

**BOLIVIA**

**URUGUAY**

# **SPLITTING THE BILL:**

**Taxing and Spending to Close Ethnic  
and Racial Gaps in Latin America**

**BRAZIL**

**MEXICO**

**GUATEMALA**

**Nora Lustig • Judith Morrison • Adam Ratzlaff**

Gender and Diversity Division (SCL/GDI)  
Inter-American Development Bank

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Led by Nora Lustig since 2008, the Commitment to Equity (CEQ) project is an initiative of the Center for Inter-American Policy and Research (CIPR) and the Department of Economics at Tulane University, the Center for Global Development and the Inter-American Dialogue. The project's main output is the CEQ Assessment, a methodological framework designed to analyze the impact of taxation and social spending on inequality and poverty in individual countries. The main objective of the CEQ is to provide a roadmap for governments, multilateral institutions, and nongovernmental organizations in their efforts to build more equitable societies. The Bill & Melinda Gates Foundation has provided major funding for the preparation of the CEQ Handbook. Nora Lustig is Samuel Z. Stone Professor of Latin American Economics and director of the CEQ Institute.

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# Executive Summary

The first decade of the 21st century was particularly good to Latin America. In addition to extremely high growth rates (Munyo and Talvi, 2013), the region saw impressive reductions in poverty and inequality (Cord et al., 2013). These gains were due to a mix of factors including income growth, government transfers and increasing returns and access to education (Cord et al., 2013; Lustig and Lopez-Calva, 2010). In spite of these gains, indigenous peoples and African descendants remain marginalized, face higher rates of poverty, lower access to health and education, lower human capital and lower incomes (de Ferranti et al., 2004; Gandelman et al., 2011; Hall and Patrinos, 2006; Ñopo, 2012). These ethno-racial gaps pose a number of problems for society as a whole; however perhaps most troubling is that the inequality between ethno-racial groups may hinder growth (Alesina et al., 2012).

One tool that can be used to address ethno-racial inequality is fiscal policy, a tool that Latin American governments have under-utilized in reducing inequality relative to other countries. Although there have long been concerns on the potential impacts on economic growth of reducing inequality through fiscal policy, recent studies have dispelled many of these concerns (Dollar et al., 2014; Ostry et al., 2014). While the impact of fiscal policy on inequality is relatively small in Latin America, is it being used to help close some of the ethno-racial gaps?

Between 0.96% (Uruguay) to 9.1% (Brazil) of overall Market Income inequality can be explained by race or ethnicity in the four countries studied here. However, the correlation between ethno-racial status and other factors associated with overall inequality, such as educational attainment, suggests that ethno-racial inequalities are actually higher. Furthermore, Market Income poverty rates among indigenous peoples and African descendants are over double those of the white population.

Direct taxes and transfers manage to reduce poverty and inequality in all five countries -- Bolivia, Brazil, Guatemala Mexico, and Uruguay -- and substantially in all countries except Guatemala. Furthermore, almost all direct cash transfers were ethno-racially progressive and in many cases absolutely progressive, meaning that the share of the benefits going to indigenous peoples and African descendants was greater than their share of national income (relatively progressive) and/or of the national population (absolutely progressive). This is particularly true among the conditional cash transfer programs.

However, direct taxes and transfers are largely color-blind and, as such, do little to reduce differences in poverty across racial lines. The probability of escaping poverty through direct transfers and taxes is relatively similar between ethno-racial groups in Bolivia and Uruguay. In Guatemala, the probability is higher among the indigenous population than the non-indigenous population, but remains low among both groups. In Brazil however, the white population is more likely to escape poverty than Afro-Brazilians. This is largely due to the provision of Brazil's special circumstances pensions. Although the benefits of

this program are shared nearly equally in ethno-racial terms, the poor white population is significantly more likely to receive these pensions than poor Afro-Brazilians or indigenous peoples, while wealthier Afro-Brazilians and indigenous peoples are more likely to receive this benefit than their white counterparts. This is largely due to trends in labor market formality. These large special pensions provide an avenue for the poor white population to escape poverty that is largely not available to the nation's indigenous peoples and African descendants.

Although direct government social spending and taxation has little effect on current ethno-racial inequality, government investment in education and healthcare may be able to reduce future ethno-racial inequalities. This is possible given that spending on health and education dwarf spending on direct transfers.

Public education spending is ethno-racially progressive in Bolivia, Brazil, Guatemala, Mexico and Uruguay. However, when one examines the progressivity of public spending on different levels of education, different trends emerge. While spending on primary and secondary education is ethno-racially progressive (and generally absolutely progressive), spending on tertiary education increases ethno-racial gaps in four of these countries. These numbers, however, do not capture the quality of education. In many cases, better-off households opt-out of public primary and secondary education in favor of higher quality private options. Brazil's spending on tertiary education is relatively progressive in ethno-racial terms. This is important given that higher education may be a key to closing income gaps between Afro-Brazilians and the white population. It is also important to note that these results rely on data pre-dating the adoption of Brazil's federal university affirmative action law.

Health care spending appears to be absolutely ethno-racially progressive in every country considered except Guatemala. As with education spending, one sees high levels of opting-out in favor of private options as income increases. However, examining the horizontal equity of healthcare expenditure reveals two troubling facts: 1) poor indigenous peoples and African descendants are less likely to use public services than the poor white population, and 2) wealthy indigenous peoples and African descendants are less likely to opt to use private options than their white peers. These trends may be due to real or perceived discrimination in the provision of healthcare (Barber et al., 2007; Perreira and Telles, 2014; Planas et al., 2014). In Guatemala the ethno-racial regressivity of healthcare spending is likely due to the location of public healthcare providers in urban areas and the concentration of the nation's indigenous population in rural areas.

Ethno-racial gaps remain a challenge throughout the Americas. Higher rates of poverty, lower educational attainment rates and lower mean incomes among indigenous peoples and African descendants in many of the region's countries present problems not just for these populations, but for the development of these countries. Taxes and transfers are under-utilized in Latin America in general and do little to reduce the ethno-racial inequalities evident in the region. Improving the impact of fiscal policy on ethno-racial inequality should be an objective of governments in the region. Closing these gaps is not only the right thing to do, but could have important effects on the economic development of countries.

# Abbreviations

CEQ	Commitment to Equity
CCT	Conditional Cash Transfer
GDP	Gross Domestic Product
IDB	Inter-American Development Bank
PPP	Purchasing Power Parity
LAC	Latin America and the Caribbean
PERLA	Project on Ethnicity and Race in Latin America
OECD	Organisation for Economic Cooperation and Development
IPEA	Instituto de Pesquisa Econômica Aplicada





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# Chapter 01

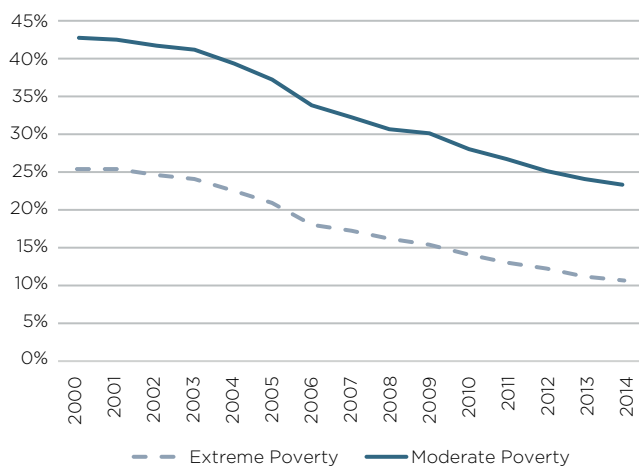
## Ethno-Racial Inequality in Latin America

Since the turn of the millennium, Latin America has seen poverty and inequality fall precipitously. Between 2000 and 2014, extreme poverty in Latin America fell by 57.8 percent, while moderate poverty declined from nearly half of the region's population to less than a quarter (See Figure 1a). This rapid decline in poverty was accompanied by an equally important decline in inequality, with the Gini coefficient falling from 0.572 in 2000 to 0.514 in 2014 (See Figure 1b).

These socio economic gains were largely due to a rapidly growing economy (See Figure 1b), with some estimates suggesting that 8.5 percentage points of the decline in moderate poverty (\$4.00 2005 PPP/day) and 5.2 percentage points of the decline in extreme poverty (\$2.50 2005 PPP/day) between 2004 and 2014 being due to increases in employment and labor incomes (World Bank, 2016b).

**Figure 1. Socio-Economic Gains in Latin America**

**A. Poverty Reduction in Latin America, 2000-2014**



**B. Income Growth and Inequality Reduction, 2000-2014**



Sources: World Bank, 2016a. *LAC Equity Lab*; World Bank, 2016b. *World Development Indicators*.

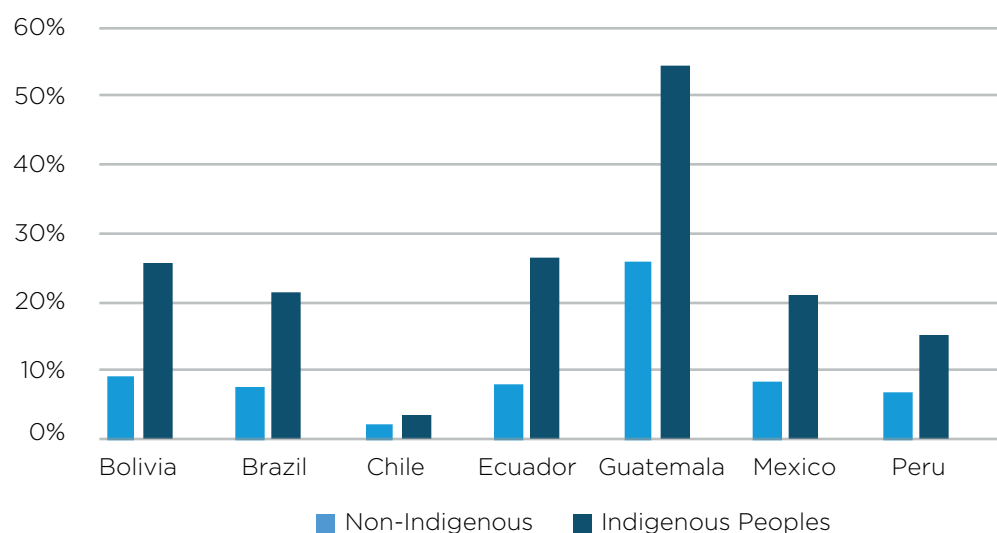
Note: For the purpose of this figure, extreme poverty is set at \$2.50 2005 PPP/day while moderate poverty is set at \$4.00 2005 PPP/day.

Despite these impressive gains, the benefits have not been shared equally. Latin America is still often considered the most unequal region in the world. Based on the most recent available data (from 2005-2015), of the 145 countries with available data on the Gini Index, all but one Latin American country, Uruguay, are among the 50 most unequal countries in the world, and 13 out of the 18 Latin American countries with available data are among the 25 most unequal countries in the world (World Bank, 2016b).

One of the key determinants of inequality in the region is due to ethno-racial differentiation in human capital accumulation and incomes. This has particularly negative impacts for Latin

America's indigenous and African descendant populations. Although indigenous peoples and African descendants account for approximately 8 to 10 and 24 percent of Latin America's population, respectively (IDB, 2015; PERLA, 2013), they are significantly overrepresented among the region's poor. In fact, in many of the countries in the region, indigenous peoples have extreme poverty rates over twice that of their non-indigenous compatriots (See Figure 2). These two populations are faced with lower earnings and access to services, and are more likely to work in low productivity jobs in the informal sector (de Ferranti et al., 2004; Hall and Patrinos, 2006; Ñopo, 2012).

**Figure 2. Extreme Poverty Rates among Indigenous Peoples in Latin America, Circa 2014**



Source: World Bank. 2016a. *LAC Equity Lab*.  
 Note: For the purpose of this figure, extreme poverty is set at \$2.50 2005 PPP/day.

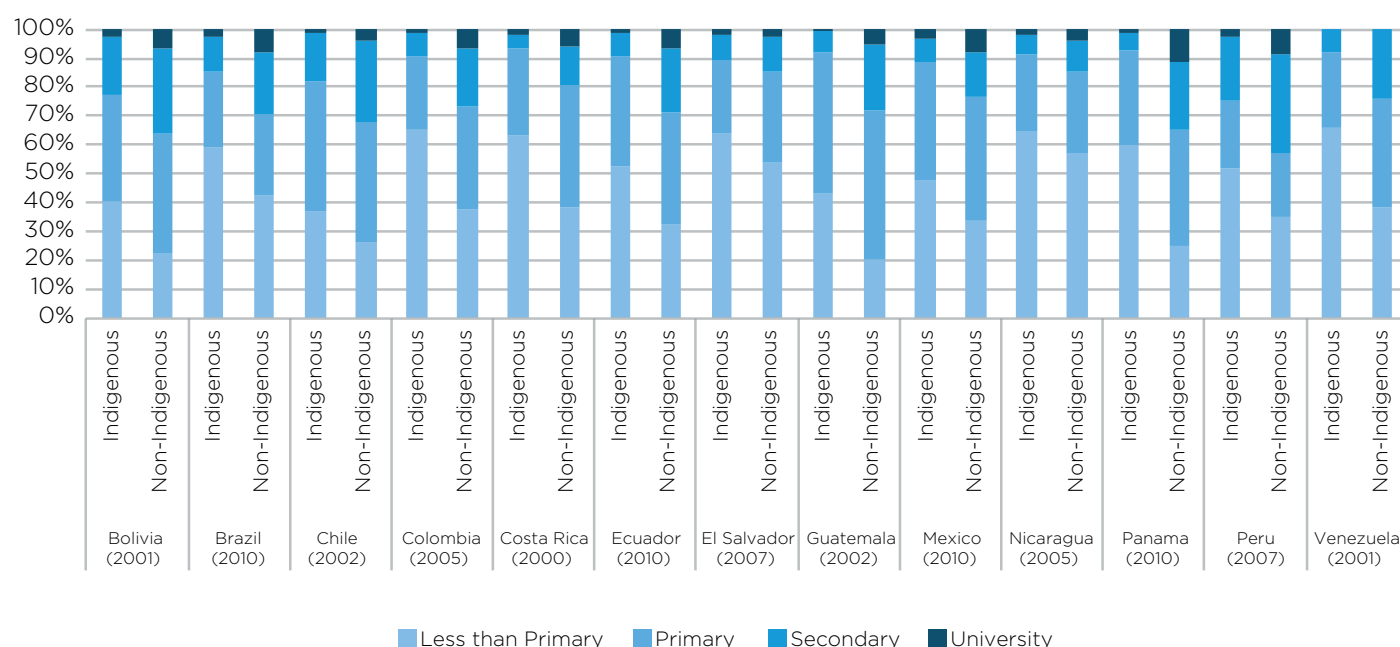
Gaps along ethno-racial lines are also evident in health and education outcomes. A recent review of quantitative literature reveals many studies pointing to the fact that indigenous peoples and African descendants face gaps in many education variables including literacy rates, enrollment rates and test scores (Gandelman et al., 2011). This is particularly evident in the case of educational attainment among indigenous peoples in the region (See Figure 3), but remains a problem

for African descendants as well. However, in Brazil, the country in the region with the largest African descendant population, ethno-racial gaps in educational attainment are shrinking and in Colombia, educational attainment rates of Afro-Colombians are essentially equal to those of the rest of society (Morrison, 2016). Yet despite the closing gap in these countries, large inequalities in access to the labor market and incomes remain between African descendants and society

at large. While less work has been done on identifying ethno-racial gaps in healthcare in Latin America, lower health outcomes and evidence of

discrimination in the provision of healthcare have been documented (Perreira and Telles, 2014; Barber et al., 2007; Planas et al., 2014).

