

How Committed to Equity are Latin American Governments?¹

The Impact of Social Spending and Taxes on Inequality and Poverty in Latin America: Argentina, Bolivia, Brazil, Mexico, Peru and Uruguay²

Summary prepared by Nora Lustig³

August 2013

Although inequality has been falling since 2000, Latin America is still one of the regions with the highest degree of inequality in the world. Poverty rates—although not the highest by far—are high for Latin America’s GDP per capita. Given these facts, the extent to which governments use their power to tax and spend to reduce inequality and poverty is of great importance. This overview summarizes the results of applying standard benefit-tax incidence analysis to estimate the effect of direct taxes, indirect taxes and subsidies, and social spending (cash and in-kind transfers) on inequality and poverty in six countries: Argentina, Bolivia, Brazil, Mexico, Peru, and Uruguay. It should be noted that the study for Argentina does not include the impact of taxes. The full text of the Overview is available [here](#).

All country studies apply a common methodology to microdata obtained from household surveys (year of survey is in parenthesis in what follows). The studies for Bolivia (2009), Brazil (2009), Peru (2009), and Uruguay (2009) focus on average incidence for a particular (recent) year. The studies for Argentina (2003, 2006, 2009) and Mexico (2008, 2010) look at how incidence has changed over a particular period of time. As is common in most benefit-tax incidence analyses, the studies do not model behavioral, lifecycle, or general equilibrium effects. Except in the case of Argentina, the analysis does not discuss the macroeconomic sustainability of taxation and social spending patterns either. Aside from these limitations (commonly found in other fiscal incidence studies as well), the studies are among the most

¹ This paper was produced under the Commitment to Equity (CEQ) project. Launched in 2008, the CEQ framework was designed to analyze the impact of taxation and social spending on inequality and poverty in individual countries and to provide a roadmap for governments, multilateral institutions, and nongovernmental organizations in their efforts to build more equitable societies. Led by Nora Lustig, the CEQ is a project of the Center for Inter-American Policy and the Department of Economics, Tulane University and the Inter-American Dialogue, with Peter Hakim as co-director. Since its inception, the CEQ has received financial support from Tulane University's Center for Inter-American Policy and Research, the School of Liberal Arts and the Stone Center for Latin American Studies as well as the Canadian International Development Agency (CIDA), the Development Bank of Latin America (CAF), the General Electric Foundation, the Inter-American Development Bank (IADB), the International Fund for Agricultural Development (IFAD), the Norwegian Ministry of Foreign Affairs, the United Nations Development Programme's Regional Bureau for Latin America and the Caribbean (UNDP/RBLAC), and the World Bank. www.commitmenttoequity.org.

² Summary of: Lustig, Nora, Florencia Amábile, Marisa Bucheli, George Gray Molina, Sean Higgins, Miguel Jaramillo, Wilson Jiménez Pozo, Veronica Paz Arauco, Claudiney Pereira, Carola Pessino, Máximo Rossi, John Scott, and Ernesto Yáñez Aguilar. 2013. “The Impact of Taxes and Social Spending on Inequality and Poverty in Argentina, Bolivia, Brazil, Mexico, Peru and Uruguay: An Overview,” CEQ Working Paper No. 13, CIPR and Department of Economics, Tulane University; August.

³ Nora Lustig is Samuel Z. Stone Professor of Latin American Economics, Tulane University and Nonresident fellow Center for Global Development and Inter-American Dialogue.

detailed, comprehensive, and comparable tax-benefit incidence analyses available for Latin American countries to date.

