education for the strugglers in Argentina, Bolivia and Peru are roughly at their population shares, implying that the strugglers are getting their fair share of this mostly free public service. In Brazil, Guatemala, Mexico and Uruguay, the concentration shares for the strugglers are below their population shares so they are not getting their fair share. Recent time-series evidence for Mexico, however, suggests that over the last two decades access to tertiary education for households from the struggler group has improved significantly there.³⁵ In short, though the situation is improving in some countries, it seems likely that free tertiary education still disproportionately benefits primarily the middle class and the rich in the region.

Overall, our analysis indicates that with respect to taxes and transfers, the strugglers are net payers into the fiscal system in most countries, largely because of consumption taxes. In absolute terms, the group benefits from in-kind health and education services, though no more or less than other income groups given its share of the overall population, and in many if not all countries

³²Except for Guatemala and Mexico. Spending on non-contributory pensions was equal to 2.4 percent of GDP in Argentina (2009), 1.4 percent in Bolivia (2009), 0.5 percent in Brazil (2009), 0.5 percent in Uruguay (2009), 0.14 percent in Guatemala (2010) and 0.08 percent in Mexico (2008).

³³In 2012, the Government of Peru established a new non-contributory pension scheme that specifically targets the rural poor (“Pensión-65”).

³⁴Based on fiscal incidence data from Commitment to Equity Project (Lustig et al., 2012). For detailed results, also see Appendix Table A6.

³⁵Scott (2013) reports that spending on university education in Mexico has become more progressive, on the basis of marginal incidence analysis.

probably less than proportionately once university education is taken into account.

4.2. The Quality of Public Services: The Case of Schooling

In this subsection we set out information on the use of public schooling by different income groups, and its implications for the larger question of the relationship to the state of the strugglers. There is ample direct evidence that public schooling in Latin America is neither high-quality³⁶ nor good at providing the basis for broad socio-economic upward mobility.³⁷

There is also indirect evidence that the struggler group may benefit less from public schooling than is implied by the fiscal incidence analysis. Birdsall (2012) finds that middle class households across the region, like richer households, rely heavily on private schooling for their children. This is presumably a consequence of the perception if not the reality in all cases that the public schools are of poor quality. In the medium term it is also potentially a cause of low quality in the public schooling system – to the extent that the absent middle class might have been a force for better quality if it had not fled the public system.

Recourse to private schooling is also the case even of some struggler households in some countries. In 2009, 20 percent of primary school children from struggler households attended private schools in Peru. In Peru and Colombia, nearly 15 percent of secondary school children from struggler households did so. In poorer Honduras, the share was even higher at about 20 percent (Birdsall 2012, Table 10).

These data reflect the high correlation between household income and private school attendance at the primary and secondary levels across the region (less so in some countries at the tertiary level, where the best institutions have historically been the public universities). On the basis of a simple probit model that pools households across countries in 2008/2009 and controls for country fixed effects, we found income to be the single most important household characteristic in accounting for private school attendance, followed by parents' education.³⁸ On average across countries, a secondary school child that has a father with completed secondary schooling and lives in a household with per capita income of \$5 has an 8 percent probability of attending a private school. At a household income per capita of \$10 per day, the probability increases to 12 percent; at \$40 per day, the probability is greater than 50 percent.

This raises the question whether the cost to the public system of schooling and possibly other public services that the strugglers receive exceeds in value the real benefits to them. If taxes

³⁶PREAL, 2005.

³⁷Behrman et al., 2001; OECD, 2010, Chapter 3; Ferreira et al., 2012.

³⁸We use data from Birdsall (2012) for eight countries across Latin America and the latest year available. We pool households across countries and use a probit to predict the probability of sending a child to a private primary or secondary school, based on the gender of the child, the schooling of father and mother, the number of siblings, and household per capita income. Country dummies are included to account for cross-country differences. Detailed results are available from the authors.

finance services that are not seen as of sufficient quality to be effective, then in a sense they constitute tribute to the state (coerced because the state is powerful). In the case of many middle class and rich households, the taxes that finance public schools are presumably viewed as tribute; and for at least the minority of households in the struggler category already using private schools, that is also evidently the case. Though the data “count” the benefits of schooling only to the extent public schooling is actually used by households in the different income categories, it is possible that relatively poor and vulnerable households using public schools do not value them at the amounts they cost, either because quality is low or because the perception that quality is low means middle-class children have opted out which has in itself reduced quality (if children learn from peers, not only from teachers).

In addition, there is the problem that to the extent higher-income households consistently opt out of public schooling,³⁹ political support for the public system will be harder to sustain. This can be the case even if public schools improve, if parents do not benefit from perfect information about the quality of schools their children attend.⁴⁰

The reliance on private schooling of some households in the struggler group and of many more households in the middle class is not atypical in the developing world. There is growing evidence from South Asia of even greater recourse to private schooling – great enough to indicate that a high proportion of households in the \$4 to \$10 group (which are in India concentrated in the seventh and eighth deciles of the overall population) are paying to send their children to private schools.

The same might be said of public health services, though we do not have data organized in a manner to know. For police and court services, anecdotal information suggests a situation similar to that of schooling – in which taxpayers value the services at amounts below their cost (and thus view taxes paid for those services as tribute). In response to recent surveys asking people in developing countries to set priorities on future global goals, those in Latin America put security as their highest priority.⁴¹ That is not surprising given high crime and homicide

³⁹This also suggests persistent socio-economic stratification between public and private schools (even in countries with a good reputation for high quality public schooling such as Costa Rica). It may be difficult to reverse the process if parental demand for better schools relies heavily on pressure from the middle class. McEwan et al. (2008) provides useful lessons about socio-economic stratification and school choice from Chile.

⁴⁰This is not to say that private primary and secondary schools across Latin America inherently provide better educational outcomes. While the region has a long history of private education, often supported and financed by the government, some evidence suggests that although there are substantial and consistent positive differences in student achievement between public and private schools, a substantial portion of these differences is accounted for by peer group characteristics (Somers et al., 2004). Also see MacLeod and Urquiola (2012) for a formal model of an *anti-lemons* effect in which competition for good school reputation does not necessarily lead to gains in educational performance.

⁴¹Based on regional barometer surveys, Leo and Tram (2012) find that Latin American households are particularly concerned about security-related matters. In 8 out of 18 countries of the region, security and crime concerns are the most cited response of households when asked about most pressing priorities. In 2010, about a third of Latin American households cited security as most pressing concern, up from about 5 percent in 2000.

rates in some countries and the poor reputation of the police. In response the middle class and the rich in many cities of the region have already opted out of public security services to the extent they can, relying heavily on private security, including in gated communities. So as with schooling the middle class and the rich suffer as do the strugglers and the poor the shortcomings of public services in some absolute sense, but they avoid the higher welfare costs by opting out in one form or another.

In contrast to the situation with public services, it is possible that our estimates understate the benefit derived from the insurance component that is built into many social programs, including when they are tied to health problems, unemployment and old age. This constitutes a benefit particularly for struggler households that are in a group defined as vulnerable to falling into poverty in the event of shocks.

The overall picture that emerges for struggler households is of a relationship to the state that is better but not much better than neutral. The strugglers in most countries pay more in indirect consumption taxes than they receive in transfers. They benefit from in-kind services, but probably less than is implied by the fiscal costs of the schooling services to the extent that those costs exaggerate their real value to households.

5. Conclusion: Towards a New Social Contract? The Political Challenge

Our analysis suggests the region could be at a fork in the road in the ongoing construction of the social contract. Why? Our projections indicate that though the strugglers are likely to continue to constitute a substantial 30 percent of the population in most countries for the next several decades, as people continue to move out of poverty, the middle class will grow too and more so, from 30 to more than 40 percent of the population in many countries by 2040, and to almost half the population in the region by 2050. At the same time, the gap between the median incomes of those below and those above \$10 will increase in absolute terms. The strugglers combined with the poor, i.e. all those living below \$10, will be increasingly marginalized – in their share of the population and in the growing absolute gap in their incomes – relative to the middle class combined with the rich, i.e. all those living above \$10. That will be particularly the case in the higher-income countries like Brazil, Chile and Mexico (Figure 2).

The question is whether the strugglers will be politically marginalized as well. In the region's poorer countries, the median income household will be in the struggler group; the strugglers and the poor combined will make up the majority of potential voters. That alone does not

guarantee they will be adequately represented however.⁴² In the upper-middle income countries, the median income household will be in the middle class; the poor and strugglers together will be in the minority. Their needs and interests will be represented only if the middle class sees its economic interests aligned with theirs.