**Figure 3. Indigenous and Non-Indigenous Educational Attainment Rates**



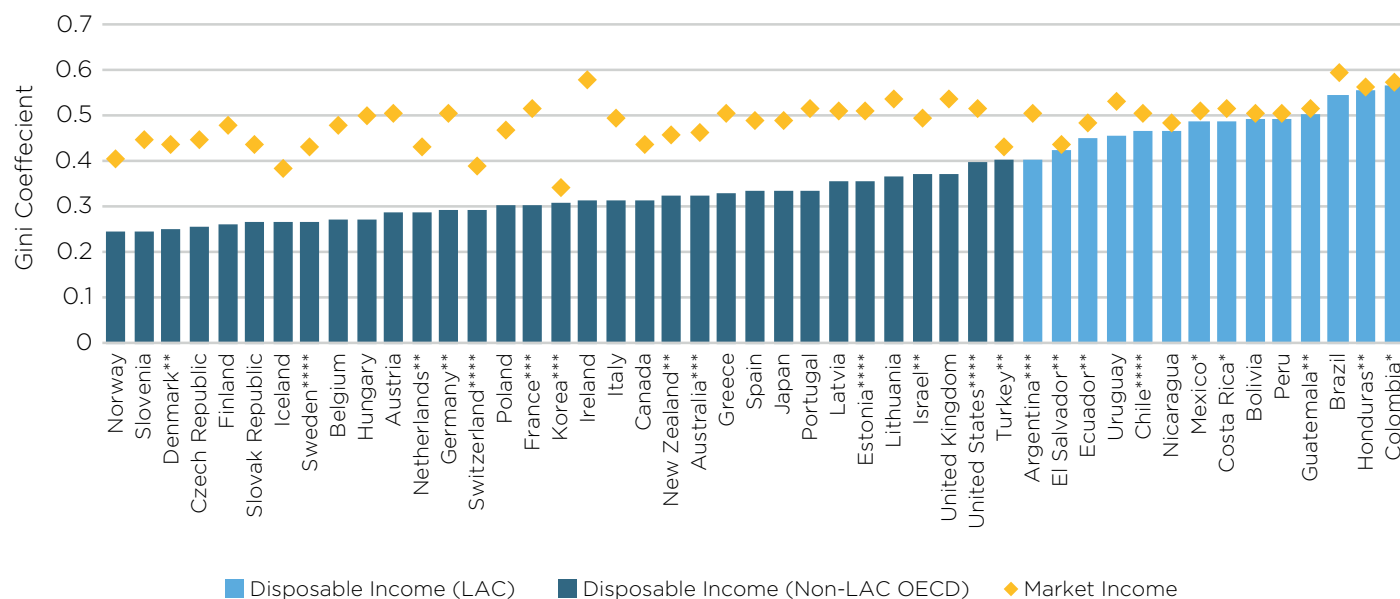
Source: World Bank. 2016a. *LAC Equity Lab*.

One of the tools that national governments have at their disposal to address ethno-racial inequalities is fiscal policy. Through well-designed taxation and government spending, governments can reduce ethno-racial inequalities. This is particularly important in Latin America, where fiscal policy is an underutilized tool in combatting general inequality as well as ethno-racial inequality. When compared with OECD countries, income inequality resulting solely from market forces (i.e., before taxes and transfers) is similar in Latin America and among OECD countries. However, when one takes into account the implications of fiscal policy, levels of inequality are drastically different between these two sets of countries (See Figure 4). Even the Latin American countries that have the greatest impact on inequality reduction pale in comparison to nearly all OECD countries. By leveraging the effectiveness and magnitude of fiscal policy, Latin American governments could drastically reduce inequality.

Another common role of government that can impact inequality is the provision of public

services. Providing or subsidizing services that may be outside of the reach of poor or disadvantaged individuals not only reduces present inequality, but the provision of health and education services may help reduce inter-generational inequalities as well. This is particularly true in the provision of education services which allow younger generations to accumulate human capital that may not have been available to their parents' generations (Azevedo and Bouillon, 2009). Given the existing ethno-racial gaps in educational attainment, this could have important implications for promoting ethno-racial equality. Although some governments in the region have started to implement affirmative action policies to correct these inequalities, it is important to know if existing universal policies have any effect on closing ethno-racial inequalities. While it is difficult to determine the impact of expanding education and healthcare will have on future inequality, by monetizing the provision of these services, it is possible to measure the fiscal impact of education and health spending on household incomes and inequality in today's society.

**Figure 4. Impacts of Fiscal Policy on Inequality in Latin American and OECD Countries (2009-2011)**



Source: CEQ Database and OECD Statistics. OECD Social and Welfare Statistics. Last Accessed March 31, 2015.

Notes: (a) All countries are from 2009 except those with a \* which are from 2010 and those with \*\* which are 2011; (b) Although methodologies between the CEQ analysis and the OECD reported numbers are not identical, the generation of income concepts used here consider similar elements of income and transfers.

The inequality in Latin America due to ethno-racial differences poses a problem not just for indigenous peoples and African descendants, but for society at large. While there are a number of moral and ethical reasons why governments should utilize policies to reduce ethno-racial inequality, it is important to note that the benefits of closing these gaps may not only benefit individuals who directly benefit from these policies. Although debates over the utilization of affirmative action policies often focus on reparations for past discrimination (Nickel, 2002), it is important to note that recent scholarly work has suggested that ethno-racial inequality may harm society as a whole as it can lead to lower levels of economic growth (Alesina et al., 2012; Easterly and Levine, 1997). Given these potential spillover benefits, it becomes evident that governments should seek

to promote ethno-racial equality, or at least level the playing field, in their respective countries.

Utilizing data from the Commitment to Equity (CEQ)<sup>1</sup> project, this report will build upon Lustig (2015) to analyze the impacts of fiscal policy across ethno-racial lines in five Latin American countries: Bolivia (Paz Arauco et al., 2013), Brazil (Higgins and Pereira, 2013), Guatemala (Cabrera et al., 2013), Mexico (Aranda and Scott, 2016) and Uruguay (Bucheli et al., 2013). Together, these countries represent approximately 69.9 percent of Latin America's indigenous population (IDB, 2015) and 75 percent of the region's African Descendant population (PERLA, 2013). The studies presented in this report utilize data from national accounts and household surveys

<sup>1</sup> Led by Nora Lustig since 2008, the Commitment to Equity project is an initiative of the Center for Interamerican Policy and Research and the Department of Economics at Tulane University, the Center for Global Development and the Inter-American Dialogue.

to determine the impact of fiscal interventions on closing the ethno-racial gaps in poverty and income inequality in these countries and to analyze whether government programs are ethno-racially progressive. Additionally, by using the CEQ's harmonized and comparable standard of analysis (Lustig and Higgins, 2013), we are able to compare the performance of different nations in using fiscal policy to reduce ethno-racial inequalities. By examining existing levels of ethno-racial inequality and the extent to which different government interventions affect poverty and income inequality across different ethno-racial groups, it is possible to develop a better understanding of the impacts of specific programs in order to design better interventions for promoting ethno-racial equality.

The remainder of this report is divided into nine chapters, including case studies for five countries. The following chapter will present an overview of the CEQ methodology, with an emphasis on the different measures that are used to determine the magnitude of ethno-racial inequality in these studies and to measure the impact of fiscal interventions on ethno-racial inequalities. The third chapter will provide a comparative overview of the levels of ethno-racial inequality observed Bolivia, Brazil, Guatemala, Mexico and Uruguay and of the impacts taxes and direct transfers have in the ethno-racial space. Chapter four will determine the ethno-racial progressivity of public health and education spending in the five countries being analyzed. The following five chapters will consist of more in depth case studies of each of the five countries and look at the specific programs implemented in each country. The final chapter will present conclusions from the study and policy recommendations.

# Chapter

# 02

## Determining Fiscal Impacts on Ethno-Racial Inequality and Poverty<sup>2</sup>

This study utilizes the Commitment to Equity (CEQ) methodology as presented by Lustig and Higgins (2013).<sup>3</sup> The methodology uses data household surveys<sup>4</sup> and national accounts<sup>5</sup> along with an accounting approach in which the incidence of different government transfers and taxation are either added or subtracted from household incomes. The incidence analysis used here is point in time and calculates the average incidence of government interventions. By definition, the accounting approach does not incorporate behavioral or general equilibrium effects. However, the analysis is not mechanical: the incidence of taxes is calculated based on their (assumed) economic rather than statutory incidence. In order to measure the magnitude and impact of social spending and taxation on poverty and inequality it is necessary to measure the impact of each fiscal intervention on household and individual incomes. To measure these impacts we first define different income concepts that may be compared. It is however

important to note that these income concepts do not take into consideration the behavioral impacts of government intervention and, as such, do not represent the true counterfactuals of incomes in the absence of government intervention. The income concepts utilized are defined as (See Figure 5):

**1. Market Income** is the income that is received by individuals prior to the government's fiscal intervention. This includes monetary and non-monetary income earned through labor and capital as well as money from both public and private contributory pensions.<sup>6</sup>

**2. Net Market Income** is equal to Market Income less the amount individuals pay in direct taxes (such as income taxes, property taxes, etc.) and into the contributory pensions system.

<sup>2</sup> Note that elements from this chapter have been pulled from Lustig (2015).

<sup>3</sup> Lustig, N. and S. Higgins. 2013. "Commitment to Equity Assessment (CEQ): Estimating the Incidence of Social Spending, Subsidies and Taxes. Handbook." *CEQ Working Paper No. 1*, July 2011; revised January 2013. New Orleans, LA.

<sup>4</sup> Household Surveys used were: *Encuesta de Hogares* (Bolivia, 2009), *Pesquisa de Orçamentos Familiares* (Brazil, 2009), *Encuesta Nacional de Ingresos y Gastos Familiares* (Guatemala, 2010), *Encuesta Nacional de Ingresos y Gastos de los Hogares* (Mexico, 2012) and *Encuesta Continua de Hogares* (2009) and *Encuesta de Gasto e Ingresos de los Hogares* (2005-2006) for Uruguay.

<sup>5</sup> Data from national accounts include data from the *Ministerio de Economía y Finanzas Públicas* and the *Dossier de Estadísticas Sociales y Económicas* for Bolivia, the *Brazilian Treasury's* (STN) *Balanço do Setor Público Nacional* (BSPN) and *Anuario Estadístico da Previdência Social* for Brazil, the *Ministry of Health*, *Instituto Guatemalteco de Seguridad Social* (IGSS), the *Ministerio de Finanzas Públicas* and its associated *Sistema Integrado de Información Financiera* (SIAF) for Guatemala, the *Cuenta Pública* for Mexico, and the *Banco de Previsión Social* (BPS), the *Dirección General Impositiva* (DGI), the *Ministerio de Economía y Finanzas* (MEF), the *Ministerio de Desarrollo Social* (MIDES), the *Oficina de Planeamiento y Presupuesto* (OPP), and the *Junta Nacional de Salud* (JUNASA) for Uruguay.

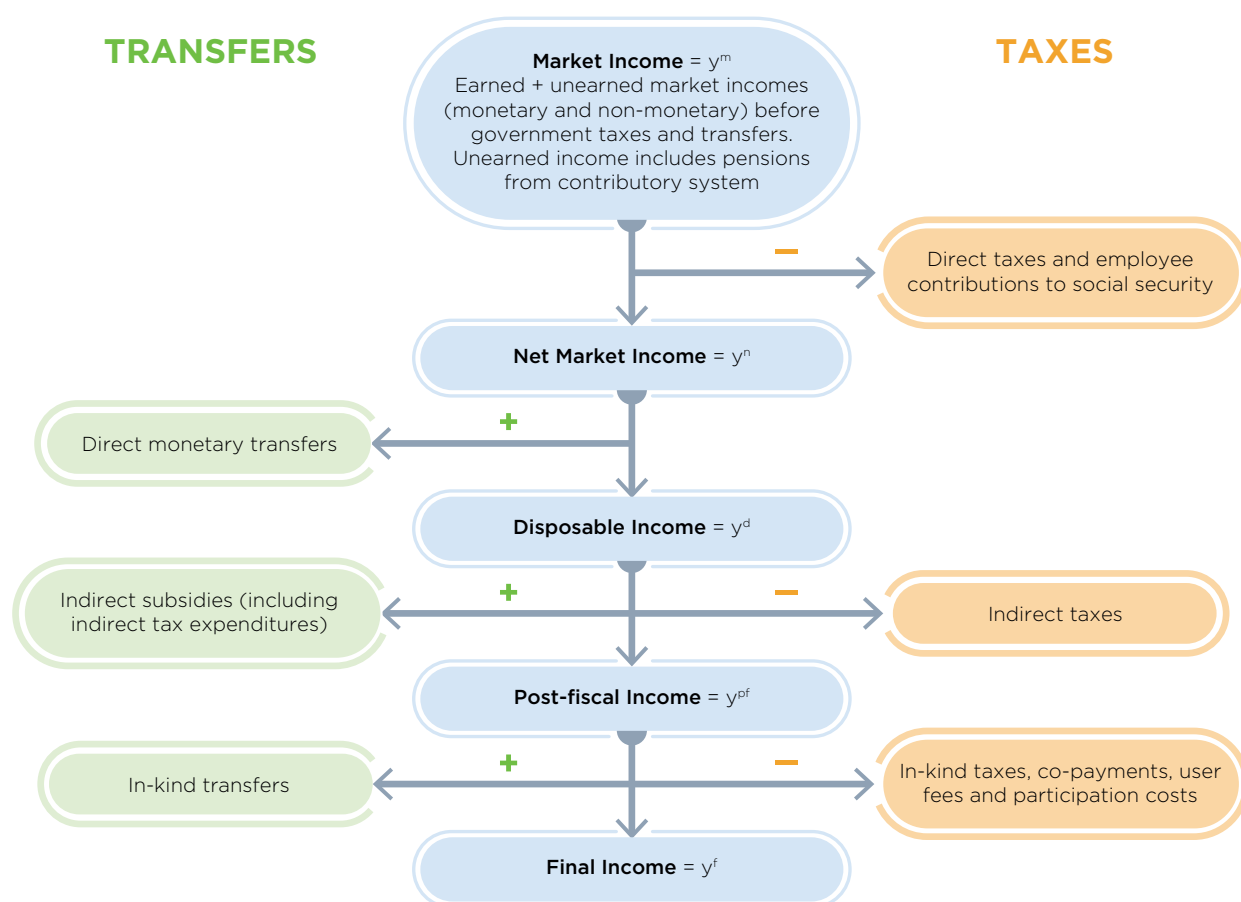
<sup>6</sup> There are debates within the field of fiscal incidence analysis on whether to include contributory pensions as part of Market Income or to consider it as a government transfer, with benefits to considering contributory pensions in both manners. For our purpose, we will consider them to be a component of Market Income.

**3. Disposable Income** is equal to Net Market Income plus all direct transfers to households. Direct transfers include all monetary transfers (such as conditional cash transfers) as well as near cash substitutes (such as food vouchers, food, or clothing). This is approximately equal to the income concept typically utilized in the calculation of poverty and inequality by multilateral institutions.

**4. Post-Fiscal Income** is equal to Disposable Income plus indirect subsidies (i.e., electrical subsidies) minus indirect taxes (i.e., sales taxes).

**5. Final Income** is Post-Fiscal Income plus the monetization of in-kind transfers (such as health and public education) minus in-kind taxes, user fees and participation costs.

**Figure 5. Definitions of Income Concepts**



Source: Lustig, N. and S. Higgins. 2013. "Commitment to Equity Assessment (CEQ): Estimating the Incidence of Social Spending, Subsidies and Taxes. Handbook." CEQ Working Paper No. 1, July 2011; revised January 2013. New Orleans, LA.

The approach used to estimate the incidence of the public provision of health and education used here is the "benefit or expenditure incidence" or "government cost" approach and as such includes some other important methodological distinctions. Government in-kind transfers are valued at the average cost of provision of these public services (minus co-payments or user fees, where they exist). For education, the imputed

value of the benefit is equal to the per beneficiary input cost obtained from administrative data. For example, the average government expenditure per primary school student obtained from administrative data is allocated to households based on the number of children that report attending a public primary school. In the case of health, the approach was analogous: the benefit of receiving healthcare in a public facility is



equal to the average cost to the government of delivering healthcare services. As data on usage and the cost of specific services is not available, health information is taken as the average cost of providing health care services in each country based on information from national accounts. This includes some particular limitations in the analysis of these programs on determining to what extent inequalities are closed. First, it cannot be assumed that transfers of equal values would be used by individuals to obtain these utilities as individuals may value these services differently or have different needs and wants for additional income. A further limitation is that differentiation in the quality of public services provided cannot be quantified (i.e., all individuals who report utilizing a particular public service receive the same size of transfer regardless of differences in the quality of such services).<sup>7</sup>

A fiscal incidence analysis designed to assess how governments reduce the welfare gap between ethno-racial groups needs to include indicators that can capture how inequities across these groups change with fiscal interventions. A necessary first step is to select indicators to measure the ethno-racial divide.<sup>8</sup> Although there are multiple ways in which ethno-racial inequality has been measured, including looking at differences in poverty, access to key services, educational attainment, differences in mean income and political insertion, not all of these measures will be directly impacted by fiscal interventions. As such, the measures that have been selected examine the differences in income across ethno-racial groups and look at how much income inequality exists across ethno-racial lines. These are;

**1. Income Gap:** The ethno-racial gap can be measured by simply taking the ratio of per capita incomes between different groups.