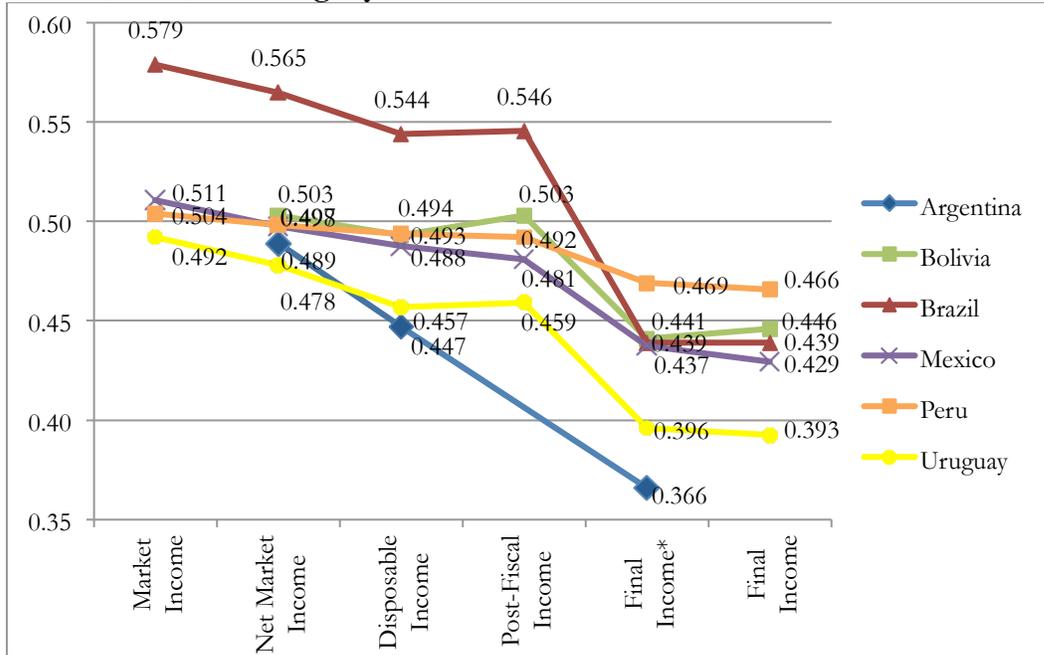
We use five income concepts in our incidence analyses: market, net market, disposable, post-fiscal, and final income. *Market income* is total current earned income from all labor and nonlabor sources before direct taxes; autoconsumption (except in the case of Argentina and Bolivia); imputed rent for owner-occupied housing; private transfers (remittances and other private transfers such as alimony); and old-age and other pensions from the contributory social security system. (We also performed a sensitivity analysis where contributory pensions are classified under government transfers). *Net market income* equals market income minus direct personal income taxes on all income sources (included in market income) that are subject to taxation and all contributions to social security except for the portion going towards pensions. *Disposable income* is equal to the sum of net market income plus direct government transfers (mainly cash transfers but can include food transfers). *Post-fiscal income* is defined as disposable income plus indirect subsidies minus indirect taxes (e.g., value added tax, sales tax, etc.). *Final income* is defined as post-fiscal income plus government in-kind transfers in the form of free or subsidized services in education, health, and housing minus co-payments or user fees. We also define *final income** as disposable income plus government in-kind transfers in the form of free or subsidized services in education, health, and housing subsidies minus co-payments or user fees.

Consistent with other conventional tax incidence analyses, here we assume that the economic burden of direct personal income taxes is borne by the recipient of income. The burden of payroll and social security taxes is assumed to fall entirely on workers. Consumption taxes are assumed to be shifted forward to consumers. Evasion of direct income and payroll taxes is taken into account in the analysis by assuming that individuals who do not participate in the contributory social security system do not pay income or payroll taxes (Brazil's survey includes a question on tax payments so tax evasion is assumed to be as reported in the survey). In the case of indirect (consumption) taxes, assumptions to take evasion into account varied. The approach to estimate the incidence of public spending on education and health followed here is the so-called "benefit or expenditure incidence" or "government cost" approach. In essence, we use per beneficiary input costs obtained from administrative data as the measure of average benefits.

Main results

- *Inequality and Poverty Reduction.* Taxes and cash transfers reduce inequality and poverty by nontrivial amounts in Argentina and Uruguay, less so in Mexico and little in Peru. In the case of Bolivia, inequality remains essentially the same, but post-fiscal extreme and moderate poverty increase with respect to market income. In Brazil, inequality falls significantly, but poverty rises (Figures 1 and 2).
- *Direct Personal Income Taxes.* Revenue from personal income taxes included in the incidence analysis varies from around five percent of GDP in Uruguay to zero percent in Bolivia and Argentina. In all countries in which direct taxes were analyzed, they are progressive. However, their redistributive power varies: Uruguay's, Mexico's, and Brazil's Ginis decline by 2.8, 2.6, and 2.4 percent, respectively, while Peru's declines by only 1.1 percent. For the relatively small amount of direct taxes collected by Peru, their redistributive effect is relatively large.