One risk is that the middle class will continue to opt out of public services, and rely increasingly on private schools, health care and gated communities and other forms of privately financed security. That would not only reduce accountability of the state for the quality of those services, already a problem. It would also make it difficult for responsible governments to generate the tax revenue on which those public services rely, let alone the infrastructure and other public investments to fuel the growth our projections assume.⁴³

In both sets of countries, the support of the middle class is probably crucial for building a more robust set of social policies and a redistributive social contract.⁴⁴ If the middle class trusts the effectiveness of government to minimize instability, grow the economic pie, and manage public services well, it will in effect ally itself with the strugglers in support of adequate spending on public investment and business-friendly labor market and growth policies. If it does not, it may be that even the economic growth rates built into our projections will be at risk, as persistent high inequality and lack of social mobility lead to growing frustration and restiveness on the part of struggler households – many of whom will be escapees from poverty with high expectations.⁴⁵ In the extreme, lack of social mobility would invite a return to the late 20th century cycle of unsustainable populist spending followed by crushing downturns.

Latin America must be its own guide for the future. Low GDP per capita, low growth and high concentrations of income compared to East Asia and the advanced economies all contribute to relatively low tax revenue and thus low redistributive capacity of Latin American governments.⁴⁶ Fiscal systems in Latin America have a smaller redistributive impact than in Europe or even than in the United States. While market inequality is only slightly greater than in the advanced

⁴²It is not necessarily the case, however, that the median income household or person has the degree of political influence on economic policies that the median voter theorem predicts. In this paper article we are asking whether the size and economic command of different income groups affects economic and social policies that in the long run affect the welfare of different groups, while recognizing that we cannot adequately extract causality one way or the other in what is a complex and constantly evolving system. A reasonable hypothesis is that the poorer a country, the less likely it is that the median-income person is adequately represented in the political system. See Persson and Tabellini (2000) for an overview of the political economy literature and Besley and Case (2003) for a broad review of the effects of constitutional design. Grossman and Helpman (2001) provide a comprehensive theoretical framework for the mechanisms through which special-interest groups can influence government and redistribution. Piketty (1995) demonstrates the importance of belief systems for inequality dynamics and redistribution.

⁴³Birdsall, et al., 2007, Chapter 4.

⁴⁴Birdsall, Lustig and McLeod, 2011.

⁴⁵Graham and Pettinato (2006).

⁴⁶On average, Latin America generates just 21 percent of GDP in tax income each year compared to an average of 37 percent in OECD countries outside of Latin America (OECD, 2008).

economies, taxes and transfers reduce final inequality much less, especially compared to the advanced European economies.

This can partly be explained by a relatively stronger reliance on indirect, inherently regressive consumption taxes in Latin America including the value-added tax, compared to corporate, property and progressive personal income taxes.⁴⁷ At the same time, the politically feasible level of taxation is determined by, among other factors, the provision of public services by the government (versus the reliance on the private sector). Increased revenue will not generate opportunities and social mobility if the growing middle class opts out of poor public services and joins the rich in gated communities and private schools, leaving behind the strugglers in a new underclass.

How will policy and politics deal with the challenges we described? Some countries may rely on ad-hoc, populist-style responses that “appease” both the vulnerable group and the middle class but are not sustainable in macroeconomic terms. Others might be able to manage the politics of the social contract better, particularly if they are benefiting from a growth-friendly external environment.

In either case, policy steps that minimize the risk of marginalization of the strugglers ought to be a high priority. Those policy steps would focus on a combination of gradually increasing revenue to GDP ratios (or in countries like Brazil, where revenue is already high, in reform of revenue and pension policies), and using increased revenue to ensure that public investments provide new and greater relative benefits for households in the \$4 to \$10 group as well as the poor. For the \$4 to \$10 group, in addition, a high priority is reform and strengthening of labor market and social insurance policies, with a view to extending and broadening health, unemployment and other forms of risk protection, while averting increases in the costs of formality and removing these and other distortions to productivity growth.⁴⁸

⁴⁷OECD, 2008; Goi et al., 2011; Birdsall et al., 2007.

⁴⁸Levy and Schady, 2013.

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A. Tables

Table 1: Income, Population Share, and Income Share of Struggler Group, by Country

Country	Year	GDP per capita (USD) ^(a)	GDP per capita (PPP) ^(b)	Total Population		Strugglers (\$4 to \$10)			
				Mean Income ^(b)	Median Income ^(b)	Mean Income ^(b)	Median Income ^(b)	Population share (%)	Income share (%)
Honduras	2009	1,896	3,473	7.03	3.95	6.46	6.19	28.20	29.28
Colombia	2006	3,724	7,651	13.66	6.67	6.57	6.31	34.95	21.10
Peru	2009	4,412	7,905	9.87	6.44	6.58	6.41	41.03	35.54
Dominican Rep.	2008	4,739	7,660	9.49	5.87	6.46	6.22	39.82	36.84
Costa Rica	2009	6,404	10,111	15.67	9.07	6.80	6.65	39.74	24.07
Brazil	2009	8,392	9,456	14.07	8.48	6.82	6.74	37.77	21.27
Mexico	2008	9,893	11,522	12.62	7.40	6.67	6.50	41.18	26.67
Chile	2009	10,179	13,784	19.07	10.46	6.93	6.90	41.08	25.88

Source: Authors' calculations, based on World Bank World Development Indicators database and Socio-Economic Database for Latin America and the Caribbean (CEDLAS and The World Bank).

Note: (a) USD at market exchange rates in survey year; (b) Constant 2005 purchasing power parity dollar per capita per day, based on the 2005 International Comparisons Program. Countries listed in ascending order of their GDP per capita (at market exchange rates).

Table 2: Median Years of Education of Adults (Aged 25–65) and Income, by Income Group and Country

Country	Year	Total Population		Poor (< \$4)		Strugglers (\$4 - \$10)		Middle Class (\$10 - \$50)		Rich (> \$50)	
		Educ ation	Incom e	Educ ation	Inc ome	Educ ation	Inco me	Educ ation	Incom e	Educ ation	Income
Brazil	2009	8	8.48	4	2.31	7	6.74	11	16.23	15	72.92
Chile	2009	12	10.46	9	2.89	10	6.90	12	16.59	17	78.57
Colombia	2006	7	6.67	5	2.06	6	6.31	11	16.77	16	75.25
Costa Rica	2009	8	9.07	6	2.75	6	6.65	11	17.34	16	68.51
Dominican Rep.	2008	8	5.87	6	2.57	8	6.22	12	15.50	16	67.79
Honduras	2009	6	3.95	3	1.58	6	6.19	11	15.28	16	64.54
Mexico	2008	9	7.40	6	2.53	8	6.50	11	16.03	16	71.59
Peru	2009	11	6.44	5	2.40	11	6.41	12	15.33	16	66.18

Source: Authors' calculations, based on Socio-Economic Database for Latin America and the Caribbean (CEDLAS and The World Bank).

Note: Education denotes median years of schooling, income denotes daily household income per capita in 2005 PPP.

Table 3: Projected Size of Struggler Group (\$4 to \$10 per capita per day), Selected Countries

Country	2010		2020		2030		2040		2050	
	Total (m)	Share (%)	Total (m)	Share (%)	Total (m)	Share (%)	Total (m)	Share (%)	Total (m)	Share (%)
Argentina	14	0.35	16	0.35	12	0.25	13	0.25	11	0.20
Bolivia	3	0.30	4	0.35	4	0.30	5	0.30	4	0.25
Brazil	69	0.35	75	0.35	79	0.35	71	0.30	59	0.25
Chile	6	0.35	6	0.30	5	0.25	4	0.20	2	0.10
Colombia	14	0.30	16	0.30	17	0.30	19	0.30	19	0.30
Costa Rica	2	0.40	2	0.35	2	0.30	2	0.25	1	0.20
Dominican Republic	4	0.40	5	0.40	4	0.35	3	0.25	2	0.15
Guatemala	4	0.30	6	0.35	8	0.35	11	0.40	11	0.35
Honduras	2	0.25	3	0.30	3	0.30	4	0.35	4	0.30
Mexico	46	0.40	51	0.40	55	0.40	51	0.35	38	0.25
Nicaragua	2	0.30	2	0.35	3	0.40	3	0.40	3	0.40
Panama	1	0.35	1	0.30	1	0.25	1	0.20	1	0.20
Paraguay	2	0.35	3	0.40	3	0.35	3	0.35	3	0.30
Peru	10	0.35	13	0.40	14	0.40	14	0.35	12	0.30
Uruguay	1	0.35	1	0.30	1	0.30	1	0.20	1	0.20
Venezuela, RB	12	0.40	14	0.40	15	0.40	16	0.40	17	0.40

Source: Authors' calculations, based on Foure, Bénassy-Quéré, and Fontagne (2012), Milanovic (2010), and United Nations Population Division (2013).

Note: See text for description of methodology. Constant 2005 income distribution re-scaled by ventile using GDP growth projections.