**2. Contribution to Overall Inequality:** The contribution of the ethno-racial income gap to overall inequality can be estimated using a standard decomposable inequality index such as the Theil index.

**3. Poverty:** An indication of ethnic and racial inequity is the extent to which the probability of being poor differs across ethno-racial groups. This can be measured with the incidence or headcount ratios for different ethnic and racial groups.

The above indicators can be estimated for each of the different income concepts that take into account fiscal interventions. In particular, one would like to compare the size of these indicators before taxes and transfers (i.e. Market Income) with their magnitude using each of the other income concepts so as to determine the effects of different policy interventions.

In order to determine the impact of individual taxes and transfers in the ethno-racial space, measures for the impact are necessary. For the purpose of this report, two different measures will be used for determining whether fiscal interventions alleviate, improve or exacerbate ethno-racial inequality in the five countries being analyzed. These are;

**1. Progressivity** refers to the impact of a policy on equalizing incomes between ethno-racial groups. This is done by comparing the distribution of benefits (or payments in the case of taxes) with the income distribution across ethno-racial lines. A transfer is deemed progressive if the share of benefits going to the group with the lower mean income (disadvantaged group) is greater than their share of Market Income, and absolutely progressive if greater than their share of the national population. A transfer is deemed regressive if the share of benefits going to the disadvantaged group is less than their share of Market Income. In the case of taxes, the opposite holds true. A tax is regressive if the share of a tax paid by the disadvantaged group is greater than their share of Market Income and progressive if the share paid is less than Market Income. In other words, a tax or transfer is considered progressive if it equalizes incomes across ethno-racial groups and regressive if it makes incomes more unequal.

<sup>7</sup>In the five countries studied, the monetized value of public services was equal across all regions for education spending and for all countries except for Brazil for the monetization of health. In Brazil, due to data availability, health spending was applied at the state level rather than the national level.

<sup>8</sup>The ethno-racial divide exists well beyond the income or public services space but for the purposes of a fiscal incidence analysis we focus on the latter.

**2. Poverty Convergence/Divergence** refers to the impact of fiscal interventions on either closing or widening the gap in poverty headcount rates across ethno-racial groups, measured as the share of the poor that are either indigenous or African descendant relative to their share of the national population. This will be measured for each set of policy interventions so that we can determine if there has been a convergence or divergence of poverty rates for each of the different income concepts relative to those income concepts that exclude specific policy interventions. Given that Final Income takes into consideration in-kind transfers, particularly in the form of the provision of public health and education services, the impacts of fiscal intervention on poverty rates are not considered when looking at Final Income. This is due to the fact that the in-kind transfers cannot be substituted for other potential needs or wants of individuals or households as they cannot be considered as supplemental disposable income. It is also important to note here that for poverty convergence (or divergence) to occur, fiscal policies must explicitly violate the principle of horizontal equity, or the concept that individuals of the same income level should be treated equally regardless of their characteristics. In other words, if a policy were truly colorblind or horizontally equitable, the probability of a poor individual escaping poverty would be equal regardless of their race or ethnicity and thus, the share of the poor belonging to each ethno-racial category would be unlikely to change given the equal probabilities of benefitting from a given fiscal intervention.

The remainder of this report will utilize the methodology and indicators described above to analyze the impact of government fiscal policy on ethno-racial inequalities in Bolivia, Brazil, Guatemala, Mexico and Uruguay. Given the use of the same methodology for determining the implications of fiscal interventions on closing ethno-racial gaps in these countries, it is possible to draw comparisons between the results of the different countries and to develop a better understanding of practices that benefit indigenous peoples and African descendants and those that supposedly inadvertently exacerbate ethno-racial inequalities.

Chapter

03

Impacts of Taxes and Transfers on Ethno-Racial Inequality and Poverty in Latin America

Large differences across ethno-racial lines exist in the incomes of individuals in Bolivia, Brazil, Guatemala, Mexico and Uruguay. Although, with the exception of Uruguay, indigenous peoples and African descendants account for a large portion of the national population, their share of total income from the labor market and pensions (Market Income), is substantially lower than their

share of the population (See Table 1). These low shares of income reflect problems in access to education and training, as well as discrimination in the labor market, and lower levels of wellbeing among indigenous peoples and African descendants in many countries in Latin America (Ñopo, 2012).

Table 1. Population and Market Income Shares

		Share of Population	Share of Market Income
Bolivia	Indigenous	54.2%	43.3%
Brazil	Afro-Descendant	50.8%	33.4%
	Indigenous	0.4%	0.3%
Guatemala	Indigenous	40.7%	24.4%
Mexico	Indigenous	26.3%	17.5%
Uruguay	Afro-Descendant	3.4%	1.9%
	Indigenous	1.0%	0.7%

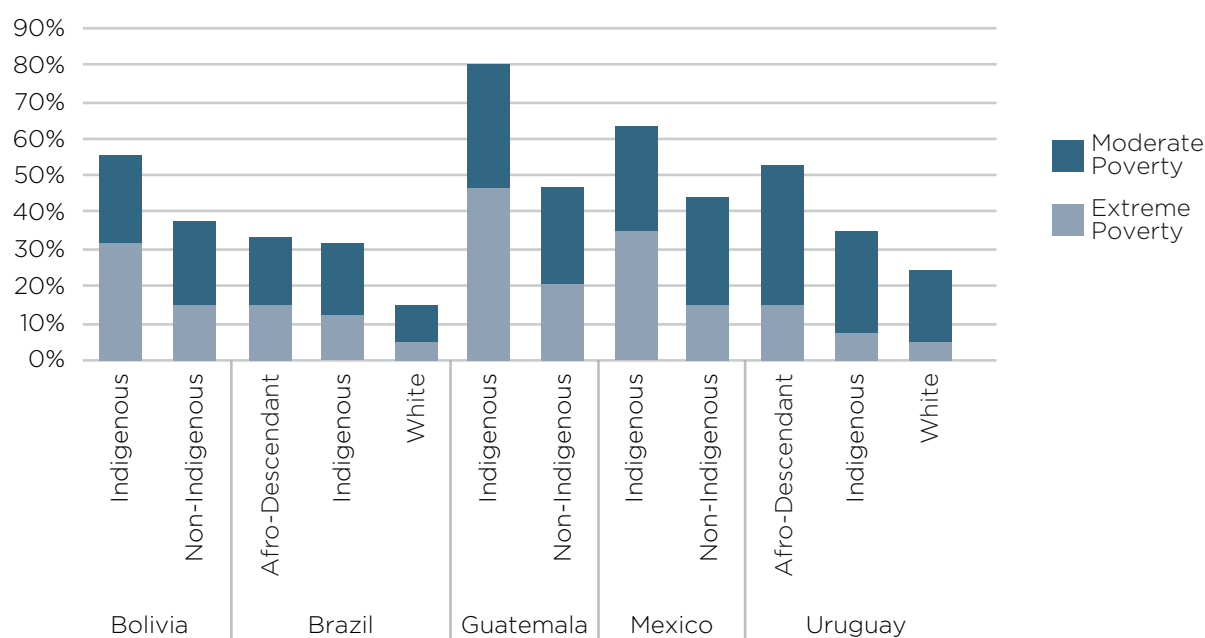
Source: Bolivia (2009): Paz-Arauco et al., 2013 CEQ-IDB; Brazil (2009): Higgins and Pereira, 2013 CEQ-IDB; Guatemala (2010/2011): Cabrera and Moran, 2013 CEQ-IDB; Aranda and Scott, 2016 CEQ-IDB; Uruguay (2009): Bucheli, Rossi and Amabile, 2013 CEQ-IDB.

Note: For information on income shares at each income concept, please refer to Annex 3.

The lower levels of income of African descendants and indigenous peoples in the region are also reflected in large differences in the poverty rates experienced by these segments of the population relative to their non-indigenous and white counterparts (See Figure 6). Extreme poverty rates, based on national poverty lines,<sup>9</sup> for indigenous peoples and African descendants range from 1.57 times higher than the white population for Uruguay's indigenous population to 2.81 times higher for Afro-Brazilians. Similar gaps can be seen in the national moderate poverty rates,<sup>10</sup> with poverty rates at 1.43 (Mexico)

to 2.33 (Brazil's African descendant population) times higher for indigenous peoples and African descendants. Although poverty throughout Latin America has gone down substantially in recent years (World Bank, 2014), these large differences in poverty rates across ethno-racial lines show that the gains have not managed to eliminate ethno-racial inequalities in the region. In fact, despite reductions in poverty for all races in most countries, the gains of the past decade have been greater for the non-indigenous population than for indigenous peoples, both in absolute and relative terms (World Bank, 2016a).

**Figure 6. National Poverty Headcount Rates at Market Income**



**Source:** Author's based on Bolivia (2009): Paz-Arauco et al., 2013 CEQ-IDB; Brazil (2009): Higgins and Pereira, 2013 CEQ-IDB; Guatemala (2010/2011): Cabrera and Moran, 2013 CEQ-IDB; Aranda and Scott, 2016 CEQ-IDB; Uruguay (2009): Bucheli, Rossi and Amabile, 2013 CEQ-IDB.

**Note:** Poverty rates are based on national poverty lines. As such, the specific rates are different in each country and direct comparisons in poverty rates across countries are not possible.

<sup>9</sup> The extreme poverty lines used in this analysis correlate with the extreme poverty lines used by the government or by an in-country leading expert on poverty calculation. In some cases these vary by region or municipality. These are set at \$3.05 for urban areas and \$2.31 2005 PPP/day for rural areas in Bolivia, between \$1.18 and \$2.18 2005 PPP/day in Brazil, \$2.03 2005 PPP/day in Guatemala, between \$5.64 and \$7.94 2005 PPP/day in Mexico and at \$3.35 2005 PPP/day in Uruguay.

<sup>10</sup> These are set at \$5.80 for urban areas and \$4.06 2005 PPP/day in Bolivia for rural areas, between \$2.35 and \$4.37 2005 PPP/day in Brazil, \$3.71 2005 PPP/day in Guatemala, between \$10.51 for and \$16.43 2005 PPP/day in Mexico and at \$7.70 2005 PPP/day in Uruguay.

The significantly lower share of income held by indigenous peoples and African descendants and the higher rates of poverty they experience in Bolivia, Brazil, Guatemala, Mexico and Uruguay highlight the ethno-racial inequalities in these countries. Although these differences in income and poverty rates may be driven by intersectionality and differences in education, location, and gender among other factors, when these types of characteristics are controlled for, Market Income is still subject to ethno-racial inequalities. The level of inequality in the distribution of Market Income due just to the ethno-racial inequalities ranges from 0.96 percent of total inequality in Uruguay to 9.14 percent in Brazil.

Fiscal policy has been an important tool in the arsenal of many Latin American countries in their efforts to combat poverty and inequality. Efforts from the region have led to important innovations in the implementation of fiscal policy, most notably the development of conditional cash transfer (CCT) programs. While CCT programs and Latin American fiscal policy have been heralded as success stories (Economist, 2015; Rawlings and Rubio, 2003) and have been successful in reducing poverty rates in many Latin American countries (World Bank, 2014), it is important to remember that the impacts of fiscal policy in the region on reducing inequality remain modest compared to other countries (See Figure 4).

While there has been an impressive body of research on the impacts of fiscal policy on reducing general inequality and poverty in Latin America (Lustig et al., 2011; World Bank, 2014), including numerous CEQ studies, there are far fewer studies focused on understanding the implications of fiscal policy on ethno-racial inequalities in the region. This chapter examines the impacts of the most common types of fiscal policy, taxation and direct transfers, on reducing ethno-racial inequalities in Bolivia,

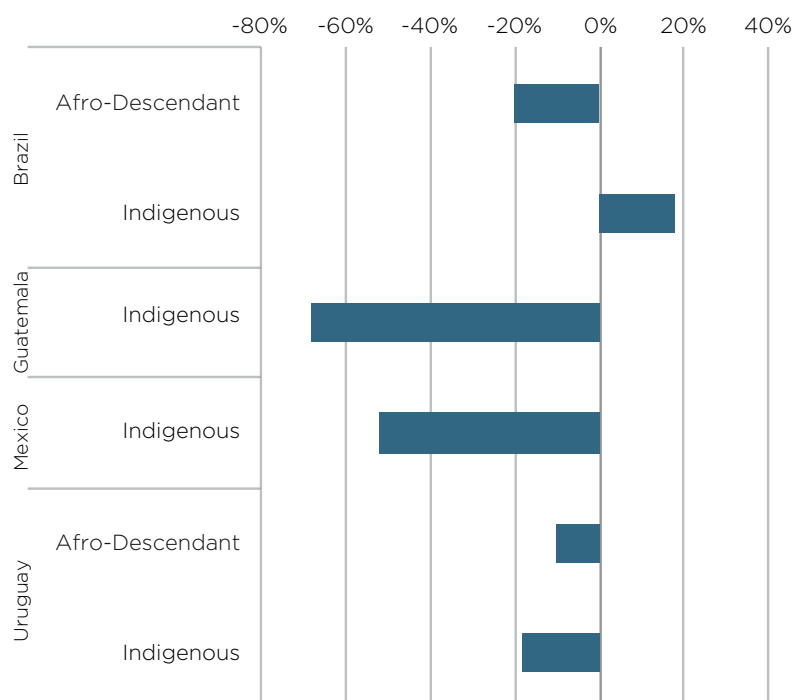
Brazil, Guatemala, Mexico and Uruguay. The remainder of this chapter is divided into four sections. The first section analyzes the impacts of direct taxation on ethno-racial inequality and poverty. This is followed by an analysis of the progressivity and degree of poverty convergence of direct transfers across ethno-racial lines, both at the aggregate level as well as with a particular focus on the role of each nation's flagship CCT program. This will be followed by an analysis of the implications of indirect taxes and transfers across ethno-racial lines in each of the countries. The chapter will conclude with an overview of the impacts of taxes and transfers on reducing ethno-racial inequalities in the five countries.

### **Direct Taxes** <sup>11</sup>

Direct taxation, such as income taxes, represents a small portion of total taxation in many Latin American countries, particularly when compared to the OECD (World Bank, 2014). This is important to note as most direct taxes are progressive, since they often have a sliding scale that increases tax rates for individuals at higher income levels. In addition, governments can use tax revenues to fund transfer and service programs. Conversely, indirect taxation, such as sales taxes, are often regressive (Tanzi, 2013; World Bank, 2014).

Although direct taxation is typically progressive, the implications of direct taxes across ethno-racial lines reveal some interesting anomalies. The impacts of direct taxation on Market Income in nearly all countries considered in our analysis leads to a more equitable distribution of income across ethno-racial lines (See Figure 7). Given the lower shares of income held by indigenous peoples and African descendants in these countries, these findings suggest that the design of the direct taxes generally functions to promote a more equitable distribution of income in the countries that are being analyzed.

<sup>11</sup> It is important to note that Bolivia is not included in the analysis of direct taxation presented in this section. Direct tax rates in Bolivia are however extremely low and as such data on the topic is not collected.

**Figure 7. Ethno-Racial Progressivity of Direct Taxes Relative to Market Income**

**Source:** Authors' based on Bolivia (2009): Paz-Arauco et al., 2013 CEQ-IDB; Brazil (2009): Higgins and Pereira, 2013 CEQ-IDB; Guatemala (2010/2011): Cabrera and Moran, 2013 CEQ-IDB; Aranda and Scott, 2016 CEQ-IDB; Uruguay (2009): Bucheli, Rossi and Amabile, 2013 CEQ-IDB.

**Note:** Values presented in this chart represent share of direct taxes paid by each ethno-racial group relative to the share of Market Income held by this ethno-racial group. As taxes reduce the amount of income held by the population, a negative value (representing paying a smaller share of direct taxes than their share of Market Income), represent a ethno-racially progressive program.