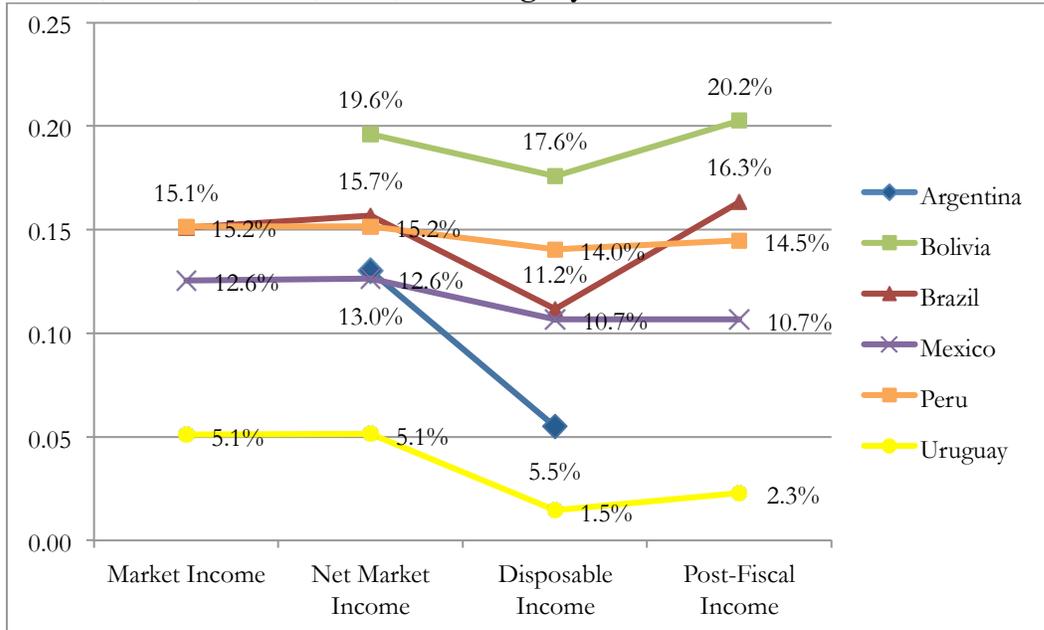
Figure 1. Gini Coefficient for Each Income Concept: Argentina, Bolivia, Brazil, Mexico, Peru, and Uruguay



a. For definition of income concepts see [Lustig and Higgins \(2013\)](#).

b. The analysis for Argentina does not include the tax side so Disposable Income Gini is gross of direct personal income taxes. The results are thus not strictly comparable.

Figure 2. Extreme Poverty Headcount Ratio for Each Income Concept: Argentina, Bolivia, Brazil, Mexico, Peru, and Uruguay



a. For definition of income concepts see [Lustig and Higgins \(2013\)](#).