Table 4: Projected Population Shares of Different Income Groups, By Developing Region

	2010			2020			2030			2040			2050		
	<\$4	\$4-10	\$10-50	<\$4	\$4-10	\$10-50	<\$4	\$4-10	\$10-50	<\$4	\$4-10	\$10-50	<\$4	\$4-10	\$10-50
East Asia & Pacific	0.43	0.35	0.22	0.25	0.38	0.37	0.15	0.35	0.49	0.10	0.28	0.52	0.07	0.20	0.61
Europe & Central Asia	0.16	0.48	0.34	0.09	0.35	0.52	0.04	0.26	0.64	0.02	0.17	0.72	0.01	0.09	0.71
Latin America & Caribbean	0.35	0.36	0.25	0.28	0.36	0.31	0.23	0.35	0.37	0.18	0.32	0.43	0.16	0.26	0.49
Middle East & North Africa	0.32	0.42	0.23	0.19	0.48	0.31	0.06	0.48	0.44	0.04	0.36	0.59	0.02	0.18	0.71
South Asia	0.95	0.05	0.00	0.90	0.10	0.01	0.76	0.19	0.05	0.57	0.34	0.05	0.35	0.51	0.14
Sub-Saharan Africa	0.86	0.11	0.03	0.78	0.16	0.05	0.70	0.22	0.08	0.58	0.31	0.10	0.48	0.36	0.15

Source: Authors' calculations, based on Foure, Bénassy-Quéré, and Fontagne (2012), Milanovic (2010), and United Nations Population Division (2013).

Note: Regions exclude high-income countries and follow the current World Bank classification (December 2012). Population shares are based on population-weighted regional averages for each income group. Underlying distribution data cover between 58 percent (MENA) and 97 percent (South Asia) of the total regional population in 2010.

Table 5: Fiscal Incidence of Income, Taxes, and Transfers, Percentage by Income Group

	Market income population share	<i>Direct taxes and contributions a)</i>	Net market income	<i>Direct transfers</i>	Disposable income	<i>Net indirect taxes</i>	Post- fiscal income	<i>In-kind education</i>	<i>In-kind health</i>	Final income
Bolivia (2009)										
							b)	b)		
<\$4	29.1		0.0	12.7	12.7	-8.8	4.0	37.6	28.4	70.0
\$4-\$10	38.8		0.0	2.8	2.8	-4.4	-1.5	12.1	7.9	18.4
\$10-\$50	30.8		0.0	1.1	1.1	-3.0	-1.9	4.0	2.5	4.6
>\$50	1.3		0.0	0.3	0.3	-1.5	-1.2	0.7	0.4	-0.1
Total population	100.0		0.0	2.1	2.1	-3.5	-1.4	7.7	5.2	11.5
Brazil (2009)										
		c)					b)	d)		
Poor (<\$4)	26.7	-0.5	-0.5	33.6	33.0	-18.0	15.1	75.8	34.9	125.8
Vulnerable (\$4-\$10)	33.5	-1.0	-1.0	9.4	8.4	-15.4	-7.1	17.8	12.5	23.2
Middle Class (\$10-\$50)	35.3	-2.6	-2.6	3.7	1.1	-15.1	-14.0	4.4	3.0	-6.6
Rich (>\$50)	4.5	-8.1	-8.1	1.9	-6.2	-14.5	-20.7	0.9	0.1	-19.7
Total population	100.0	-3.9	-3.9	5.3	1.4	-15.1	-13.7	8.4	5.0	-0.4
Guatemala (2010) e)										
		b)					b)	b)		
Poor (<\$4)	39.0	-0.2	-0.2	4.3	4.0	-2.9	1.1	16.0	7.2	28.3
Vulnerable (\$4-\$10)	37.5	-0.3	-0.3	0.9	0.6	-2.9	-2.3	5.7	4.5	9.8
Middle Class (\$10-\$50)	22.4	-0.5	-0.5	0.1	-0.4	-3.6	-3.9	2.1	2.3	0.9
Rich (>\$50)	1.1	-2.0	-2.0	0.0	-2.0	-2.3	-4.3	0.3	0.5	-3.5
Total population	100.0	-0.6	-0.6	0.8	0.2	-3.1	-2.9	4.5	3.3	6.1
Mexico (2008)										
		f)					b)	b)		
Poor (<\$4)	23.8	-1.5	-1.5	10.5	9.0	3.4	12.3	41.3	20.6	74.2
Vulnerable (\$4-\$10)	38.0	-1.8	-1.8	1.7	0.0	-0.1	-0.1	13.3	7.0	20.2
Middle Class (\$10-\$50)	35.3	-5.8	-5.8	0.3	-5.4	-2.9	-8.3	3.9	2.5	-1.8
Rich (>\$50)	2.9	-6.4	-6.4	0.3	-6.2	-3.6	-9.8	0.4	0.5	-9.0
Total population	100.0	-4.9	-4.9	1.1	-3.9	-2.2	-6.1	6.7	3.8	4.4
Peru (2009)										
		c)					b)	b)		
Poor (<\$4)	28.6	0.0	0.0	4.6	4.6	-1.2	3.4	16.0	4.2	23.6
Vulnerable (\$4-\$10)	37.5	0.0	0.0	0.6	0.5	-3.0	-2.5	4.6	3.0	5.1
Middle Class (\$10-\$50)	32.0	-1.1	-1.1	0.1	-1.0	-8.9	-9.9	1.1	3.2	-5.6
Rich (>\$50)	2.0	-5.2	-5.2	0.0	-5.2	-12.6	-17.8	0.1	1.3	-16.5
Total population	100.0	-1.4	-1.4	0.5	-0.9	-7.6	-8.5	2.7	2.9	-2.9
Uruguay (2009)										
		b)					b)	b)		
Poor (<\$4)	9.0	-0.4	-0.4	67.4	67.1	-17.5	49.5	72.1	74.6	196.2
Vulnerable (\$4-\$10)	24.4	-1.2	-1.2	13.0	11.8	-9.9	1.9	21.1	25.5	48.5
Middle Class (\$10-\$50)	57.4	-3.7	-3.7	1.3	-2.5	-8.1	-10.6	5.2	6.4	1.0
Rich (>\$50)	9.2	-9.1	-9.1	0.1	-9.0	-7.5	-16.5	1.0	1.2	-14.3
Total population	100.0	-5.4	-5.4	2.4	-3.0	-8.1	-11.1	5.6	6.7	1.3

Source: Lustig et al. (2012).

Note: See Lustig et al. (2012) for detailed explanations and definitions of the income concepts used. Social security pensions are market income. Contributions to social security pensions are never subtracted out of income (or must be added into income if reported income on the survey is net of contributions) – note that this applies to contributions directed to pensions only. (a) Does not include pension contributions; (b) Imputation method; (c) Direct identification method; (d) Alternate survey; (e) In Guatemala, the gap between post-fiscal income and final income is due to in-kind transfers other than education and health; (f) Secondary sources.

Table 6: Concentration Shares of Income, Taxes, and Transfers, Percentage by Income Group