The high levels of ethno-racial progressivity of direct taxes do, however, highlight one of the challenges faced by African descendants and indigenous peoples in Brazil, Guatemala, Mexico and Uruguay; many indigenous peoples and African descendants work in the informal economy. This is particularly true in places such as Guatemala and Mexico, where a large portion of the indigenous population resides in rural settings. In addition to the lower incomes associated with work in the informal sector, these incomes are less likely to be subject to direct taxation. As such, although levels of informality among indigenous peoples and African descendants yield a more ethno-racially progressive direct taxation structure, it also highlights the degree of marginalization faced by these populations.

Although the impact of direct taxes is ethno-racially progressive in the countries being

considered here, this is not the case for Brazil's indigenous population (See Figure 7). This is in direct contrast to the impact of direct taxes on the Market Income of indigenous peoples in Mexico and Guatemala where direct taxation is highly progressive. This difference suggests Brazil's indigenous population is overtaxed relative to their share of Market Income. However, given the small size of Brazil's indigenous population, it is possible that this result may be due to small sample sizes rather than the real impact of direct taxation.

### **Direct Transfers**

The most direct fiscal tool available to governments for reducing poverty and inequality is through direct monetary transfers. Although an important tool, direct transfers represent a relatively small portion of total social spending

in all of the countries considered in this analysis, ranging from 8.3 percent in Guatemala to 28.3 percent in Brazil (See Table 2). Furthermore, conditional cash transfer (CCT)<sup>12</sup> programs that aim to increase use of public services and

reduce poverty in the countries analyzed here, only account for a small portion of total direct transfers in each of these countries, ranging from a mere 2.2 percent of total social spending in Bolivia to 5.8 percent in Guatemala.

**Table 2. Direct Transfers as a Share of Social Spending**

As a Share of Social Spending					
	Bolivia	Brazil	Guatemala	Mexico	Uruguay
Direct Transfers	14.7%	28.3%	8.3%	9.9%	21.3%
Flagship CCT	2.2%	2.4%	5.9%	4.4%	3.6%
Total Social Spending as a share of Total Government Spending	40.0%	28.7%	35.3%	51.2%	34.1%

**Source:** Author's based on Bolivia (2009): Paz-Arauco et al., 2013 CEQ-IDB; Brazil (2009): Higgins and Pereira, 2013 CEQ-IDB; Guatemala (2010/2011): Cabrera and Moran, 2013 CEQ-IDB; Aranda and Scott, 2016 CEQ-IDB; Uruguay (2009): Bucheli, Rossi and Amabile, 2013 CEQ-IDB.

Despite accounting for a relatively small portion of the total budget, direct transfer programs are, in nearly all cases, absolutely progressive in ethno-racial terms, with a substantially larger share of benefits going to indigenous peoples and African descendants than their share of the population (See Figure 8B). The notable exception to this pattern is in the progressivity of direct transfers in Brazil. Although total direct transfers are relatively progressive among African descendants, their impact is ethno-racially regressive for indigenous peoples (See Figure 8A). This is due to the magnitude and lack of access to Brazil's special pensions program among indigenous peoples and African descendants, an issue that will be explored in more depth in the country specific analysis of Brazil. Conditional cash transfer programs are even more ethno-racially progressive, with very large shares of the

benefits being received by indigenous peoples and African descendants making these programs absolutely ethno-racially progressive in all of the cases being analyzed. Given the targeting of these programs specifically towards the poor in most of these cases and the relatively larger shares of indigenous peoples and African descendants living in poverty, the ethno-racial progressivity of CCT programs is to be expected.

The progressivity of direct transfers and CCTs is however somewhat deceiving. As many of the direct transfer and CCT programs in these countries are designed to eradicate poverty, the beneficiaries are predominantly among the poor. Given the discrepancies in poverty rates across ethno-racial lines, programs targeted to the poor appear to be ethno-racially progressive, but poor

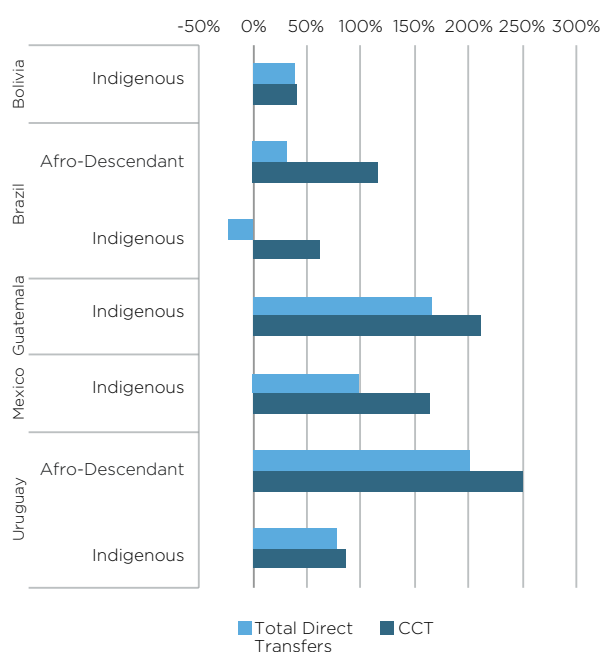
<sup>12</sup> For the purposes of this analysis, the CCT analyzed in each country is the nation's flagship conditional cash transfer program. These are Bono Juancito Pinto and Bono Juana Azurduy in Bolivia, Bolsa Familia in Brazil, Mi Familia Progresiva in Guatemala, Oportunidades in Mexico and Asignaciones Familiares in Uruguay.

indigenous peoples and African descendants may still benefit less than their poor white counterparts. As such, it is necessary to look at the impact of direct transfers on reducing poverty rates across ethno-racial lines in addition to simply looking at the ethno-racial progressivity of direct transfer programs. When one examines the impacts of direct transfers on poverty rates, the apparent ethno-racial progressivity of these programs becomes less apparent. In three out of the five countries analyzed (Bolivia, Brazil and Mexico), direct taxes and transfers reduce moderate poverty among the non-indigenous or white population relatively more than among indigenous peoples and African descendants (See Table 3). Although the moderate poverty

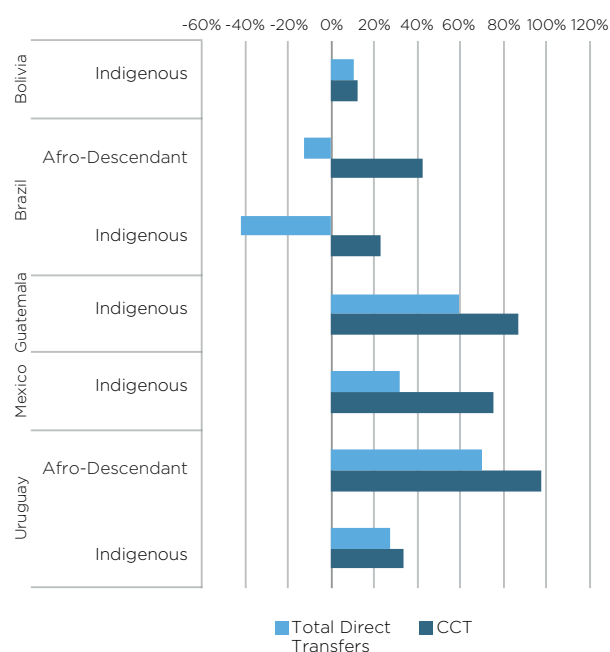
rate among Uruguay's indigenous and African descendant populations is reduced slightly more than the white population, the inverse effect is evident in the effects on extreme poverty. These results show that the impacts of direct taxes and transfers in these countries are not only not pro-disadvantaged group, but that there is a breakdown of the principle of horizontal equity that disproportionately benefits the white population in several of the cases being analyzed. Only Guatemala sees both the extreme and moderate poverty rates for indigenous peoples decline relatively more than the white population. However, in the case of Guatemala, the aggregate reduction in poverty is particularly small.

**Figure 8. Ethno-Racial Progressivity of Total Direct Transfers and Flagship CCT Programs**

**A. Spending Compared to Market Income (Relative Progressivity)**



**B. Spending Compared to Population (Absolute Progressivity)**



**Source:** Author's based on Bolivia (2009): Paz-Arauco et al., 2013 CEQ-IDB; Brazil (2009): Higgins and Pereira, 2013 CEQ-IDB; Guatemala (2010/2011): Cabrera and Moran, 2013 CEQ-IDB; Aranda and Scott, 2016 CEQ-IDB; Uruguay (2009): Bucheli, Rossi and Amabile, 2013 CEQ-IDB.

**Note:** 1) Unlike the data presented in Figure 7, programs with positive values are progressive as transfers increase incomes rather than decreasing them as is the case of taxes. 2) For analysis of the ethno-racial progressivity of individual transfer programs, please refer to the country case studies presented later on in this report.



Although the impacts of direct transfers, particularly of conditional cash transfer programs, are ethno-racially progressive in nearly all of the cases studied here, thus making the distribution of income in the country more equitable across ethno-racial lines, this is not the result of active policies aimed at promoting ethno-racial equality. Rather the pro-poor design of these programs benefits indigenous peoples and African descendants more than their white or

non-indigenous counterparts due to the higher poverty rates experienced by these marginalized segments of the population. When one examines the impacts of these policies on poverty, it becomes clear that direct transfers do little to close the gap in poverty rates between different ethno-racial groups. In fact, in many cases, the impacts of direct transfers actually exacerbate differences in poverty rates across ethno-racial lines.

**Table 3. Impact of Direct Transfers on Poverty by Ethno-Racial Group**

			Market Income Poverty Rate	Disposable Income Poverty Rate	Percentage Change
Extreme Poverty Headcount	Bolivia	Indigenous	31.5%	28.3%	-10.2%
		Non-Indigenous	14.7%	13.4%	-9.3%
	Brazil	Indigenous	12.3%	7.1%	-42.1%
		Afro-Descendant	14.6%	9.3%	-36.3%
		White	5.2%	3.1%	-40.5%
	Guatemala	Indigenous	46.6%	44.0%	-5.6%
		Non-Indigenous	20.6%	20.2%	-2.1%
	Mexico	Indigenous	33.6%	30.3%	-10.0%
		Non-Indigenous	14.7%	13.1%	-10.6%
	Uruguay	Indigenous	8.1%	3.0%	-63.2%
Afro-Descendant		14.1%	4.7%	-66.8%	
White		5.1%	1.6%	-68.2%	
Moderate Poverty Headcount	Bolivia	Indigenous	54.6%	53.1%	-2.7%
		Non-Indigenous	37.4%	36.2%	-3.1%
	Brazil	Indigenous	30.5%	26.3%	-13.7%
		Afro-Descendant	33.1%	29.1%	-12.3%
		White	14.2%	12.2%	-14.2%
	Guatemala	Indigenous	79.3%	78.8%	-0.7%
		Non-Indigenous	45.3%	45.3%	0.0%
	Mexico	Indigenous	62.8%	62.3%	-0.7%
		Non-Indigenous	44.0%	43.4%	-1.4%
	Uruguay	Indigenous	35.4%	30.8%	-13.1%
Afro-Descendant		52.1%	47.5%	-8.9%	
White		24.2%	21.3%	-12.0%	

**Source:** Author's based on Bolivia (2009): Paz-Arauco et al., 2013 CEQ-IDB; Brazil (2009): Higgins and Pereira, 2013 CEQ-IDB; Guatemala (2010/2011): Cabrera and Moran, 2013 CEQ-IDB; Aranda and Scott, 2016 CEQ-IDB; Uruguay (2009): Bucheli, Rossi and Amabile, 2013 CEQ-IDB.

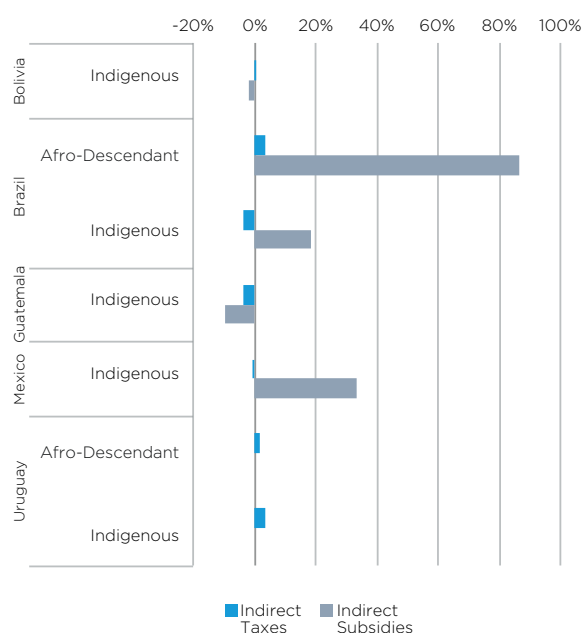
## Indirect Taxes and Subsidies

Although the impacts of direct taxes and transfers on ethno-racial inequality were progressive, the impact on differences in poverty rates across ethno-racial groups was minimal or even exacerbated differences in poverty rates. Another type of fiscal policy utilized by the governments of Bolivia, Brazil, Guatemala, Mexico and Uruguay is indirect taxes and subsidies. Indirect taxes in the form of sales and excise taxes account for a large portion of taxation in many Latin American

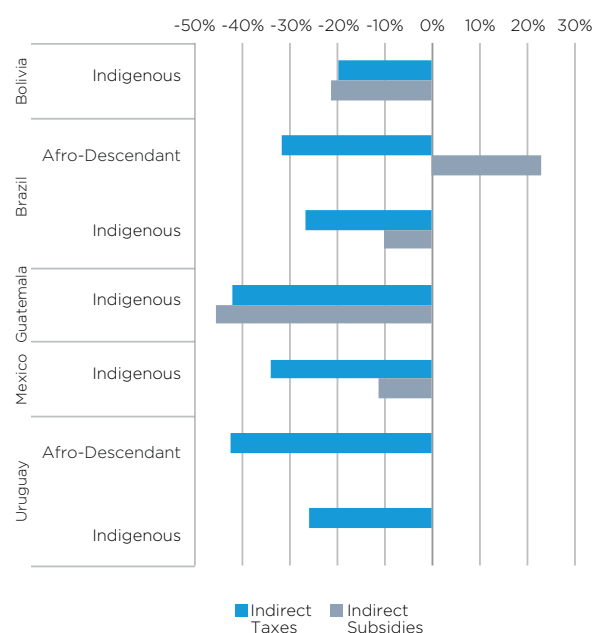
countries (World Bank, 2014). This is noteworthy because unlike direct taxes, indirect taxes are not based on income, and the impacts may adversely affect the poor who are more likely to spend a larger portion of their incomes. Furthermore, unlike many direct transfer programs, subsidies are less likely to be targeted specifically at the poor. Despite these differences in targeting mechanisms, it is important that we understand the impacts of indirect taxation and subsidies on ethno-racial inequality in the cases being analyzed.

**Figure 9. Ethno-Racial Progressivity of Indirect Taxes and Subsidies**

### A. Spending Compared to Market Income (Relative Progressivity)



### B. Spending Compared to Population (Absolute Progressivity)



Source: Authors' based on Bolivia (2009): Paz-Arauco et al., 2013 CEQ-IDB; Brazil (2009): Higgins and Pereira, 2013 CEQ-IDB; Guatemala (2010/2011): Cabrera and Moran, 2013 CEQ-IDB; Aranda and Scott, 2016 CEQ-IDB; Uruguay (2009): Bucheli, Rossi and Amabile, 2013 CEQ-IDB.

Unlike the impacts of direct taxes and transfers, neither indirect taxes or subsidies are progressive across countries (See Figure 9). In both Brazil and Mexico, subsidies are relatively progressive in ethno-racial terms, while being moderately

ethno-racially regressive in Guatemala and having little impact on ethno-racial inequality in Bolivia (See Figure 9a).<sup>13</sup> Although subsidies equalize the income distribution across ethno-racial lines in both Brazil and Mexico, Afro-Brazilians are

<sup>13</sup> It is important to note that indirect subsidies are not analyzed in the case of Uruguay.