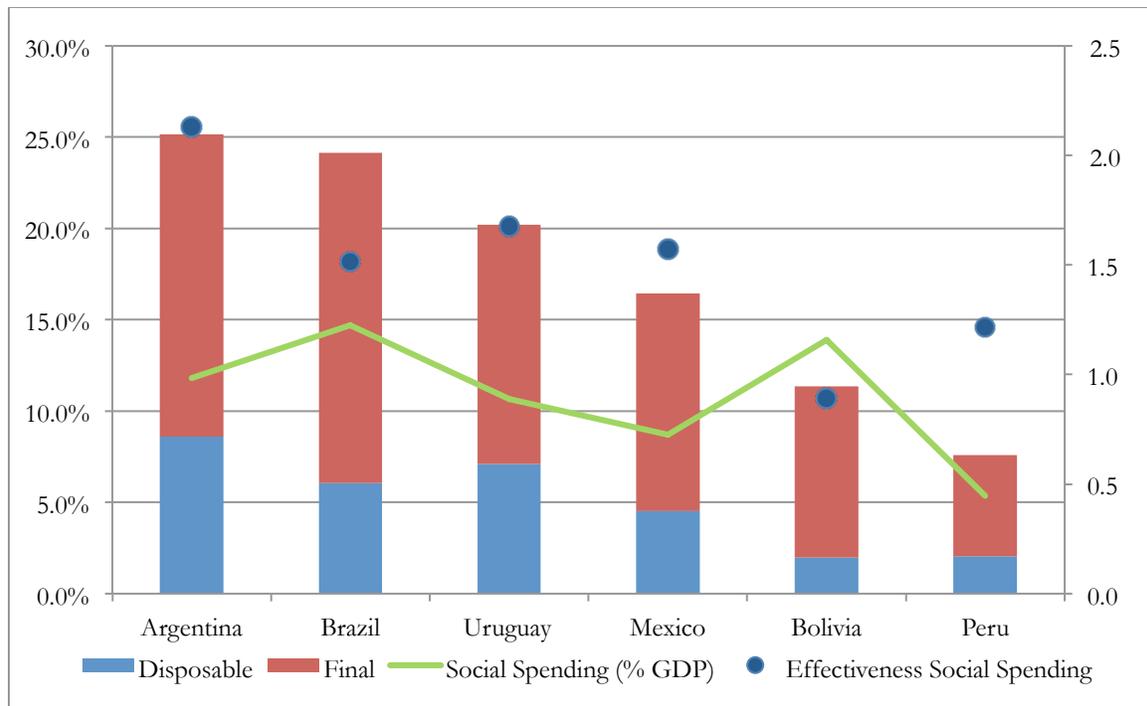
b. The analysis for Argentina does not include the tax side so Disposable Income Headcount is gross of direct personal income taxes. The results are thus not strictly comparable.

- *Direct Cash Transfers.* Direct taxes and cash transfers reduce inequality (as measured by the Gini coefficient and with respect to market income inequality) by as much as 8.6 percent in Argentina (even without including direct taxes) and 7.1 percent in Uruguay to as little as 2 percent in Bolivia and Peru. Cash transfers have reduced extreme poverty by more than 50 percent in Uruguay and Argentina, but only by seven percent in Peru, which spends too little on cash transfers to achieve much poverty reduction. Bolivia spends five times more than Peru (as a share of GDP) on cash transfers, but because funds are weakly targeted or not targeted at all to the poor, the amount of redistribution and poverty reduction has been limited. For Bolivia, these programs' impact in terms of redistribution is no better than Peru's and in terms of poverty reduction is only slightly higher than Peru's.
- *Indirect Taxes.* In Brazil⁴ and Bolivia, indirect taxes wipe out the effect of direct transfers on extreme poverty, which is actually slightly higher including taxes and direct transfers in income as compared to income before taxes and cash transfers. In contrast, extreme poverty rates in Mexico and Peru are virtually unchanged after indirect taxes because due to exemptions on essential goods and informality, the poor pay little in the form of indirect taxes (Figure 2).
- *In-kind Transfers.* Public spending on education and health is significantly more redistributive than cash transfers in all of the countries (Figure 3). When one adds the effect of transfers in-kind (access to free or quasi-free services in education and health), inequality declines by 14.0 percentage points in Brazil, 12.3 percentage points in Argentina⁵, 9.9 percentage points in Uruguay, 8.1 percentage points in Mexico, 5.7 percentage points in Bolivia, and only 3.8 percentage points in Peru (as measured by the difference between the final income Gini coefficient and the market income Gini coefficient) (Figure 1). Peru is the least redistributive for two main reasons: the amount of social spending is relatively small and the total redistributive effectiveness of social spending is the second lowest (after Bolivia). In Bolivia, the limited redistributive power stems from the fact that per capita spending is practically the same for everyone. In a country with such a high incidence of poverty, we would like to observe more "pro-poor" education and health spending. The low progressivity of education spending is explained by (1) the comparatively low progressivity of primary education (due to low coverage rates among the poor) and (2) an exceptionally high allocation of educational spending to tertiary education.

⁴ In Brazil, however, the poverty-increasing impact of indirect taxes may be overestimated due to the assumption of no differences in evasion rates along the income distribution.

⁵ It should be noted, however, that Argentina is not strictly comparable, as analysis firstly does not include the impact of taxes and secondly does not include public spending on the contributory health system.