	Market Income population share	Market income share	<i>Direct taxes and contributions</i>	<i>Direct transfers</i>	<i>Net indirect taxes</i>	<i>In-kind education</i>	<i>In-kind health</i>	<i>All transfers</i>	<i>All taxes (direct and indirect)</i>
Bolivia (2009)						b)	b)		
Poor (<\$4)	29.1	5.9		35.5	14.8	28.9	32.4	31.0	14.1
Strugglers (\$4-\$10)	38.8	26.1		35.0	32.6	40.9	39.7	39.6	32.6
Middle Class (\$10-\$50)	30.8	56.1		28.0	47.4	29.1	27.0	28.2	48.0
Rich (>\$50)	1.3	11.9		1.5	5.1	1.1	0.9	1.1	5.3
Total Population	100.0	100.0		100.0	100.0	100.0	100.0	100.0	100.0
Brazil (2009)						a)	b)	d)	
Poor (<\$4)	26.7	4.2	0.6	26.5	5.0	37.5	29.4	32.2	4.1
Strugglers (\$4-\$10)	33.5	15.8	4.1	28.1	16.1	33.4	39.9	33.6	13.7
Middle Class (\$10-\$50)	35.3	49.7	32.7	34.5	49.8	25.9	30.1	29.4	46.2
Rich (>\$50)	4.5	30.4	62.7	10.9	29.1	3.2	0.7	4.7	36.0
Total Population	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Guatemala (2010)						b)	b)	b), d)	
Poor (<\$4)	39.0	11.5	4.6	62.3	10.6	40.8	25.4	36.9	11.1
Strugglers (\$4-\$10)	37.5	28.4	14.8	31.1	25.9	35.8	39.2	37.6	26.6
Middle Class (\$10-\$50)	22.4	48.2	39.0	6.6	54.8	22.5	33.7	24.5	50.4
Rich (>\$50)	1.1	11.9	41.6	0.1	8.7	0.9	1.7	1.0	12.0
Total Population	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Mexico (2008)						c)	b)	b)	
Poor (<\$4)	23.8	4.4	1.3	43.6	-6.7	27.3	23.9	27.7	3.1
Strugglers (\$4-\$10)	38.0	20.0	7.2	32.9	0.7	40.0	37.1	38.4	14.7
Middle Class (\$10-\$50)	35.3	54.0	63.2	17.5	70.3	31.6	36.4	31.9	59.9
Rich (>\$50)	2.9	21.5	28.2	6.0	35.6	1.2	2.6	2.1	22.2
Total Population	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Peru (2009)						a)	b)	b)	
Poor (<\$4)	28.6	6.3	0.0	63.6	1.0	37.8	9.0	25.9	1.2
Strugglers (\$4-\$10)	37.5	23.4	0.6	28.8	9.3	40.1	23.9	31.4	9.8
Middle Class (\$10-\$50)	32.0	54.8	41.6	7.6	64.0	21.5	60.5	39.3	60.6
Rich (>\$50)	2.0	15.5	57.8	0.0	25.6	0.5	6.7	3.5	28.4
Total Population	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Uruguay (2009)						b)	b)	b)	
Poor (<\$4)	9.0	1.0	0.1	28.1	2.2	13.0	11.2	14.7	1.3
Strugglers (\$4-\$10)	24.4	7.6	1.7	40.6	9.2	28.6	28.7	30.6	6.2
Middle Class (\$10-\$50)	57.4	56.4	39.0	29.4	56.3	52.3	53.7	49.2	49.4
Rich (>\$50)	9.2	35.0	59.3	1.9	32.3	6.1	6.3	5.5	43.0
Total Population	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Lustig et al. (2012).

Note: The above are “concentration shares”, which denote the proportion of the tax or transfer paid or received by each income group. In the case of Argentina, the “x-axis” of the concentration curve uses households ranked by per capita net market income; for all the others, households are ranked by market income. In Bolivia, market income and net market income are the same because there are no direct taxes and contributions to social security are negligible. See Lustig et al. (2012) for detailed explanations and definitions of the income concepts used. Social security pensions are market income. Contributions to social security pensions are never subtracted out of income (or must be added into income if reported income on the survey is net of contributions) – note that this applies to contributions directed to pensions only; (a) direct identification method; (b) imputation method; (c) secondary sources; (d) alternate survey.

Table 7: Distribution of In-Kind Transfers for Education, Percentage by Income Group

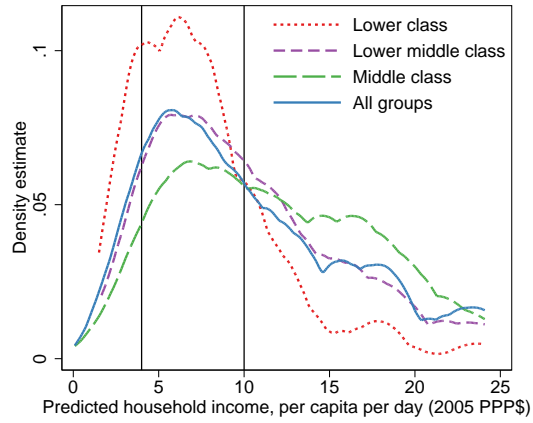
	Education		Population share	Income share
	Tertiary	Other		
Argentina (2009)				
Poor (<\$4)	9.78	38.37	21.94	3.47
Strugglers (\$4-\$10)	41.22	47.74	42.60	25.72
Middle Class (\$10-\$50)	48.35	13.82	34.36	62.22
Rich (>\$50)	0.65	0.07	1.10	8.59
Bolivia (2009)				
Poor (<\$4)	12.50	46.02	32.49	7.33
Strugglers (\$4-\$10)	42.48	40.74	39.46	28.89
Middle Class (\$10-\$50)	43.18	13.06	27.04	53.48
Rich (>\$50)	1.85	0.19	1.01	10.30
Brazil (2009)				
Poor (<\$4)	7.82	44.67	26.67	4.17
Strugglers (\$4-\$10)	20.01	36.55	33.52	15.81
Middle Class (\$10-\$50)	56.56	18.50	35.27	49.66
Rich (>\$50)	15.62	0.27	4.54	30.36
Guatemala (2010)				
Poor (<\$4)	7.19	60.26	51.50	19.32
Strugglers (\$4-\$10)	26.05	32.85	34.01	34.70
Middle Class (\$10-\$50)	66.44	6.82	14.06	39.94
Rich (>\$50)	0.33	0.07	0.42	6.05
Mexico (2008)				
Poor (<\$4)	6.71	32.31	23.77	4.41
Strugglers (\$4-\$10)	29.92	42.90	38.35	20.29
Middle Class (\$10-\$50)	59.66	24.37	35.29	54.94
Rich (>\$50)	3.70	0.42	2.59	20.35
Peru (2009)				
Poor (<\$4)	11.64	44.36	28.57	6.33
Strugglers (\$4-\$10)	37.23	40.86	37.46	23.36
Middle Class (\$10-\$50)	49.07	14.66	32.01	54.84
Rich (>\$50)	2.07	0.12	1.96	15.47
Uruguay (2009)				
Poor (<\$4)	0.59	20.95	11.57	1.51
Strugglers (\$4-\$10)	7.07	38.52	27.80	9.96
Middle Class (\$10-\$50)	77.89	39.48	53.81	59.34
Rich (>\$50)	14.45	1.05	6.82	29.20

Source: Lustig et al. (2012).

Note: Table shows the share of education transfers going to each income group; Table Table A6 in the Appendix additionally provides the share of beneficiaries in each income group. Differences to Table 5 and Table 6 are due to the following: All inequality or distribution-related calculations use scaled-up incomes, and all poverty-related calculations use non-scaled incomes (see Lustig and Higgins, 2013). Incidence and concentration shares are considered to be inequality/distribution related, and coverage shares to be poverty-related. In the previous two tables, scaled income is used to determine income groups, whereas in this table, non-scaled income is used to determine income groups.

B. Figures

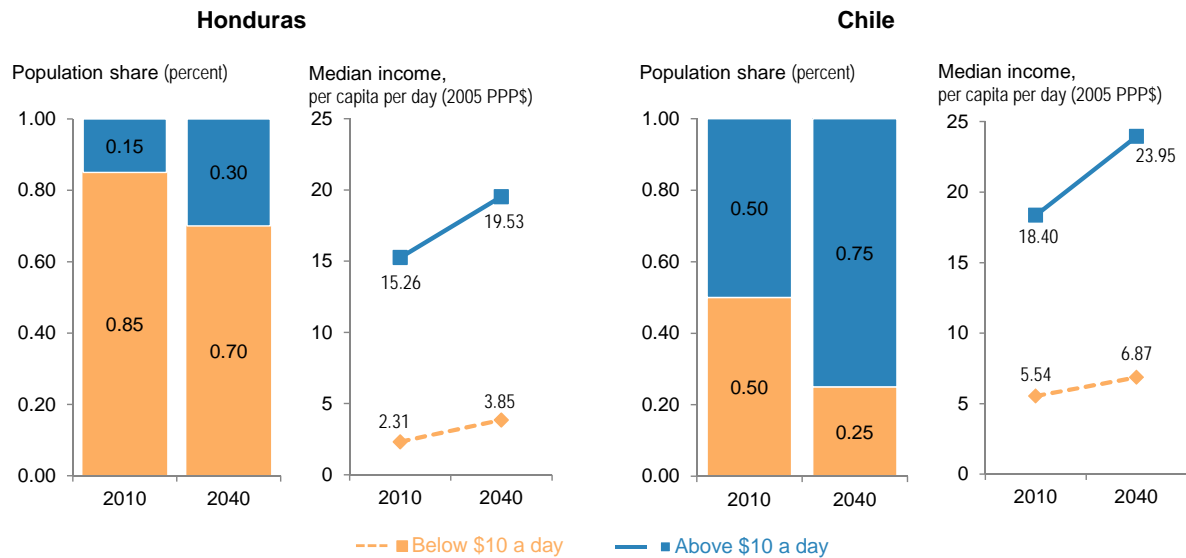
Figure 1: Predicted Income Distributions by Self-Reported Class in ECOSOCIAL



Source: Ferreira et al. (2012), based on Encuestas de Cohesión Social (ECOSOCIAL) in América Latina, Corporación de Estudios para Latinoamérica (CIEPLAN).

Note: Income in ECOSOCIAL survey estimated using data on household assets matched to SEDLAC data. For further discussion of the methodology that links the surveys' information, see Ferreira et al. (2012).