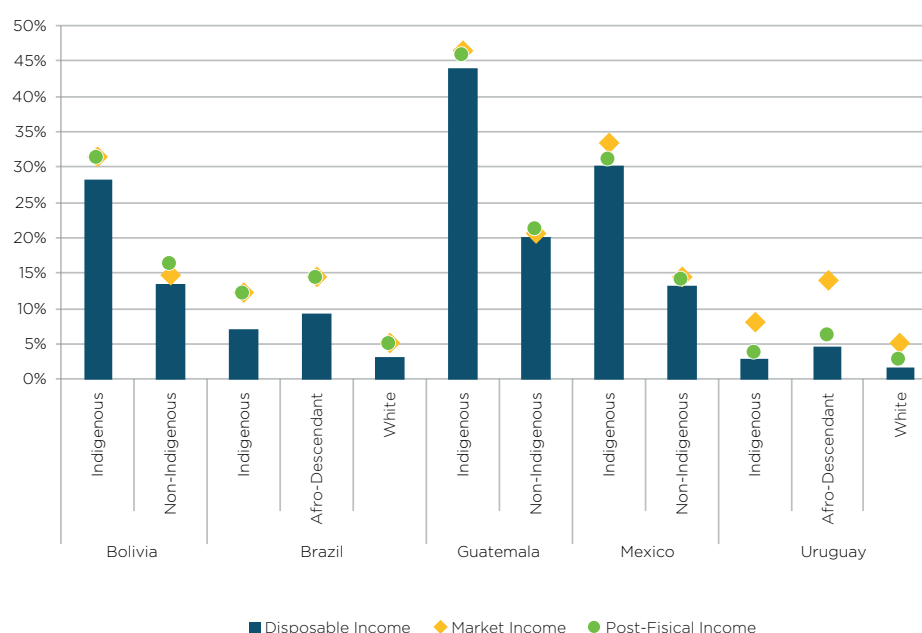
the only group that receives a greater share of subsidies than their share of the population (See Figure 9b). This suggests that although subsidies may equalize the income distribution, the non-indigenous or white population remains more likely to benefit from subsidies than African descendants or indigenous peoples in nearly all of the countries analyzed here.

Although the impacts of subsidies were relatively progressive in some of the countries analyzed, the impacts of indirect taxes on ethno-racial inequality are more regressive. The distribution of indirect taxes across ethno-racial lines closely mirrors the income distribution of these groups (See Figure 9a). Although this implies that indirect taxes are not exacerbating existing ethno-racial inequalities, it shows that the design of these programs does little to benefit the most marginalized populations in these countries.

The impact of direct taxes and transfers on poverty rates for all ethno-racial groups is promising. However, the impact of indirect taxes and subsidies is discouraging, as they revert poverty rates approximately to the same level they showed before any fiscal policy was implemented in all countries except Uruguay

(See Figure 10). This makes sense when one considers that many of the progressive subsidies are targeted specifically at the poor and that the poor are less likely to pay indirect taxes. With the notable exception of Brazil, where the white population sees extreme poverty rates decline by 4.4 percent compared to just 1.1 percent for Afro-Brazilians, the decline in extreme poverty is higher for indigenous peoples and African descendants than their counterparts. However, these declines are modest in most of the countries being analyzed with indigenous extreme poverty rates falling by less than 5 percent in every country except for Mexico and Uruguay, where indigenous extreme poverty rates fell by 7.7 percent and 53.1 percent respectively. Although fiscal policy yielded a convergence in poverty rates across ethno-racial lines, the poverty rate among indigenous peoples and African descendants remains markedly higher than for the white or non-indigenous populations. In fact, post-fiscal policy extreme poverty rates for indigenous peoples and African descendants remain higher than the white or non-indigenous extreme poverty rate before fiscal interventions in every country except for Uruguay. When one examines moderate poverty rates, the poverty headcount at Post-Fiscal Income is moderately higher than the Market Income poverty headcount rates for all groups (See Annex 1).

**Figure 10. Impacts of Direct and Indirect Taxes and Direct Transfers on Extreme Poverty**



**Source:** Authors' based on Bolivia (2009): Paz-Arauco et al., 2013 CEQ-IDB; Brazil (2009): Higgins and Pereira, 2013 CEQ-IDB; Guatemala (2010/2011): Cabrera and Moran, 2013 CEQ-IDB; Aranda and Scott, 2016 CEQ-IDB; Uruguay (2009): Bucheli, Rossi and Amabile, 2013 CEQ-IDB.

## **Conclusions**

Fiscal policy in Bolivia, Guatemala, Mexico and Uruguay manages to reduce ethno-racial inequalities, both in terms of the share of the poor that are either indigenous or African descendant as well as the shares of income held across ethno-racial lines. The decline in ethno-racial inequality that is achieved, however, was minimal. Although differences in poverty rates across ethno-racial groups converged, poverty rates remained substantially higher among indigenous peoples and African descendants than among their white and non-indigenous counterparts. Furthermore, although the fiscal policy was largely progressive and equalized the income distribution across ethno-racial lines, large gaps remain between the different populations. Even in Uruguay, a country that manages to largely reduce poverty and inequality through the use of fiscal policy, closing ethno-racial gaps remains minimal.

In Brazil however, the results of fiscal policy on ethno-racial inequality are less positive. Fiscal policy in Brazil exacerbated existing ethno-racial inequalities, with the share of inequality that can be explained by race increasing by 0.2 percentage points between Market and Disposable Income (See Annex 2). This change is also highlighted in the smaller decline in poverty experienced by Afro-Brazilians relative to the white population. The case of Brazil presented in a subsequent chapter seeks to explain what policies are leading to this result.

In the five countries analyzed fiscal policy has had a relatively small impact on ethno-racial income inequality and poverty convergence. Measures should be taken to ensure that fiscal policies are, if not closing ethno-racial gaps, at least not exacerbating existing ethno-racial inequalities in the country. Increasing the size of programs aimed at the poor while ensuring that indigenous peoples and African descendants have access to these programs and shifting the tax burden from indirect taxes, which were either slightly regressive or had little to no impact on ethno-racial inequality, to more progressive direct taxation methods may help further reduce ethno-racial inequalities in these countries. The implementation of some of these policies may be contentious and difficult due to administrative capacities of the state, reducing ethno-racial inequalities in Bolivia, Brazil, Guatemala, Mexico, and Uruguay would be beneficial to these nations.

# Chapter

# 04

## Impacts of Public Health and Education Spending on Ethno-Racial Inequality

Although direct transfers and taxes have minimal to no effect on reducing ethno-racial inequality in Bolivia, Brazil, Guatemala, Mexico and Uruguay, it is important to note that direct transfers only account for a small portion of government social spending in the five countries analyzed, only accounting for 8.3 to 28.3 percent of social spending (See Table 4). Conversely, spending

on public education accounted for 34.8 to 59.4 percent of social spending and health spending accounted for an additional 25.9 to 44 percent. These expenditures are significantly higher than what is spent on direct transfer programs, particularly those that are targeted specifically at the poor which only account for a portion of total spending on direct transfers.

**Table 4. Breakdown of Social Spending Shares**

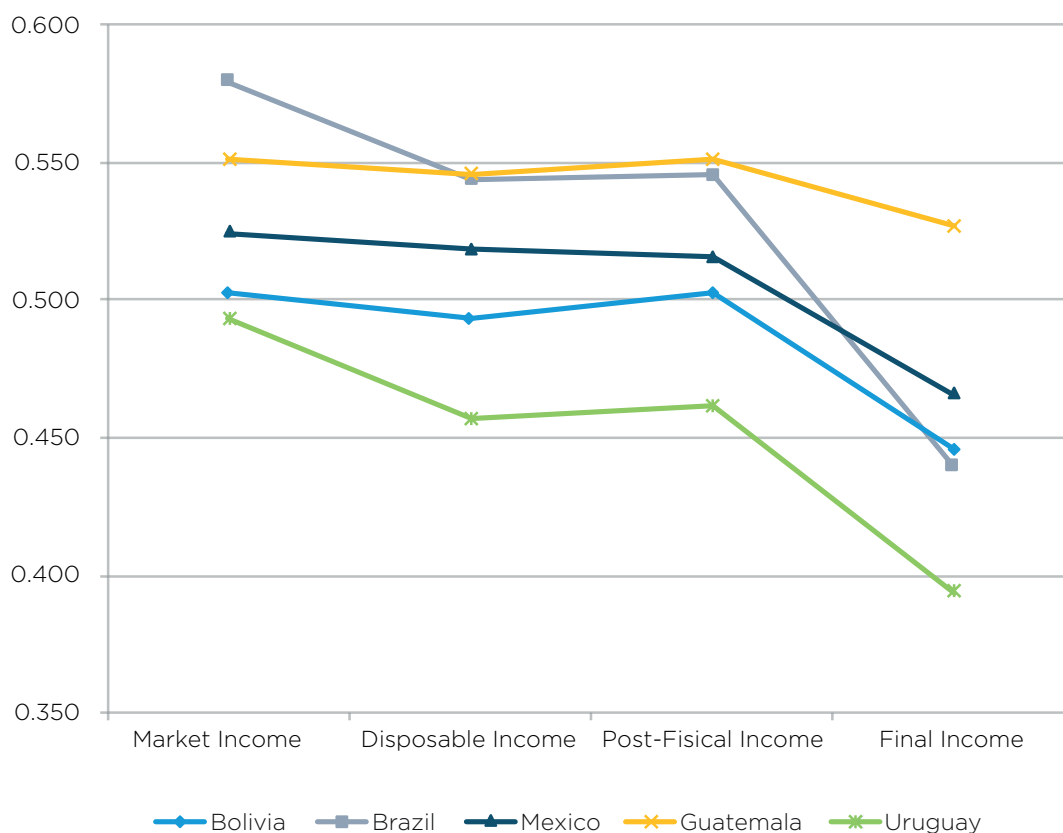
As a Share of Social Spending					
	Bolivia	Brazil	Guatemala	Mexico	Uruguay
Direct Transfers	14.7%	28.3%	8.3%	9.9%	21.3%
Education	59.4%	36.2%	45.1%	48.2%	34.8%
Health	25.9%	35.5%	41.2%	31.8%	44.0%
Other Social Spending	0.0%	0.0%	5.4%	10.1%	0.0%
Total Social Spending as a share of Total Government Spending	40.0%	28.7%	35.3%	51.2%	34.1%

**Source:** Author's based on Bolivia (2009): Paz-Arauco et al., 2013 CEQ-IDB; Brazil (2009): Higgins and Pereira, 2013 CEQ-IDB; Guatemala (2010/2011): Cabrera and Moran, 2013 CEQ-IDB; Mexico (2012): Aranda and Scott, 2016 CEQ-IDB; Uruguay (2009): Bucheli, Rossi and Amabile, 2013 CEQ-IDB.

Looking at the impact of fiscal policy on national inequality reveals that spending on education and health dwarfs the impact of direct transfers and taxes (See Figure 11). While the reductions in inequality due to taxes and transfers are important (as measured by the Gini coefficient), some of the impact of these policies is lost due to these nations' regressive indirect taxation structures (representing the change from Disposable Income to Post-Fiscal Income), particularly in

Bolivia. Comparatively, large in-kind health and education transfers reduce national inequality in all of the countries examined here (represented as the change from Post-Fiscal Income to Final Income). This chapter seeks to determine if this decline in inequality has any impact in the ethno-racial space as well as to explore differentiation in the use of public services by individuals of different ethno-racial groups.

**Figure 11.** Impact of Fiscal Policy on Inequality in Bolivia, Brazil, Guatemala, Mexico and Uruguay (Gini)



**Source:** Author's based on Bolivia (2009): Paz-Arauco et al., 2013 CEQ-IDB; Brazil (2009): Higgins and Pereira, 2013 CEQ-IDB; Guatemala (2010/2011): Cabrera and Moran, 2013 CEQ-IDB; Mexico (2012): Aranda and Scott, 2016 CEQ-IDB; Uruguay (2009): Bucheli, Rossi and Amabile, 2013 CEQ-IDB. Note: In Bolivia, there is no form of direct taxation. As such, analysis begins at Net Market Income rather than Market Income (However, these two concepts are equal).

## **The Impact of Education Spending on Ethno-Racial Inequalities**

Spending on education accounts for a large portion of government social spending in all of the countries analyzed, but the areas that receive the bulk of government spending vary by country (See Table 5). While primary education accounts for a large portion of education spending in all

countries, ranging from 32 to 53.2 percent of total education spending, spending on early childhood education (pre-school and childcare programs), secondary education and tertiary education vary drastically between countries. It is important to note, that in three of the five countries analyzed here, Bolivia, Brazil and Mexico, a larger portion of education expenditure is targeted to tertiary rather than secondary education.

**Table 5. Breakdown of Education Spending**

	Bolivia	Brazil	Guatemala	Mexico	Uruguay
Pre-School	0.00%	5.65%	10.98%	10.32%	2.65%
Primary	41.23%	44.38%	53.22%	31.99%	39.28%
Secondary	10.05%	7.11%	22.49%	20.98%	25.54%
Tertiary	44.16%	15.37%	13.31%	23.30%	21.89%
Other*	4.56%	27.49%	0.00%	13.41%	10.64%

**Source:** Author's based on Bolivia (2009): Paz-Arauco et al., 2013 CEQ-IDB; Brazil (2009): Higgins and Pereira, 2013 CEQ-IDB; Guatemala (2010/2011): Cabrera and Moran, 2013 CEQ-IDB; Aranda and Scott, 2016 CEQ-IDB; Uruguay (2009): Bucheli, Rossi and Amabile, 2013 CEQ-IDB.

**Note:** The other education category includes; adult literacy and child care programs in Bolivia, Special education, adult literacy programs and other sub-functions in Brazil, all post-secondary non-tertiary education in Mexico, and spending on technical education in Uruguay.

**Table 6. Net Enrollment Rates by Level and Ethno-Racial Group  
(For Public and Private Education)**

		Pre-school	Primary	Secondary	Tertiary
Bolivia	Indigenous	51.7%	93.6%	58.5%	22.7%
	Non-Indigenous	54.1%	90.9%	66.3%	40.2%
Brazil	Afro-Descendant	52.2%	93.9%	41.5%	7.8%
	Indigenous	58.6%	91.9%	58.6%	5.0%
	White	53.9%	95.0%	56.9%	21.4%
Guatemala	Indigenous	23.8%	88.0%	35.9%	2.5%
	Non-Indigenous	35.0%	89.2%	54.2%	11.9%
Mexico	Indigenous	71.9%	96.8%	60.9%	16.7%
	Non-Indigenous	66.2%	97.2%	69.9%	26.5%
Uruguay	Afro-Descendant	26.1%	97.1%	59.3%	5.1%
	Indigenous	32.1%	99.6%	65.4%	9.0%
	White	26.8%	97.1%	74.9%	21.9%

**Source:** Author's based on Bolivia (2009): Paz-Arauco et al., 2013 CEQ-IDB; Brazil (2009): Higgins and Pereira, 2013 CEQ-IDB; Guatemala (2010/2011): Cabrera and Moran, 2013 CEQ-IDB; Aranda and Scott, 2016 CEQ-IDB; Uruguay (2009): Bucheli, Rossi and Amabile, 2013 CEQ-IDB.

**Note:** The other education category includes; adult literacy and child care programs in Bolivia, Special education, adult literacy programs and other sub-functions in Brazil, all post-secondary non-tertiary education in Mexico, and spending on technical education in Uruguay.

Ethno-racial gaps in access to services become evident when analyzing net enrollment rates (for all education, public and private) across ethno-racial lines.<sup>14</sup> Although within the primary education system, net enrollment rates are similar across ethno-racial lines, the differentiation across ethno-racial lines becomes more evident at higher levels of education (See Table 6).<sup>15</sup> Within all countries analyzed, net enrollment rates in tertiary education among the white or non-indigenous population are nearly double or more than that of indigenous peoples and/or African descendants.

However, education benefits received by each group are not necessarily reflected through the use of net enrollment rates as in all of the countries analyzed the use of private education is

common. Table 7 presents the share of students (within the target age ranges) that are enrolled in the public education system at each level. For all countries, from pre-school through secondary education, the majority of students of all races or ethnicities are enrolled in public education (See Table 7). This is particularly true for students enrolled in primary education. However, the white or non-indigenous populations are more likely to be enrolled in private education and the share of students enrolled in private school increases with income in all of the countries analyzed. This trend suggests that the wealthier a household becomes, the more likely they are to opt-out of the use of public education in favor of private options. This could be due to concerns in the quality of public education or the perception that private education is more valuable.

<sup>14</sup> Net Enrollment is equal to the number of children within a target age range that are attending school divided by the total number of children within the target age range. Information on the ages used for each level of education in each country can be found in Annex 4.