Figure 3. Reduction in Inequality with Respect to Market Income Gini, Social Spending (as a % of GDP), and Redistributive Effectiveness of Social Spending: Argentina, Bolivia, Brazil, Mexico, Peru, and Uruguay.



a. Effectiveness measured on right-hand axis.

b. For Argentina the change is with respect to net market income and final is final income* (disposable income plus in-kind transfers minus co-payments and user fees); that is, the impact of direct and indirect taxes (and indirect subsidies) was not taken into account so the indicators are not strictly comparable with the others.

- Unpleasant Facts.* The largely positive redistributive picture of Argentina, Brazil, and Uruguay hides some unpleasant facts. In Brazil and Uruguay, spending on tertiary education is clearly “pro-rich;” in both countries, a large proportion of tertiary education spending subsidizes the rich—those with incomes above US\$50 PPP per day—who receive a budget share significantly larger than their population share. In Argentina, government spending on progressive cash transfers is substantially less than the budget share allocated to indirect (and regressive) subsidies to agricultural producers, airlines, manufacturing, and transportation and energy. Furthermore, Argentina’s social spending may not be fiscally sustainable as the sharp rise of public spending during the 2000s has been increasingly financed by distortionary taxes and unorthodox revenue-raising mechanisms.

In sum, redistribution and poverty reduction through fiscal policy is nontrivial especially in Argentina, Brazil and Uruguay. An important contributing factor, cash transfers are quite progressive in absolute terms, except in Bolivia where programs are not targeted to the poor. However, their poverty-reducing impact, as expected, is smaller in countries that spend less (as a share of GDP) on direct cash transfers targeted to the poor (Mexico and Peru). In all six countries, including in income the monetized value of in-kind services, public spending on education and health reduces inequality by considerably more than cash transfer. Direct

taxes are progressive, but the redistributive impact is small because direct taxes as a share of GDP are generally low. Indirect taxes offset the poverty-reducing effects of cash transfers in Bolivia and Brazil. In Mexico and Peru the poverty-increasing effect of indirect taxes is tempered because basic goods are exempted and there is a high level of informality (e.g., consumers are able to avoid indirect taxes).

Of the three most redistributive countries, Brazil would significantly improve its redistributive effectiveness if cash transfers were more targeted and if the rich's tertiary education was not so heavily subsidized. The latter is also true for Uruguay. Brazil would also improve its poverty reducing impact if consumption taxes were lower. In the case of Argentina, the fiscal sustainability of its redistributive model is seriously in question. Of the three least redistributive countries, Mexico and Peru reduce inequality and poverty relatively little because of they spend less on cash and in-kind transfers than especially in Argentina and Brazil. Bolivia's social spending is higher than Mexico's and Uruguay's (a high redistribution country) but because Bolivia's cash transfer programs are not specifically targeted to the poor, redistribution is small in scale.

References:

- Bucheli, Marisa, Nora Lustig, Máximo Rossi and Florencia Amábile. 2013. Social Spending, Taxes, and Income Redistribution in Uruguay. *CEQ Working Paper No. 10*, January.
- Higgins, Sean and Claudiney Pereira. 2013. The Effects of Brazil's High Taxation and Social Spending on the Distribution of Household Income. *CEQ Working Paper No.7*, January.
- Jaramillo, Miguel. 2013. The Incidence of Social Spending and Taxes in Peru. *CEQ Working Paper No. 9*, January.
- Lustig, Nora and Carola Pessino. 2013. Social Spending and Income Redistribution in Argentina in the 2000s: the Rising Role of Noncontributory Pensions. *CEQ Working Paper No. 5*, January.
- Lustig, Nora, Carola Pessino and John Scott. 2013. "The Impact of Taxes and Social Spending on Inequality and Poverty in Argentina, Bolivia, Brazil, Mexico, Peru and Uruguay: An Overview," *CEQ Working Paper No. 13*, April.
- Paz Arauco, Veronica, George Gray Molina, Wilson Jiménez Pozo, and Ernesto Yáñez Aguilar. 2013. Explaining Low Redistributive Impact in Bolivia. *CEQ Working Paper No. 6*, January.
- Scott, John. 2013. Redistributive Impact and Efficiency of Mexico's Fiscal System. *CEQ Working Paper No. 8*.