Figure 2: Projected Changes in the Population Shares and Median Incomes of Populations Below and Above \$10, in 2010 and 2040



Source: Authors' calculations, based on Foure, Bénassy-Quéré, and Fontagne (2012), Milanovic (2010), and United Nations Population Division (2013).

Appendix

Table A1: Transition Matrices of Households between Income Groups Based on Panel Data, By Income Group

Chile		2006			
2001	< \$4	\$4 - 10	\$10 - 50	> \$50	Total
< \$4	34.3	52.8	12.5	0.4	100.0
\$4 - 10	10.0	57.3	32.3	0.4	100.0
\$10 - 50	2.8	27.7	67.5	2.0	100.0
> \$50	1.3	2.5	66.3	30.0	100.0
Total	11.3	43.7	43.3	1.8	100.0

Mexico		2005			
2002	< \$4	\$4 - 10	\$10 - 50	> \$50	Total
< \$4	52.6	36.8	10.0	0.6	100.0
\$4 - 10	23.3	49.8	25.6	1.3	100.0
\$10 - 50	11.9	29.6	54.1	4.4	100.0
> \$50	7.1	15.0	41.7	36.2	100.0
Total	29.0	39.0	29.3	2.7	100.0

Peru		2006			
2002	< \$4	\$4 - 10	\$10 - 50	> \$50	Total
< \$4	62.1	32.9	4.9	0.1	100.0
\$4 - 10	18.7	55.4	25.4	0.6	100.0
\$10 - 50	6.3	33.1	58.4	2.2	100.0
> \$50	0.0	13.3	50.0	36.7	100.0
Total	34.0	41.8	23.3	1.0	100.0

Source: Luis Felipe López-Calva, personal communication, based on Chile MIDEPLAN Socioeconomic Characterization Survey (CASEN Panel), Mexico Family Life Survey (MxFLS), and Peru Institute of Statistics (INEI), National Household Survey (ENAHO Panel).

Table A2: Vulnerability of Chilean Household, Estimated Probabilities of Falling into Poverty (below \$4) or Struggler Group (\$4 to \$10)

Chile	Middle (\$10-50) to Poverty (\$4)		Middle (\$10-50) to Strugglers (\$4-10)		Strugglers (\$4-10) to Poverty (\$4)		Strugglers (\$4-10) to Poverty (\$2.5)	
	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.
Education of the head	-0.002	0.002	-0.015	0.012	0.000	0.009	-0.002	0.003
Age of the head	0.003*	0.002	-0.012	0.008	0.007	0.006	-0.002	0.002
Age squared of head	0.000**	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Sex of the head (1 = male)	-0.025*	0.021	0.054	0.053	-0.063	0.062	-0.005	0.019
Head without social insurance	0.030***	0.014	0.025	0.041	-0.019	0.025	-0.003	0.010
Unfinished floor	-0.001	0.009	0.032	0.086	0.069	0.054	0.043**	0.029
Household without sanitation	0.011	0.026	-0.025	0.110	-0.016	0.042	-0.009	0.011
Head cohabiting (omitted)	--	--	--	--	--	--	--	--
Head married	0.009	0.008	-0.001	0.054	-0.018	0.035	0.001	0.012
Head without partner	0.000	0.011	-0.115*	0.055	0.008	0.050	0.033	0.039
Head in agriculture (omitted)	--	--	--	--	--	--	--	--
Head as unskilled manual worker	0.000	0.008	0.030	0.066	-0.009	0.031	-0.008	0.012
Head as skilled manual worker	0.011	0.017	-0.045	0.063	-0.014	0.034	-0.002	0.013
Head as independent worker	-0.003	0.008	0.040	0.065	0.007	0.037	-0.001	0.014
Head in clerical activities	--	--	0.097	0.084	-0.013	0.043	-0.005	0.015
Head as professional manager	-0.007	0.008	-0.137*	0.058	--	--	--	--
Region VII (omitted)	--	--	--	--	--	--	--	--
Region III	0.006	0.012	-0.008	0.072	-0.043	0.036	-0.009	0.009
Region VIII	-0.004	0.006	0.000	0.050	0.024	0.030	-0.001	0.010
Metropolitan region	0.003	0.006	-0.010	0.047	-0.023	0.029	-0.013	0.010
Rurality	0.017	0.016	0.067	0.063	0.042	0.032	-0.002	0.011
Occurrence of health shocks 2001-2006	-0.011*	0.005	-0.001	0.037	0.043	0.029	-0.004	0.009
Change in number of members working 2001-2006	-0.011***	0.005	-0.079***	0.020	-0.065***	0.012	-0.017***	0.005
Change in household size 2001-2006	-0.001	0.006	0.032	0.028	0.042***	0.014	0.007	0.005
Observations	604		698		821		821	
Pseudo R ²	0.242		0.081		0.083		0.118	

Source: Luis Felipe López-Calva, personal communication, based on Chile MIDEPLAN Socioeconomic Characterization Survey (CASEN Panel).

Table A3: Vulnerability of Mexican Household, Estimated Probabilities of Falling into Poverty (below \$4) or Struggler Group (\$4 to \$10)

Mexico	Middle (\$10-50) to Poverty (\$4)		Middle (\$10-50) to Strugglers (\$4-10)		Strugglers (\$4-10) to Poverty (\$4)		Strugglers (\$4-10) to Poverty (\$2.5)	
	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.
Education of the head	-0.014*	0.009	-0.072***	0.015	-0.023*	0.013	0.005	0.008
Age of the head	0.002	0.003	-0.008	0.006	-0.003	0.005	-0.002	0.003
Age squared of head	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Sex of the head (1 = male)	-0.006	0.032	-0.033	0.053	0.035	0.043	0.021	0.027
Head without social insurance	0.049**	0.021	0.028	0.032	0.062***	0.022	0.038***	0.014
Unfinished floor	0.140***	0.059	-0.079	0.056	0.077**	0.037	0.020	0.022
Household without sanitation	0.084*	0.061	-0.125*	0.060	0.057	0.045	-0.010	0.024
Head cohabiting (omitted)	--	--	--	--	--	--	--	--
Head married	-0.022	0.025	0.040	0.040	-0.026	0.030	-0.015	0.019
Head without partner	-0.050*	0.022	-0.013	0.054	-0.030	0.046	-0.006	0.030
Head in agriculture (omitted)	--	--	--	--	--	--	--	--
Head as unskilled manual worker	-0.012	0.028	0.034	0.061	0.042	0.039	0.022	0.026
Head as skilled manual worker	-0.035	0.022	0.023	0.049	-0.065**	0.029	-0.013	0.018
Head as independent worker	-0.060	0.023	-0.008	0.075	-0.047	0.045	-0.004	0.032
Head in clerical activities	-0.025	0.030	-0.098	0.054	-0.032	0.047	0.013	0.035
Head as professional manager	-0.040	0.025	-0.034	0.056	-0.063	0.046	-0.026	0.028
Head in commerce and services	-0.028	0.024	0.088	0.062	0.002	0.037	-0.008	0.022
Head in army, police, and other	-0.052	0.023	-0.030	0.069	-0.106**	0.037	-0.040	0.022
South region (omitted)	--	--	--	--	--	--	--	--
Central region	-0.020	0.022	-0.001	0.042	-0.045	0.028	-0.015	0.018
Western region	-0.012	0.023	-0.074*	0.039	-0.032	0.031	-0.016	0.019
Northwest region	-0.018	0.022	0.005	0.040	-0.070**	0.028	-0.038**	0.016
Northeast region	-0.022	0.022	0.001	0.040	-0.033	0.030	0.004	0.020
Rurality	0.051***	0.019	-0.002	0.029	0.069***	0.022	0.041***	0.014
Ocurrence of shocks 2002-2005	0.040**	0.020	0.016	0.030	0.029	0.023	0.018	0.015
Change in number of members working 2002-2005	-0.042***	0.007	-0.047***	0.012	-0.112***	0.011	-0.051***	0.007
Change in household size 2002-2005	0.026***	0.007	0.039***	0.014	0.057***	0.011	0.022***	0.006
Observations	1,365		1,365		1,682		1,682	
Pseudo R ²	0.157		0.072		0.152		0.134	

Source: Luis Felipe López-Calva, personal communication, based on Mexico Family Life Survey (MxFLS).