<sup>15</sup> While there are some cases in Brazil and Uruguay where indigenous peoples have higher net enrollment rates than either the white or African descendant populations, it is important to note the indigenous population in these countries is very small, representing 0.4 and 1.0 percent of the national population respectively. As such the differences in education enrollment rates may be due to the small sample size.



**Table 7.** Share of Students Enrolled in Public Institutions (Within Target Age Range)

		Pre-school	Primary	Secondary	Tertiary
Bolivia	Indigenous	93.9%	96.0%	93.7%	
	Non-Indigenous	86.3%	87.3%	78.9%	
Brazil	Afro-Descendant	77.3%	92.0%	90.5%	29.4%
	Indigenous	89.1%	93.6%	98.7%	0.6%
	White	66.0%	80.7%	78.3%	28.1%
Guatemala	Indigenous	91.7%	95.5%	66.3%	64.3%
	Non-Indigenous	78.5%	84.0%	52.8%	52.9%
Mexico	Indigenous	95.8%	97.8%	96.3%	71.9%
	Non-Indigenous	84.5%	91.3%	88.9%	66.8%
Uruguay	Afro-Descendant	77.5%	86.0%	60.4%	45.6%
	Indigenous	74.8%	86.9%	62.9%	39.5%
	White	56.3%	73.3%	62.1%	55.2%

**Source:** Author's based on Bolivia (2009): Paz-Arauco et al., 2013 CEQ-IDB; Brazil (2009): Higgins and Pereira, 2013 CEQ-IDB; Guatemala (2010/2011): Cabrera and Moran, 2013 CEQ-IDB; Uruguay (2009): Bucheli, Rossi and Amabile, 2013 CEQ-IDB. **Notes:** Information on differences between public and private tertiary education is not available for Bolivia.

Within the tertiary education system, trends between public and private education differ from those of primary and secondary education. Although net enrollment rates are still significantly higher among the white and non-indigenous populations than the indigenous and African descendant populations, the phenomenon of opting-out of public options for the private sector does not occur for tertiary education. This is likely due to the fact that in these countries, the top universities are public institutions.<sup>16</sup> Given this difference, patterns in usage of public universities relative to private universities shift in Brazil and Uruguay with the elite not opting-out of public universities.

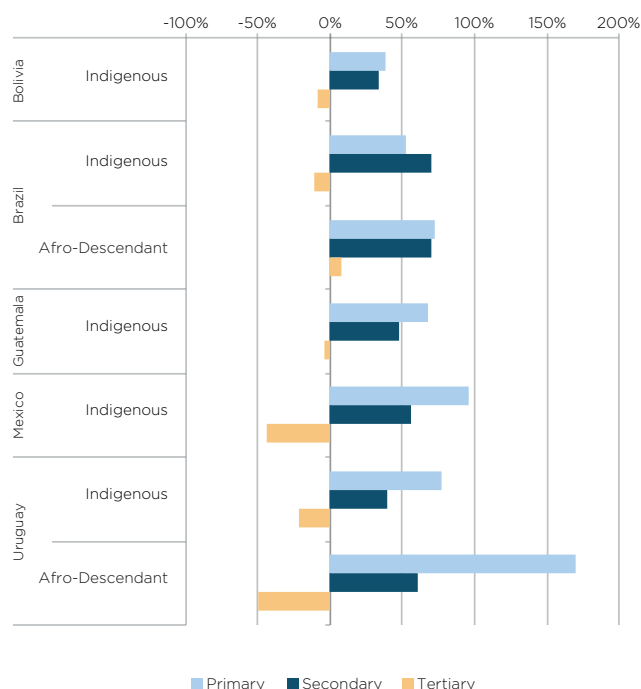
Differences in enrollment and in the usage of public versus private services lead to variations in the progressivity of education spending. In all of

the countries considered expenditures in primary education are absolutely progressive for both indigenous peoples and African descendants, with the share of benefits from public primary education going to disadvantaged populations being higher than their respective shares of the population (See Figure 12.B). Spending on secondary education remained progressive in all countries, with the share of benefits equalizing incomes at post-fiscal measures (See Figure 12.A), but was only progressive in absolute terms in Bolivia, Brazil and Mexico. In Uruguay, expenditures on secondary education were absolutely progressive in the ethno-racial space for the nation's indigenous population but remained only relatively progressive for the country's African Descendant population. This is largely due to lower net enrollment rates and higher usage of private options among the Afro-Uruguayan population.

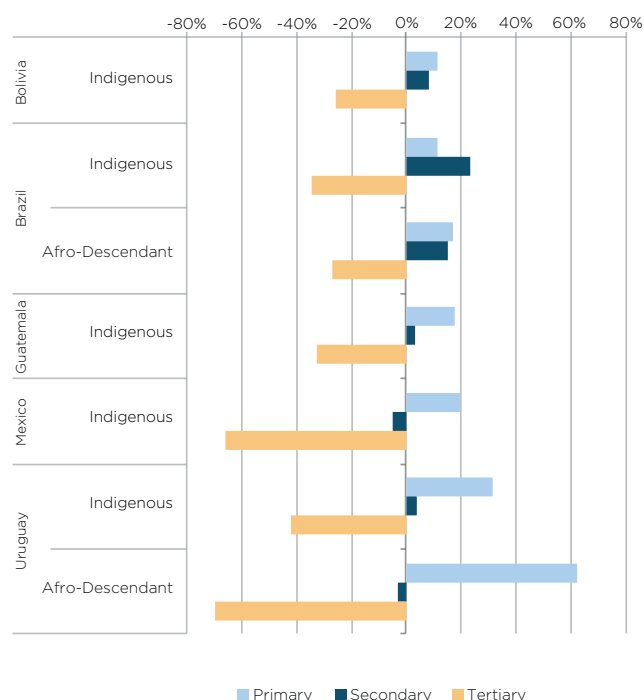
<sup>16</sup> In Brazil, all of the top 10 universities are public (Folha de São Paulo, 2013) and in Bolivia, Guatemala Uruguay, available data reveals that the top university in each respective country is public (QS, 2014).

**Figure 12. Progressivity of Education Spending in the Ethno-Racial Space**

**A. Spending Compared to Post-Fiscal Income (Relative Progressivity)**



**B. Spending Compared to Population (Absolute Progressivity)**



Source: Author's based on Bolivia (2009): Paz-Arauco et al., 2013 CEQ-IDB; Brazil (2009): Higgins and Pereira, 2013 CEQ-IDB; Guatemala (2010/2011): Cabrera and Moran, 2013 CEQ-IDB; Uruguay (2009): Bucheli, Rossi and Amabile, 2013 CEQ-IDB.

Although expenditures in primary and secondary education are ethno-racially progressive in all of the countries analyzed, public expenditure in tertiary education re-enforces existing ethno-racial inequalities in Bolivia, Guatemala, Mexico and Uruguay. In Brazil however, an interesting pattern emerges; although Afro-Brazilians receive a lesser share of tertiary education benefits than their share of the population, spending on tertiary education reduces consumption inequality between Afro-Brazilians and white Brazilians. Afro-Brazilians, who account for approximately 50.8 percent of the national population, receive 34.3 percent of national Post-Fiscal Income. However, this population receives approximately 37.1 percent of the benefits of public tertiary education. Although only slightly progressive in the ethno-racial space, Brazil's public universities are considered among the elite in the nation, with 18 of the nation's top 20 universities being public institutions (Folha de São Paulo, 2013). Given that a degree from one of these universities is highly

prestigious, this could lead to improved ethno-racial equality in the future. It is also important to note that the results presented here are based on data from 2009. Although some universities and state governments started implementing their own affirmative action policies earlier, in 2012 the Brazilian government implemented an affirmative action policy that reserves 50 percent of positions in federal universities for individuals who graduated from a public secondary institution, and about half of these are reserved for Afro-Brazilians in accordance to their percentage of the local population.

Although non-tertiary public education spending appears to be ethno-racially progressive, this may be due to wealthier individuals opting-out of public education options in favor of private education. Therefore, although government expenditure on education creates or equalizes opportunities across ethno-racial lines, questions

about the quality of education services being provided remain. Based on the difference in PISA test scores between public and private schools, the quality of private education appears to be higher (World Bank, 2014). These gaps in educational quality and the lower utilization of private education among marginalized populations could lead to greater ethno-racial inequalities.

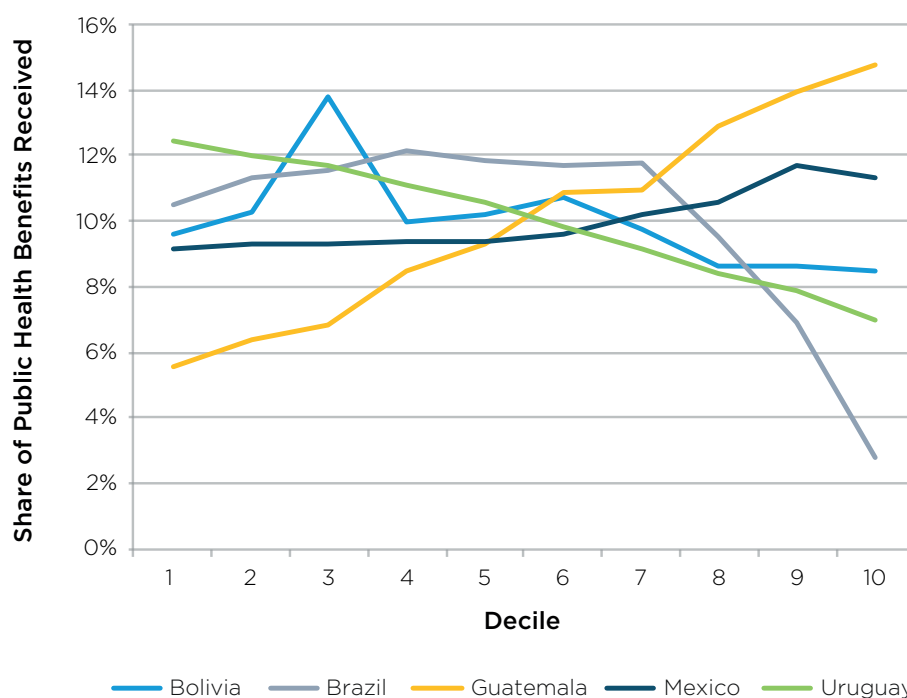
## Impacts of Public Health Spending

The public provision of healthcare is particularly important in the Latin American and Caribbean region. Although there have been significant gains in health indicators, these gains have disproportionately benefitted those with greater resources and better initial health status, and health outcomes for indigenous peoples and African descendants still lag behind the rest of society (Casas et al., 2001). Government spending on healthcare accounts for 25.9 to 44.0 percent of social spending in the five countries analyzed here. In many countries in Latin America, direct or subsidized public health care services are available to the entire population. Despite the universality of health programs, with the exception of Guatemala and Mexico, a trend

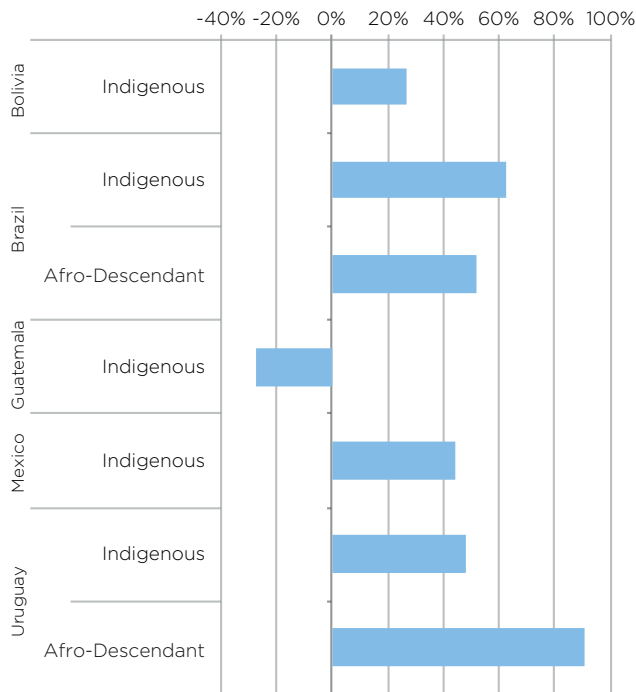
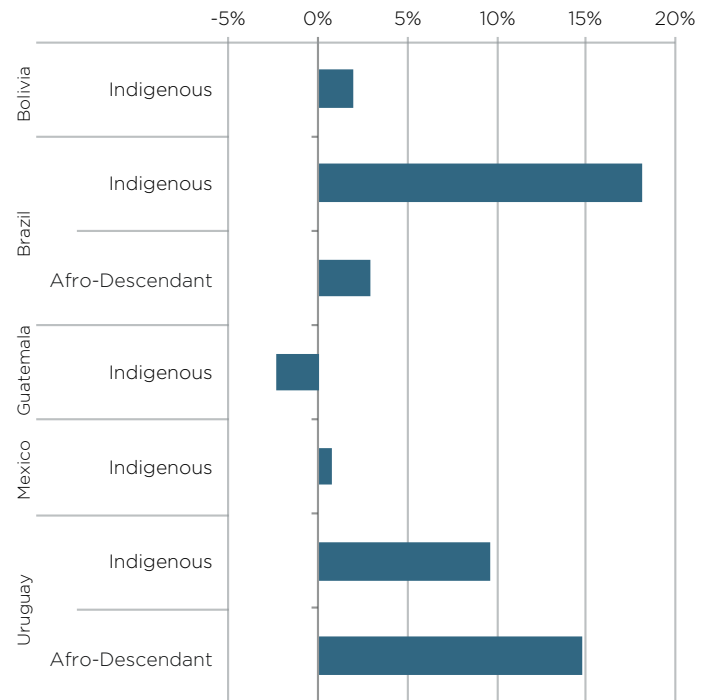
similar to that seen in public education emerges; in many cases as income increases, individuals opt-out of using public health care options in favor of private sector options (See Figure 13). In Guatemala, and to a lesser extent in Mexico, the opposite trend is evident, with benefits from public expenditures on health increasing with income. This means that, regardless of the impact of Guatemala and Mexico's health care spending in the ethno-racial space, the wealthier segments of these countries' society receive more benefits than the poorer segments.

The impact of monetizing the provision of health care services is absolutely progressive in Bolivia, Brazil, Mexico and Uruguay, with the share of public health benefits received by indigenous peoples and African descendants equaling a higher share than their share of the population (See Figure 14.B). However, in Guatemala, the provision of public health services is highly regressive in the ethno-racial space. While indigenous peoples in Guatemala represent approximately 40.7 percent of the national population, they receive only approximately 27.4 percent of healthcare benefits.

**Figure 13. Distribution of Public Health Expenditure by Decile**



Source: Author's based on Bolivia (2009): Paz-Arauco et al., 2013 CEQ-IDB; Brazil (2009): Higgins and Pereira, 2013 CEQ-IDB; Guatemala (2010/2011): Cabrera and Moran, 2013 CEQ-IDB; Uruguay (2009): Bucheli, Rossi and Amabile, 2013 CEQ-IDB.

**Figure 14. Progressivity of Public Health Spending in the Ethno-Racial Space****A. Spending Compared to Post-Fiscal Income (Relative Progressivity)****B. Spending Compared to Population (Absolute Progressivity)**

**Source:** Authors' based on Bolivia (2009): Paz-Arauco et al., 2013 CEQ-IDB; Brazil (2009): Higgins and Pereira, 2013 CEQ-IDB; Guatemala (2010/2011): Cabrera and Moran, 2013 CEQ-IDB; Uruguay (2009): Bucheli, Rossi and Amabile, 2013 CEQ-IDB.

Although expenditures on public health are absolutely progressive in Bolivia, Brazil, Mexico and Uruguay, concerns arise when one examines the horizontal equity of health spending. Health spending in all five of the countries violates horizontal equity. However, rather than poor indigenous peoples and African descendants receiving more benefits than poor whites, poor whites are more likely to take advantage of public health services. Some of this phenomenon may be due to different rates of urbanization among poor households of different ethnicities, particularly between indigenous peoples and non-indigenous populations. However, other factors may also explain some of this phenomenon. A recent study showed links between perceptions of discrimination due to socio-economic status and skin color (Perreira and Telles, 2014), which

may explain some of the lower usage of services among poor indigenous peoples and African descendants.