Table A4: Vulnerability of Peruvian Household, Estimated Probabilities of Falling into Poverty (below \$4) or Struggler Group (\$4 to \$10)

Peru	Middle (\$10-50) to Poverty (\$4)		Middle (\$10-50) to Strugglers (\$4-10)		Strugglers (\$4-10) to Poverty (\$4)		Strugglers (\$4-10) to Poverty (\$2.5)	
	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.
Education of the head	-0.017***	0.006	-0.053**	0.023	-0.026**	0.013	-0.008*	0.004
Age of the head	-0.004**	0.002	0.001	0.009	-0.007	0.004	-0.002	0.001
Age squared of head	0.000*	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Sex of the head (1 = male)	0.018	0.011	0.041	0.070	0.035	0.035	0.014	0.008
Head without social insurance	-0.012	0.009	0.055	0.050	0.036	0.024	0.014*	0.008
Unfinished floor	0.019	0.018	0.077	0.062	0.115***	0.026	0.019**	0.010
Household without sanitation	-0.003	0.017	-0.056	0.081	0.062**	0.032	0.016*	0.011
Head cohabiting (omitted)	--	--	--	--	--	--	--	--
Head married	-0.036**	0.017	-0.016	0.062	-0.029	0.026	0.003	0.009
Head without partner	-0.009	0.014	-0.094	0.069	-0.044	0.033	0.001	0.012
Head in agriculture (omitted)	--	--	--	--	--	--	--	--
Head in mining, electricity, gas and water	0.032	0.049	0.021	0.118	-0.054	0.054	0.023	0.032
Head in manufacturing	0.015	0.028	0.032	0.093	-0.006	0.043	0.005	0.015
Head in construction	0.046	0.066	0.192	0.130	-0.057	0.039	--	--
Head in commerce	0.024	0.023	0.037	0.075	-0.032	0.031	-0.022***	0.008
Head in transport and communications	0.048	0.054	0.193*	0.111	-0.033	0.037	-0.019**	0.006
Head in government and clerical activities	0.009	0.027	-0.024	0.086	-0.082**	0.031	-0.003	0.012
Head in other services	-0.019	0.014	-0.026	0.092	-0.048	0.036	-0.012	0.010
Selva region (omitted)	--	--	--	--	--	--	--	--
North Coast	-0.006	0.015	0.082	0.073	-0.073***	0.025	-0.011	0.008
Central Coast	0.022	0.039	0.106	0.108	-0.116***	0.021	-0.018*	0.006
Southern Coast	0.041	0.044	0.058	0.106	-0.050	0.036	-0.015	0.008
Northern Sierra	0.014	0.036	-0.008	0.119	-0.047	0.047	0.000	0.017
Central Sierra	0.019	0.031	0.101	0.088	-0.033	0.030	-0.004	0.010
Southern Sierra	0.014	0.029	0.154*	0.092	-0.022	0.034	-0.0040291	0.010
Metropolitan area of Lima	0.015	0.022	-0.096	0.066	-0.126***	0.024	-0.021*	0.007
Rurality	0.014	0.017	0.062	0.062	0.030	0.026	0.004	0.008
Ocurrence of health shocks 2002-2006	-0.017	0.010	-0.004	0.060	-0.038	0.028	0.000	0.010
Change in number of members working 2002-2006	-0.019***	0.007	-0.078***	0.023	-0.075***	0.010	-0.018***	0.004
Change in household size 2002-2006	0.019***	0.005	0.062***	0.016	0.046***	0.007	0.010***	0.003
Observations	560		560		1,265		1,194	
Pseudo R ²	0.267		0.105		0.183		0.231	

Source: Luis Felipe López-Calva, personal communication, based on Peru Institute of Statistics (INEI), National Household Survey (ENAHO Panel).

Table A5: Projected Size of \$4 to \$10 Group, Selected Countries (High-Growth Scenario)

Region/Country	2010		2020		2030		2040		2050	
	\$4 to \$10		\$4 to \$10		\$4 to \$10		\$4 to \$10		\$4 to \$10	
	Total (m)	Share (%)	Total (m)	Share (%)	Total (m)	Share (%)	Total (m)	Share (%)	Total (m)	Share (%)
Latin America & Caribbean	193	0.36	198	0.33	204	0.31	184	0.26	150	0.21
Argentina	14	0.35	11	0.25	12	0.25	10	0.20	8	0.15
Bolivia	3	0.30	4	0.35	4	0.30	4	0.25	3	0.15
Brazil	69	0.35	64	0.30	68	0.30	59	0.25	48	0.20
Chile	6	0.35	5	0.25	4	0.20	2	0.10	1	0.05
Colombia	14	0.30	16	0.30	17	0.30	19	0.30	19	0.30
Costa Rica	2	0.40	2	0.35	1	0.25	1	0.15	1	0.10
Dominican Republic	4	0.35	4	0.35	3	0.25	1	0.10	1	0.10
Guatemala	4	0.30	6	0.30	8	0.35	10	0.35	11	0.35
Honduras	2	0.25	3	0.30	3	0.30	4	0.30	3	0.25
Mexico	46	0.40	51	0.40	49	0.35	44	0.30	30	0.20
Nicaragua	2	0.30	3	0.40	3	0.40	3	0.35	2	0.25
Panama	1	0.30	1	0.25	1	0.15	1	0.15	0	0.05
Paraguay	3	0.40	3	0.35	3	0.35	2	0.25	2	0.20
Peru	12	0.40	12	0.35	11	0.30	8	0.20	4	0.10
Uruguay	1	0.35	1	0.30	1	0.20	1	0.15	0	0.10
Venezuela, RB	10	0.35	14	0.40	15	0.40	16	0.40	15	0.35
Europe & Central Asia										
Russian Federation	59	0.40	29	0.20	14	0.10	7	0.05	0	0.00
East Asia & Pacific										
Indonesia	36	0.15	80	0.30	114	0.40	149	0.50	169	0.55
Thailand	35	0.50	37	0.50	34	0.45	27	0.35	15	0.20
Latin America & Caribbean										
Egypt, Arab Rep.	41	0.50	62	0.65	49	0.45	12	0.10	0	0.00
South Asia										
India	62	0.05	210	0.15	617	0.40	1,077	0.65	955	0.55
Sub-Saharan Africa										
Nigeria	8	0.05	20	0.10	52	0.20	113	0.35	176	0.45
South Africa	13	0.25	16	0.30	17	0.30	20	0.35	20	0.35

Source: Authors' calculations, based on Fouré, Bénassy-Quéré, and Fontagne (2012), Milanovic (2010), and United Nations Population Division (2013).

Table A6: Coverage and Distribution of Government Benefits and Beneficiaries, Percentage by Income Group