However, middle class and wealthy indigenous peoples and African descendants use a greater share of the benefits than their affluent white counterparts. This suggests that the opting out phenomenon seen in the public sector among wealthier segments of society in these three countries is lower among affluent indigenous peoples and African descendants than it is among middle class and wealthy white segments of society. A study in rural Mexico showed that indigenous women, regardless of income level, received fewer prenatal services than non-indigenous women within the private healthcare

system. Within the public health system however, the number of services provided was higher, particularly among less poor indigenous women (Barber et al., 2007). If this trend is similar to that faced by indigenous peoples and African descendants in other countries, it may explain why indigenous peoples and African descendants do not opt-out of public services in the same way as the population as a whole. If concerns over the quality of services are well founded, this could lead to greater ethno-racial inequalities among the relatively affluent.

## **Conclusions on Education and Health Spending**

In Bolivia, Brazil, Guatemala, Mexico and Uruguay, the impact of government's direct transfers and taxation on ethno-racial inequality is minimal. Although poverty (if the impact of indirect taxes is excluded) and inequality are reduced in all of the countries studied here, the decline in poverty and inequality is largely colorblind; intra-ethno-racial inequality declines relatively large amounts, but inequalities between different ethno-racial groups persist.

The impacts of education and health spending help reduce some of these ethno-racial inequalities. The inclusion of monetized services into incomes reduces the share of inequality that can be explained by race and ethnicity in two of the five countries studied here, while having little impact on ethno-racial inequality in Bolivia (See Annex 2). Primary and secondary education spending is ethno-racially progressive in all of the countries analyzed here and health expenditures are absolutely progressive in the ethno-racial space for four of the five countries. Despite these gains, spending on tertiary education remains regressive or neutral in the ethno-racial space for almost all of the countries analyzed. Despite this trend, Brazil appears to be making progress in promoting ethno-racial equality in the provision of tertiary education. In addition to spending having been relatively progressive in 2009, the year of the study, the Brazilian government passed an affirmative action law for enrollment in the nation's federal universities. This should have the impact of increasing the share of benefits received by Afro-Brazilians in this sphere.

Public expenditure on health services is progressive across ethno-racial lines in Bolivia, Brazil, Mexico and Uruguay, but regressive in

Guatemala. Although ethno-racially progressive in four of the countries analyzed, the progressivity of these interventions is due to a high degree of progressivity among the affluent rather than the poor. Poor indigenous peoples and African descendants remain less likely to benefit from public healthcare services than the poor white/non-indigenous population in these countries. Some of these differences may be explained by real or perceived discrimination within poor indigenous and African descendant communities. This is an area that should be of concern to governments as it reduces the efficacy of public healthcare spending. Programs aimed at promoting more equitable and inclusive public health practices should be explored.

Although the benefits of monetized in-kind transfers appear to reduce ethno-racial inequalities, concerns over the quality of the public services remain. Many of the programs that are progressive in the ethno-racial space comply with horizontal equity criteria and are progressive, in part, due to high rates of substitution for private services among wealthier segments of society that are predominantly white or non-indigenous. As such, the provision of these services while appearing progressive may in fact re-enforce existing ethno-racial gaps. This is particularly true within primary and secondary education, where despite being progressive, access to tertiary education remains elusive to indigenous peoples and African descendants in many countries in the Americas.

However, in addition to closing present day inequalities, the government provision of these services could have the added effect of reducing ethno-racial inequality among future generations as youth are able to accumulate more human capital and close historical ethno-racial gaps. Improving the quality of services provided as well as increasing access to these services remain an important step in reducing inequality, both inter- and intra-racial, in Bolivia, Brazil, Guatemala, Mexico and Uruguay.

# Case Studies

As discussed in the previous chapters, the impacts of direct fiscal policy in the form of direct transfers and taxation has little to no impact on the level of ethno-racial inequality in the countries being analyzed. Although direct transfers are ethno-racially progressive, this progressivity is largely due to the targeting of programs to the poor. Given the large differences in poverty rates across ethno-racial lines, this makes policies appear to be progressive for African descendants and indigenous peoples despite the apparently colorblind approach to providing transfers to the poor. While the public provision of health and education services is more progressive in nearly all of the countries being analyzed, health care provisions and tertiary education remain less accessible to indigenous peoples and African descendants in many countries. Additionally, the ethno-racial progressivity of these in-kind

services may belie the quality of the services being publicly provided as wealthier individuals opt for privately provided services.

Understanding the implications of taxes, transfers and in-kind services on ethno-racial inequality across countries provides important insights into the design of policies in these countries. However, the aggregate effects of policies in these countries may hide differentiation across policies in programs in each of the countries being studied. To explore the heterogeneity of policies in each of the different countries, the following chapters dive into case studies that analyze the individual programs in each of the five countries being analyzed in this report as well as discussing policies in each of the countries that seek to promote ethno-racial equality and opportunity.

# Chapter

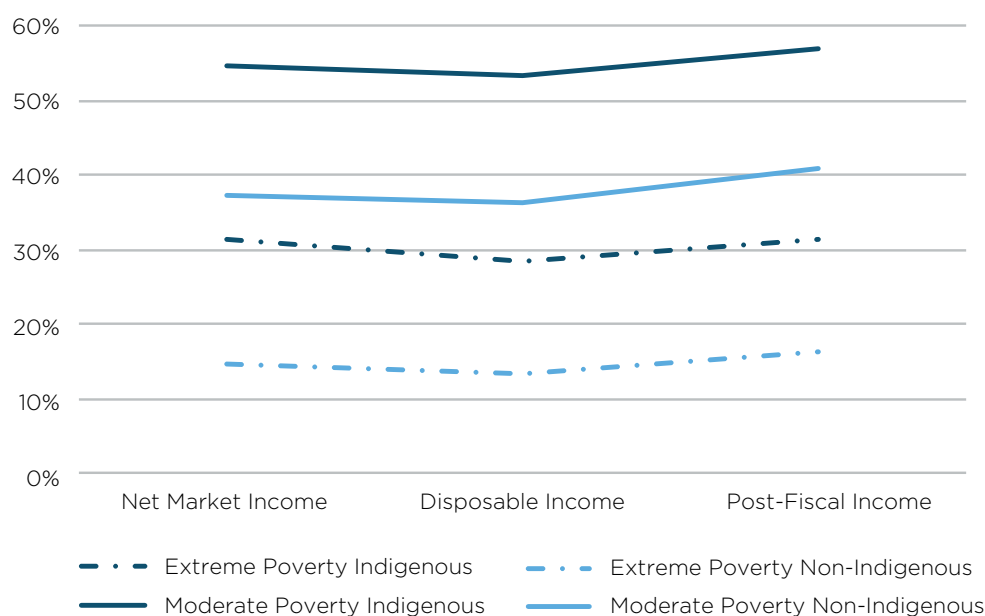
# 05

## Bolivia

Bolivia is a highly heterogeneous population with, approximately 54.2 percent of the population identifying as indigenous in the 2009 Encuesta de Hogares (Paz-Arauco et al., 2013).<sup>17</sup> This population consists of a large number of indigenous peoples, with 39 different indigenous peoples and Afro-Bolivians officially recognized in the 2012 national census. Despite this diversity,

the indigenous population in Bolivia remains highly marginalized, with lower mean incomes and significantly higher levels of poverty than their non-indigenous counterparts, with the indigenous population holding approximately 43.3 percent of Net Market Income and a national extreme poverty rate 16.8 percentage points higher at Net Market Income (See Figure 15).

**Figure 15. Impact of Fiscal Policy on Poverty in Bolivia, 2009**



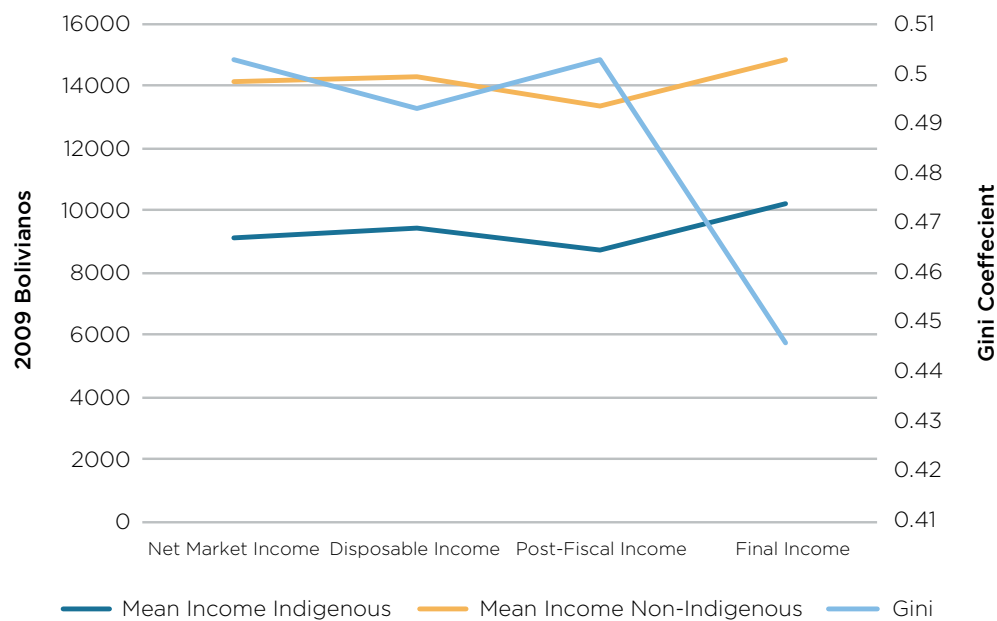
Source: Paz-Arauco et al., 2013 CEQ-IDB.

<sup>17</sup> It is important to note that the measuring size of the indigenous population in Bolivia has proven particularly subject to differences in question wording and the political situation in the country, with the share of the population self identifying as indigenous dropping from 62 percent in the 2001 Census to 40.3 percent in the 2012 Census (IDB, 2014).

Government attempts to reduce poverty through fiscal policy are largely ineffectual, particularly with regards to erasing inequalities in poverty rates across ethno-racial lines. In fact, moderate poverty rates for both non-indigenous and indigenous peoples are higher at Post-Fiscal Income than they are at Net Market levels, growing by 2.3 percentage points for the indigenous population and 3.5 percentage points for the non-indigenous population (See Figure 15). While this difference does represent a convergence in the poverty rates experienced by indigenous and non-indigenous populations, the increase in the poverty rate between Net Market Income and Post-Fiscal Income represents a problem faced by the poor across ethno-racial lines.

A similar story emerges when one examines the impacts of fiscal policy on the mean incomes of Bolivians across ethno-racial lines and on general inequality in the country (See Figure 16). The increases in mean incomes due to government transfers are more than erased for both indigenous peoples and the non-indigenous population, with mean incomes for Net Market Income higher than those for Post-Fiscal Income among both populations. Although the monetization of public services drastically reduces overall inequality in Bolivia, with the Gini coefficient moving from .503 to .446 between Post-Fiscal and Final Income, the impact on the gap in mean income levels of indigenous and non-indigenous peoples is minimal. Although the ratio of income levels decreases, the real increase in mean incomes as a result of this process is actually greater for the nation's non-indigenous population.

**Figure 16. Impact of Fiscal Policy on Mean Incomes and Inequality in Bolivia, 2009**



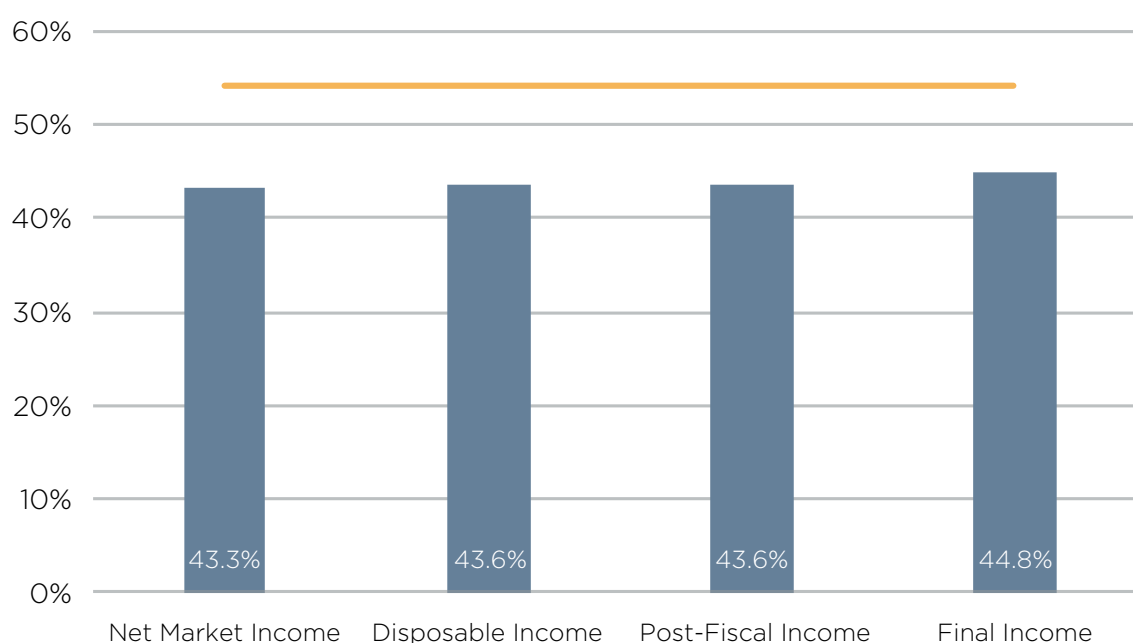
Source: Paz-Arauco et al., 2013 CEQ-IDB.



The minimal impacts of fiscal policy in Bolivia can be further emphasized by examining the share of national income held by indigenous population at the various income concepts (See Figure 17). Despite representing the majority of the national population, indigenous peoples hold 43.3 percent of Net Market Income. Although the impacts of direct transfers increase the share of income held, the change is minimal with an increase in the share of national Disposable Income held by Bolivia's

indigenous peoples increasing by less than one half of a percentage point. Although the impact of indirect taxes and transfers is insignificant, including monetized public health and education services does not drastically change the share of national income held by indigenous peoples, with the total impact of all fiscal policy only equalizing the distribution of income across ethno-racial lines by 1.5 percentage points.

**Figure 17. Impact of Fiscal Policy on Ethno-Racial Income Shares in Bolivia, 2009**



Source: Paz-Arauco et al., 2013 CEQ-IDB.