	Distribution								Coverage				
	% share of benefits going to income group				% share of beneficiaries in income group				% share of individuals in group who are beneficiaries:				Total
	Poor <\$4	Strugglers \$4 to \$10	Middle \$10 to \$50	Rich > \$50	Poor <\$4	Strugglers \$4 to \$10	Middle \$10 to \$50	Rich > \$50	Poor <\$4	Strugglers \$4 to \$10	Middle \$10 to \$50	Rich > \$50	
Argentina (2009)													
Jefas y Jefes de Hogar	53.3	45.8	0.9	0.0	53.9	45.4	0.7	0.0	4.5	2.0	0.0	0.0	1.8
Familias	57.5	37.8	4.4	0.3	59.4	38.0	2.5	0.1	33.9	11.2	0.9	0.8	12.5
Unemployment Insurance	39.7	34.2	24.4	1.7	40.4	38.6	20.1	0.9	1.8	0.9	0.6	0.8	1.0
Becas	29.4	52.6	18.1	0.0	30.9	57.2	11.8	0.0	1.6	1.6	0.4	0.0	1.2
Non Contributory Pensions (inferred)	42.6	37.3	19.7	0.3	36.0	44.5	19.3	0.2	27.5	17.5	9.4	3.4	16.7
Food	55.7	38.6	5.6	0.0	61.3	35.2	3.5	0.0	18.8	5.6	0.7	0.0	6.7
Asignación Universal Por Hijo (simulated)	57.6	37.0	5.2	0.2	52.1	41.4	6.4	0.2	50.4	20.6	3.9	3.7	21.2
Above (all above for benefits, at least one for beneficiaries) (a)	46.8	38.2	14.7	0.3	42.6	45.5	11.7	0.2	86.6	47.6	15.2	7.9	44.6
" , excluding food	46.7	38.2	14.8	0.3	42.9	45.1	11.8	0.2	84.5	45.7	14.8	7.9	43.2
Education: All Except Tertiary	38.4	47.7	13.8	0.1	39.7	47.0	13.2	0.1	31.1	19.0	6.6	1.1	17.2
Education: Tertiary	9.8	41.2	48.3	0.6	9.8	41.2	48.3	0.6	2.1	4.6	6.7	2.8	4.8
Health Spending (b)	44.1	44.2	11.5	0.2	44.1	44.2	11.5	0.2	66.4	34.3	11.1	6.1	33.0
Contributory Pensions	0.7	23.7	66.4	9.2	3.2	42.4	53.0	1.5	1.9	12.9	19.9	17.4	12.9
Income shares	3.5	25.7	62.2	8.6	3.5	25.7	62.2	8.6	3.5	25.7	62.2	8.6	100.0
Population shares	21.9	42.6	34.4	1.1	21.9	42.6	34.4	1.1	21.9	42.6	34.4	1.1	100.0
Bolivia (2009)													
Bono Juancito Pinto	47.5	40.9	11.3	0.2	46.0	40.7	13.1	0.2	67.0	48.9	22.8	11.2	47.3
Bono Juana Azurduy	44.5	45.0	9.1	1.3	49.5	39.5	10.1	0.9	5.7	3.8	1.4	3.5	3.8
School Breakfast	39.5	44.3	15.8	0.3	40.1	42.9	16.6	0.4	71.6	63.1	35.6	21.0	58.0
Non-contributory Pension (Renta Dignidad)	34.6	32.4	31.5	1.4	30.4	36.0	32.5	1.1	17.2	16.8	22.2	20.6	18.4
Renta de Benemerito	74.1	15.5	10.4	0.0	73.4	21.5	5.1	0.0	0.3	0.1	0.0	0.0	0.1
Above (all above for benefits, at least one for beneficiaries)	38.0	34.5	26.4	1.1	37.9	40.9	20.6	0.6	85.9	76.4	56.2	41.7	73.6
Education: Yo si puedo/Yes I can	74.2	18.1	7.8	0.0	74.2	18.1	7.8	0.0	0.7	0.1	0.1	0.0	0.3
Education: preschool	44.6	43.7	11.7	0.0	44.6	43.7	11.7	0.0	2.1	1.7	0.7	0.0	1.5
Education: primary	47.6	40.9	11.3	0.2	47.6	40.9	11.3	0.2	23.5	16.6	6.7	3.1	16.0
Education: secondary	37.8	41.8	20.2	0.2	37.8	41.8	20.2	0.2	6.4	5.8	4.1	1.1	5.5
Education: all except tertiary	46.0	40.7	13.1	0.2	45.4	41.0	13.4	0.2	32.6	24.2	11.6	4.2	23.3
Education: tertiary	12.5	42.5	43.2	1.8	12.5	42.5	43.2	1.8	1.5	4.1	6.0	6.9	3.8
Education: PAN	49.3	36.5	13.2	0.9	49.3	36.5	13.2	0.9	1.2	0.7	0.4	0.7	0.8
Health Spending	40.6	42.2	16.9	0.3	39.2	42.4	17.8	0.5	15.7	14.0	8.6	6.5	13.0
Contributory Pensions	0.5	16.0	60.6	23.0	1.2	24.7	67.7	6.4	0.0	0.5	2.0	5.2	0.8
Income shares	7.3	28.9	53.5	10.3	7.3	28.9	53.5	10.3	7.3	28.9	53.5	10.3	100.0
Population shares	32.5	39.5	27.0	1.0	32.5	39.5	27.0	1.0	32.5	39.5	27.0	1.0	100.0

Note: For the four columns labeled “share of benefits going to each income group”, the row “above” refers to the sum of all transfers listed above that row. For the other columns, the row “above” shows the percentages of beneficiaries or individuals who received at least one of the programs listed above that row; a) For Argentina, the “above” row is not equal to the sum of the above because individuals are not eligible to receive benefits from the Asignacion Universal por Hijo (AUH) program if they already receive benefits from another program; b) Health is calculated on the affiliation of individuals in a health insurance system either private, or public. When not affiliated to any system the individual is assumed to use public hospitals. Household data from Argentina does not contain information on the use of public facilities.

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	Distribution								Coverage				
	% share of benefits going to income group				% share of beneficiaries in income group				% share of individuals in group who are beneficiaries				
	Poor <\$4	Strugglers \$4 to \$10	Middle \$10 to \$50	Rich > \$50	Poor <\$4	Strugglers \$4 to \$10	Middle \$10 to \$50	Rich > \$50	Poor <\$4	Strugglers \$4 to \$10	Middle \$10 to \$50	Rich > \$50	Total
Brazil (2009)													
Bolsa Familia	70.5	25.8	3.7	0.1	68.6	27.6	3.7	0.1	75.8	24.3	3.1	0.4	29.5
Scholarships	20.1	15.2	39.2	25.5	32.4	29.6	31.1	6.9	1.6	1.2	1.2	2.0	1.3
Noncontributory Pension (BPC) (c)	56.9	34.9	7.8	0.5	57.7	33.8	8.0	0.5	4.7	2.2	0.5	0.3	2.2
Unemployment	13.6	37.1	45.6	3.7	19.7	43.2	35.6	1.5	3.4	5.9	4.6	1.5	4.6
Special Pensions	16.4	27.9	41.8	13.8	29.0	35.5	33.0	2.5	11.5	11.2	9.9	5.8	10.6
Other Transfers	17.7	32.0	44.4	5.9	22.7	37.5	36.8	3.0	2.2	2.9	2.7	1.7	2.6
Above (all above for benefits, at least one for beneficiaries)	26.5	28.1	34.5	10.9	51.3	31.3	16.2	1.1	84.7	41.2	20.3	10.9	44.0
Education: early childhood	48.4	33.8	17.5	0.2	48.4	33.8	17.5	0.2	6.4	3.6	1.8	0.2	3.5
Education: primary	45.9	36.3	17.6	0.2	45.9	36.3	17.6	0.2	21.6	13.6	6.2	0.6	12.5
Education: secondary	37.3	39.6	22.7	0.5	37.3	39.6	22.7	0.5	6.5	5.5	3.0	0.5	4.7
Education: all except tertiary	44.7	36.6	18.5	0.3	44.4	36.6	18.7	0.3	34.5	22.6	11.0	1.3	20.7
Education: tertiary	7.8	20.0	56.6	15.6	7.8	20.0	56.6	15.6	0.3	0.6	1.5	3.2	0.9
Health: Primary Care	27.0	44.7	27.8	0.4	35.1	44.4	20.2	0.3	24.5	24.6	10.7	1.2	18.6
Health: In-Patient Care	25.8	44.6	29.0	0.5	30.6	44.2	24.7	0.5	12.8	14.6	7.8	1.2	11.1
Health: Preventative Care	28.8	44.9	25.8	0.4	24.6	44.0	30.8	0.6	10.5	15.0	10.0	1.5	11.4
Total Health	26.3	44.7	28.5	0.5	31.7	43.9	23.9	0.4	30.6	33.7	17.4	2.5	25.7
Contributory Pensions	2.8	14.7	48.6	33.9	16.0	33.3	44.1	6.6	16.2	26.8	33.6	38.9	26.9
Income shares	4.2	15.8	49.7	30.4	4.2	15.8	49.7	30.4	4.2	15.8	49.7	30.4	100.0
Population shares	26.7	33.5	35.3	4.5	26.7	33.5	35.3	4.5	26.7	33.5	35.3	4.5	100.0
Guatemala (2010)													
Conditional Cash Transfer	86.7	12.4	0.8	0.0	88.2	11.1	0.7	0.0	33.2	6.3	0.9	0.0	19.4
Non-contributory pension program	38.2	48.5	13.2	0.1	50.7	38.5	10.7	0.0	1.7	1.9	1.3	0.1	1.7
Above (all above for benefits, at least one for beneficiaries)	77.5	19.3	3.2	0.0	85.3	13.2	1.5	0.0	34.5	8.1	2.2	0.1	20.8
Education: preschool	58.9	34.2	6.8	0.1	58.9	34.2	6.8	0.1	2.2	1.9	0.9	0.3	1.9
Education: primary	68.0	27.6	4.3	0.0	68.0	27.6	4.3	0.0	21.8	13.4	5.0	1.9	16.5
Education: secondary (Básica)	53.6	38.8	7.5	0.1	53.6	38.8	7.5	0.1	3.7	4.0	1.9	0.8	3.5
Education: secondary (Diversificado)	38.7	42.9	18.3	0.1	38.7	42.9	18.3	0.1	0.8	1.3	1.4	0.2	1.0
Education: all except tertiary	60.3	32.9	6.8	0.1	63.7	30.6	5.6	0.1	28.4	20.7	9.2	3.2	23.0
Education: tertiary	7.2	26.0	66.4	0.3	7.2	26.0	66.4	0.3	0.1	0.8	4.8	0.8	1.0
Electricity subsidy	32.8	42.1	24.3	0.8	47.5	38.6	13.6	0.3	58.2	71.7	61.1	39.1	63.1
Urban public transportation subsidy	7.8	52.9	39.2	0.1	12.1	56.5	31.3	0.1	3.0	21.0	28.1	2.6	12.6
VAT spending deductions	38.4	38.1	22.7	0.8	45.1	37.6	16.9	0.4	62.4	78.9	85.6	67.2	71.3
Health Spending	34.9	39.6	24.7	0.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Contributory Pensions	2.0	20.8	71.2	6.1	6.2	38.0	54.7	1.1	0.0	0.3	1.2	0.8	0.3
Income shares	19.3	34.7	39.9	6.0	19.3	34.7	39.9	6.0	19.3	34.7	39.9	6.0	100.0
Population shares	51.5	34.0	14.1	0.4	51.5	34.0	14.1	0.4	51.5	34.0	14.1	0.4	100.0

Note: (c) Recipients of BPC often misreport this income source as a pension from the contributory system.

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	Distribution % share of benefits going to income group				% share of beneficiaries in income group				Coverage % share of individuals in group who are beneficiaries:				
	Poor	Strugglers	Middle	Rich	Poor	Strugglers	Middle	Rich	Poor	Strugglers	Middle	Rich	Total
	<\$4	\$4 to \$10	\$10 to \$50	> \$50	<\$4	\$4 to \$10	\$10 to \$50	> \$50	<\$4	\$4 to \$10	\$10 to \$50	> \$50	
Mexico (2008)													
Conditional Cash Transfer	63.4	31.5	5.0	0.1	64.5	30.5	4.9	0.0	53.2	15.6	2.7	0.3	19.6
Scholarships	12.1	44.0	32.9	11.1	21.7	42.2	35.1	1.0	4.3	5.2	4.7	1.8	4.7
Non-contributory pension	32.5	33.7	31.2	2.6	38.6	34.6	25.4	1.5	7.4	4.1	3.3	2.6	4.6
Other Direct Transfers	15.2	34.0	44.0	6.7	13.6	41.5	43.8	1.1	19.8	37.6	43.1	14.8	34.7
Above (all above for benefits, at least one for beneficiaries)	32.5	34.4	28.4	4.6	28.9	37.8	32.4	0.9	64.8	52.6	49.0	18.1	53.3
Education: preschool	35.4	43.0	21.4	0.2	35.4	43.0	21.4	0.2	5.0	3.8	2.0	0.2	3.4
Education: primary	37.2	43.2	19.3	0.4	37.2	43.2	19.3	0.4	19.1	13.7	6.7	1.7	12.2
Education: secondary	26.9	42.6	30.0	0.6	27.5	42.3	29.6	0.5	10.7	10.2	7.8	1.9	9.2
Education: all except tertiary	32.3	42.9	24.4	0.4	33.3	42.8	23.4	0.4	34.8	27.7	16.5	3.8	24.8
Education: tertiary	6.7	29.9	59.7	3.7	6.7	29.9	59.7	3.7	0.6	1.6	3.6	3.0	2.1
Health Spending	23.9	37.4	36.4	2.3	25.9	37.7	34.3	2.1	86.4	77.9	77.0	64.1	79.3
Contributory Pensions	2.1	23.8	67.2	6.9	2.6	27.5	64.2	5.7	1.2	7.7	19.5	23.7	10.7
Income shares	4.4	20.3	54.9	20.3	4.4	20.3	54.9	20.3	4.4	20.3	54.9	20.3	100.0
Population shares	23.8	38.3	35.3	2.6	23.8	38.3	35.3	2.6	23.8	38.3	35.3	2.6	100.0
Peru (2009)													
Conditional Cash Transfer	81.3	17.1	1.7	0.0	83.5	15.0	1.5	0.0	26.9	3.7	0.4	0.0	9.2
Food Transfers	54.1	35.1	10.7	0.0	50.6	37.9	11.5	0.0	36.2	20.7	7.3	0.2	20.5
Above (all above for benefits, at least one for beneficiaries)	70.9	24.0	5.1	0.0	56.5	33.9	9.6	0.0	50.3	23.0	7.6	0.2	25.4
Education: preschool	41.8	41.8	16.2	0.2	41.8	41.8	16.2	0.2	3.4	2.6	1.2	0.2	2.3
Education: primary	50.7	37.4	11.8	0.1	50.7	37.4	11.8	0.1	15.2	8.5	3.1	0.3	8.5
Education: secondary	37.7	44.6	17.6	0.2	37.7	44.6	17.6	0.2	9.0	8.1	3.8	0.6	6.8
Education: all except tertiary	44.4	40.9	14.7	0.1	44.5	40.7	14.6	0.1	27.6	19.2	8.1	1.1	17.7
Education: tertiary	11.6	37.2	49.1	2.1	12.5	37.9	47.6	2.0	0.7	1.6	2.3	1.6	1.6
Health Spending	17.8	35.4	44.0	2.8	30.5	36.8	31.1	1.7	91.0	83.8	82.9	72.5	85.3
Contributory Pensions	0.7	13.5	71.2	14.5	3.7	26.7	64.3	5.4	0.9	4.9	13.8	19.0	6.9
Income shares	6.3	23.4	54.8	15.5	6.3	23.4	54.8	15.5	6.3	23.4	54.8	15.5	100.0
Population shares	28.6	37.5	32.0	2.0	28.6	37.5	32.0	2.0	28.6	37.5	32.0	2.0	100.0

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	Distribution								Coverage				
	% share of benefits going to income group				% share of beneficiaries in income group				% share of individuals in group who are beneficiaries:				
	Poor <\$4	Strugglers \$4 to \$10	Middle \$10 to \$50	Rich > \$50	Poor <\$4	Strugglers \$4 to \$10	Middle \$10 to \$50	Rich > \$50	Poor <\$4	Strugglers \$4 to \$10	Middle \$10 to \$50	Rich > \$50	Total
Uruguay (2009)													
Conditional Cash Transfer	43.1	44.1	12.7	0.1	42.1	44.6	13.2	0.1	73.9	32.5	5.0	0.3	20.3
Non-contributory pension	35.6	42.0	21.9	0.4	36.8	41.0	21.7	0.5	15.7	7.3	2.0	0.3	4.9
Food baskets	47.2	39.3	13.3	0.1	39.7	44.2	16.0	0.1	63.3	29.2	5.5	0.3	18.4
Food vouchers	61.4	34.9	3.7	0.0	60.8	35.4	3.7	0.0	46.8	11.3	0.6	0.0	8.9
Other contributory benefits	11.7	38.4	47.7	2.2	9.3	46.0	44.1	0.6	13.5	27.7	13.7	1.4	16.7
Above (all above for benefits, at least one for beneficiaries)	33.8	40.5	24.9	0.8	25.8	45.3	28.6	0.4	94.7	69.1	22.5	2.2	42.4
Education: preschool	30.3	44.1	25.3	0.2	30.3	44.1	25.3	0.2	2.0	1.2	0.4	0.0	0.8
Education: primary	29.7	42.4	27.6	0.3	29.7	42.4	27.6	0.3	29.9	17.7	6.0	0.5	11.6
Education: secondary (ciclo básico)	16.2	42.7	40.3	0.8	16.2	42.7	40.3	0.8	5.2	5.7	2.8	0.4	3.7
Education: secondary (bachillerato)	5.1	24.0	67.6	3.3	5.1	24.0	67.6	3.3	1.0	2.0	2.9	1.1	2.3
Education: secondary technical	8.1	30.3	59.4	2.2	8.1	30.3	59.4	2.2	0.9	1.5	1.5	0.4	1.3
Education: all except tertiary	21.0	38.5	39.5	1.1	22.8	39.5	36.7	0.9	39.1	28.1	13.5	2.6	19.8
Education: tertiary	0.6	7.1	77.9	14.5	0.6	7.1	77.9	14.4	0.1	0.6	3.5	5.2	2.4
Health Spending	14.3	32.2	49.0	4.5	13.4	31.4	50.3	4.9	95.5	92.7	76.8	59.7	82.2
Contributory Pensions	20.4	33.3	41.6	4.6	24.9	36.0	37.9	2.8	34.7	40.5	22.0	13.1	31.3
Income shares	1.5	10.0	59.3	29.2	1.5	10.0	59.3	29.2	1.5	10.0	59.3	29.2	100.0
Population shares	11.6	27.8	53.8	6.8	11.6	27.8	53.8	6.8	11.6	27.8	53.8	6.8	100.0

Source: Lustig et al. (2012).

Note: The difference in the values for the same category (e.g., noncontributory pensions) seen between the concentration shares in Table 8 and the distribution of benefits in this table is due to the following: All inequality or distribution-related calculations use scaled-up incomes, and all poverty-related calculations use non-scaled incomes (see Lustig and Higgins, 2013). Incidence and concentration shares are considered to be inequality/distribution related, and coverage shares to be poverty-related. The difference in values is hence due to the fact that the people in each group are different in the two tables: in the concentration tables, scaled income is used to determine one's group, whereas in the coverage tables, non-scaled income is used to determine one's group.