Despite the unimpressive progress of Bolivia's fiscal policy at equalizing income and poverty rates across ethno-racial lines, several of Bolivia's fiscal interventions are absolutely progressive in ethno-racial terms (See Figure 18). Both of the nation's conditional cash transfer programs, *Bono Juancito Pinto* and *Bono Juana Azurduy*, are absolutely progressive in ethno-racial terms, with the indigenous population receiving 60.2 and 74.6 percent of total benefits in each of the respective programs. However, both of these programs are relatively small, only accounting for a total of 14.9 percent of the national spending

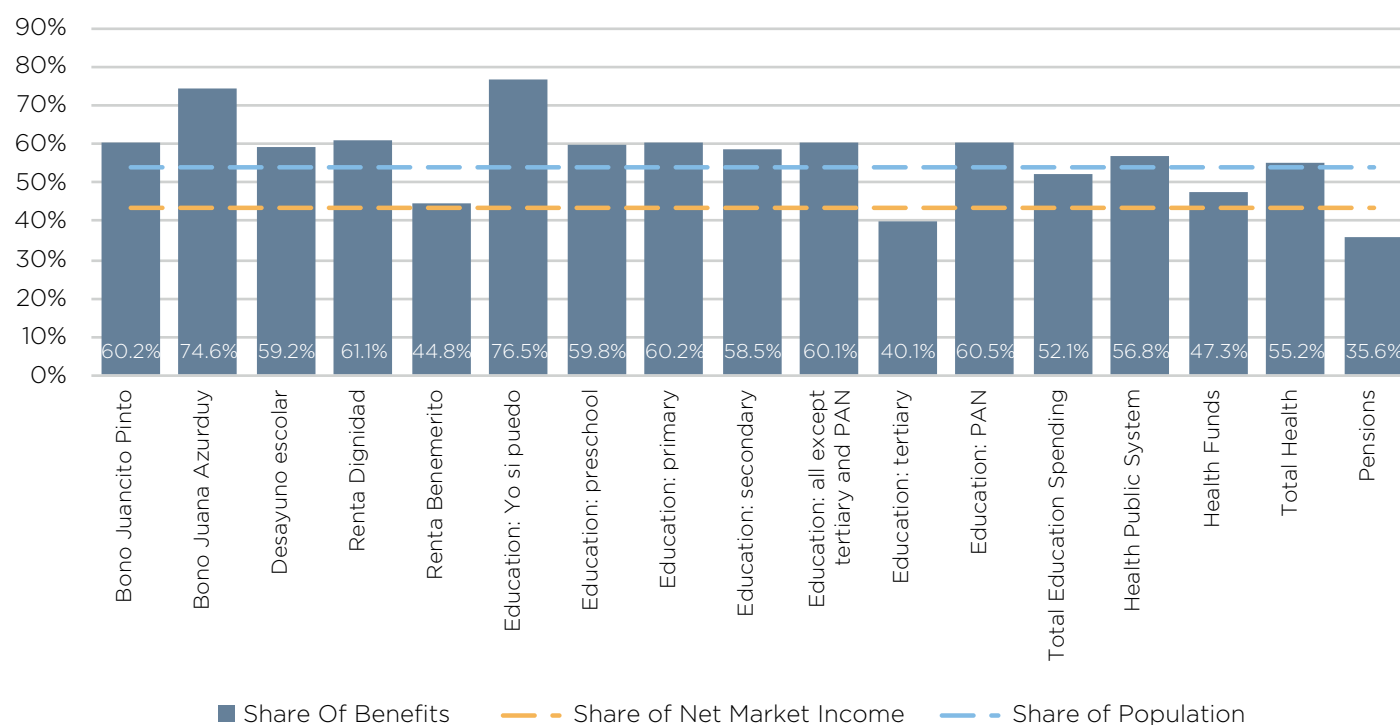
on direct transfers (which itself only accounts for 14.7 percent of social spending) or approximately 0.3 percent of Bolivia's GDP. The ethno-racial progressivity of programs specifically targeted at the poor should not, however, be surprising given the significantly higher poverty rates among indigenous peoples in Bolivia. The nation's school breakfast program, *Desayuno Escolar*, is also absolutely progressive in the ethno-racial space, with indigenous peoples receiving 59.2 percent of total expenditures. However, similar to *Bono Juancito Pinto* and *Bono Juana Azurduy* the budget for this program is relatively small.

Bolivian spending on different pensions programs presents a less clear story in ethno-racial terms. The *Renta Dignidad* program, which is targeted to all Bolivians over the age of 60, is absolutely progressive, with indigenous peoples receiving approximately 61.1 percent of total benefits. This is particularly important as *Renta Dignidad* accounts for the lion's share of Bolivia's spending on direct transfer programs (68.1 percent). While this plays an important role in reducing ethno-racial inequality in Bolivia, it should be noted that the universal design of these programs highlights differences in age structures across ethno-racial groups rather than a direct effort on the part of the government to reduce ethno-racial inequalities.

*Renta Benemerito*, which targets veterans and widows of the 1930s Chaco War, is essentially neutral in ethno-racial terms, with only 44.8 percent of benefits going to indigenous peoples relative to the 43.3 percent of Net Market Income held by this population. Although the budget

for *Renta Benemerito* is significantly smaller than that of *Renta Dignidad*, the average size of the benefit received by recipients of *Renta Benemerito* is more than six and a half times higher than that of *Renta Dignidad*. This in turn reduces the ethno-racial progressivity of pension programs among older Bolivians. Furthermore, the subsidized contributory pension program in the country is ethno-racially regressive, with only 35.6 percent of benefits going to indigenous peoples. One possible driver of the regressivity of the Bolivian contributory pension system may be differences in previous levels of formality between indigenous and non-indigenous Bolivians. Given indigenous peoples were less likely to be employed in the formal economy, they are less likely to receive retirement benefits from the government. This poses a problem for indigenous peoples as it requires indigenous households to seek alternative means of supporting elderly individuals rather than having the support of the state.

**Figure 18. Progressivity of Fiscal Spending and Taxation in Bolivia, 2009**



Source: Paz-Arauco et al., 2013 CEQ-IDB.

85.3 percent of Bolivia's total social expenditure comes in the form of public expenditure on health and education services and leads to the vast majority of the redistribution of income across ethno-racial lines. Education expenditure, which accounts for over half of Bolivia's social expenditure is relatively progressive, with 52.1 percent of education benefits going to indigenous peoples (See Figure 18). Public education on preschool, primary and secondary education are all absolutely progressive and together account for 53.7 percent of Bolivia's education expenditure. The ethno-racial progressivity of Bolivia's education expenditure is further bolstered by the nation's childcare program, PAN. 60.5 percent of the benefits of this program are received by the nation's indigenous population. However, as noted in Chapter 4, the ethno-racial progressivity of public primary and secondary education spending is bolstered by the fact that a larger portion of the non-indigenous population is likely to opt out of public education services in favor of private options. Thus, although education spending is ethno-racially progressive, questions remain about the quality of public education if wealthier non-indigenous families are opting to enroll their students in private institutions.

Additionally, despite the ethno-racial progressivity of primary, secondary and pre-school education programs, Bolivia's spending on tertiary education is ethno-racially regressive, with only 40.1 percent of benefits going to indigenous peoples. This is particularly troubling given that 44.2 percent of Bolivia's total education spending is on tertiary education. This is not only troubling in terms of exacerbating current ethno-racial consumption inequality, but also in that lower levels of tertiary enrollment among indigenous peoples relative to the non-indigenous population may lead to increasing income inequality among future generations.

The distribution of benefits from public expenditure on health closely mirror the distribution of population across ethno-racial lines, with 55.2 percent of total health spending going to indigenous peoples. Although the absolute ethno-racial progressivity of total health expenditure implies that access to public health services is similar across ethnic lines, questions remain about the quality of health services and of differentiation in the access to quality health services. Given that indigenous peoples in Bolivia are more likely to reside in rural areas, the quality and types of services provided to the indigenous

population may be different than those available to non-indigenous and urban residents.

Although many of Bolivia's fiscal policies are ethno-racially progressive, the large gaps between indigenous and non-indigenous people in the country are hardly affected. This is largely due to the overall ineffectiveness of Bolivia's fiscal policy at reducing poverty and redistributing income. The scale of many of Bolivia's fiscal interventions is minimal, both in terms of the size of transfers and as a share of total government expenditure. Although there is a modest redistribution of income across ethno-racial lines and the ratio of indigenous to non-indigenous poor decreases, these gains are minimal. Furthermore, although the share of the poor who self-identify as indigenous declines as a result of Bolivia's fiscal policy, the rate of poverty for both indigenous peoples and the non-indigenous population actually increases. If the Bolivian government wishes to improve ethno-racial equality in the country as well as reduce overall poverty and inequality, it is critical that the government increase the size of transfers and the quantity of spending devoted to reducing poverty and inequality. An additional consideration should include providing pension programs targeted more specifically towards the elderly poor and for those who worked outside of the formal labor market. Finally, providing further access and assistance for indigenous youth to pursue a tertiary would help to increase the ethno-racial progressivity of education spending and may lead to improvements in the future distribution of income across ethno-racial lines.

# Chapter

# 06

## Brazil

Brazil is one of the most ethnically diverse countries in Latin America, with a large African descendant population, an important indigenous population and descendants from many parts of Europe, the Middle East and the Far East. With 50.7 percent of the national population identifying as Afro-Brazilian<sup>18</sup> in the 2010 national census (IBGE, 2010), Brazil is home to the vast majority of Latin America's African descendent population (PERLA, 2013). Although indigenous peoples only accounted for 0.4 percent of the national population in the last census, this was still over 700,000 self-identified indigenous individuals residing in the country, a large and significant number (IBGE, 2010). However, Afro-Brazilians and indigenous peoples remain among the most marginalized segments of Brazilian society. These populations are faced with lower labor market outcomes, lower levels of human capital accumulation and higher rates of poverty.

In recent years, the Brazilian government has introduced several programs that aim to promote ethno-racial equality in the country. One of the most notable examples of this was the 2012 introduction of affirmative action policies that aim to promote the number of Afro-Brazilians accepted into Brazil's elite federal universities. To further provide opportunities for the nation's African descendant program, the government passed *Lei No 12.990* to increase Afro-Brazilian representation in the country's public service.

These programs and others have provided opportunities, yet much more work remains to be done in promoting ethno-racial equality in Brazil.

In addition the affirmative action programs that have been implemented, the Government of Brazil has implemented various fiscal programs that seek to reduce poverty and boost opportunity in the country. The Brazilian government has received praise for the implementation of its innovative CCT programs and for the rapid reduction in poverty that the country has seen since the turn of the millennium (Economist, 2015). However, the impacts of Brazilian fiscal policy at reducing ethno-racial inequalities has been modest and faces a number of setbacks due to the ethno-racial regressivity of particular fiscal interventions.

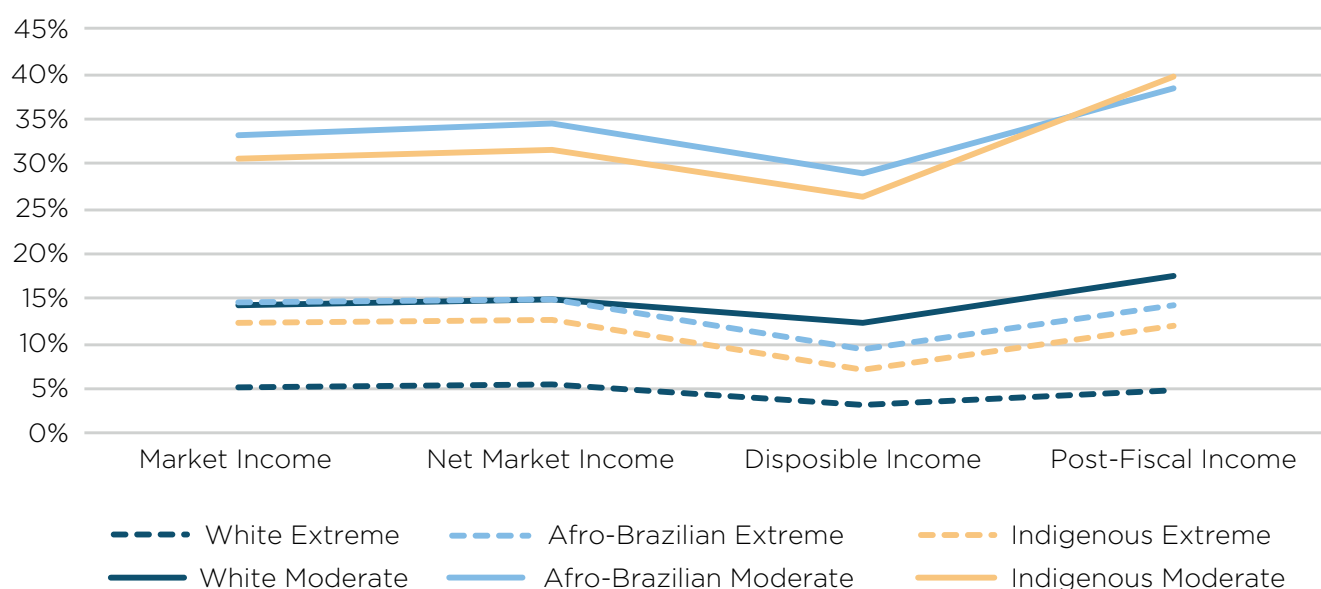
Although Brazil's direct transfer programs reduce poverty and the ethno-racial gaps in poverty rates, these gains are largely erased by high levels of indirect taxes. This is particularly true when one looks at the impact on moderate poverty in the country. Levels of extreme poverty among Brazil's indigenous peoples and African descendants are similar to the moderate poverty rates experienced by the nation's white population, while the Afro-Brazilian and indigenous moderate poverty rates are nearly twice that of the white population (See Figure 19). These facts highlight the large

<sup>18</sup> Following the definitions utilized by the Brazilian government, Afro-Brazilians are defined here as all individuals who self-identified as either Pardo (Brown) or Preto (Black) in the national census.

ethno-racial inequalities evident in the Brazilian labor market. Furthermore, although the absolute percentage point decline in Afro-Brazilian and indigenous poverty rates is greater than that of their white counterparts, the total impact of the Brazilian government's direct transfer programs widens the ethno-racial gap by increasing the share of Afro-Brazilians living in poverty relative to their white counterparts. In fact, moderate poverty among the white population is reduced by 14.2 percent compared to 12.3 and 13.7 percent among Afro-Brazilians and indigenous peoples, respectively. When one takes into account the impacts of indirect taxes, a more troubling story emerges. Although the total impact of fiscal interventions, looking at the difference between

Market and Post-Fiscal Income, is positive (in reducing poverty), the impact is greatest among the white population, with a reduction of 4.4 percent compared to 1.1 and 2.4 percent among Afro-Brazilians and indigenous peoples, respectively. However, moderate poverty rates across all ethno-racial groups are higher at Post-Fiscal Income than at Market Income. Although poverty rates increase across all ethno-racial groups, the rate is markedly higher for indigenous peoples than other groups, with poverty increasing by 30.4 percent between Market and Post-Fiscal Income compared to 16.3 and 22.6 percent among Afro-Brazilians and the white population, respectively.

**Figure 19. Impact of Fiscal Policy on Poverty in Brazil, 2009**

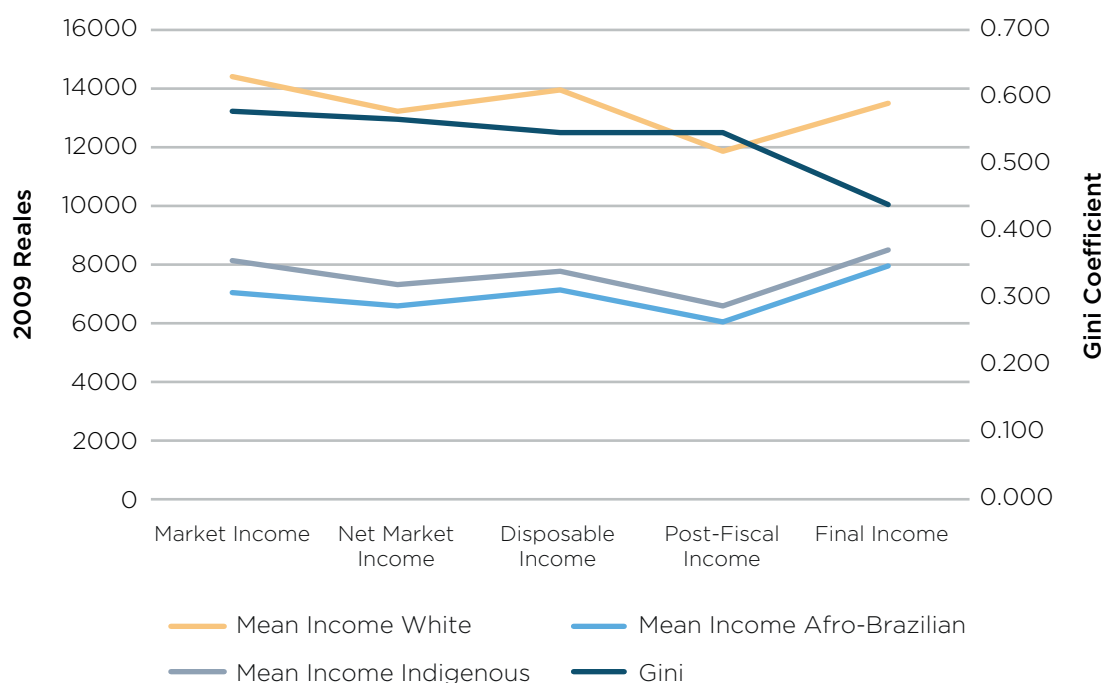


Source: Higgins and Pereira, 2013 CEQ-IDB.

Although indirect taxes increase levels of poverty across all ethno-racial groups, their impact does not erase the reductions of inequality in the country (See Figure 20). Inequality in Brazil is reduced through the implementation of all taxes and transfer programs, with the Gini coefficient falling from 0.579 at Market Income to 0.546 at Post-Fiscal Income. Ethno-racial inequalities also decline as a result of these policies with the mean income of Afro-Brazilians going from 48.8 percent of that seen among the white population at Market Income to 51.2 percent at Post-Fiscal Income. Although the indigenous population's mean income stays roughly equivalent relative to

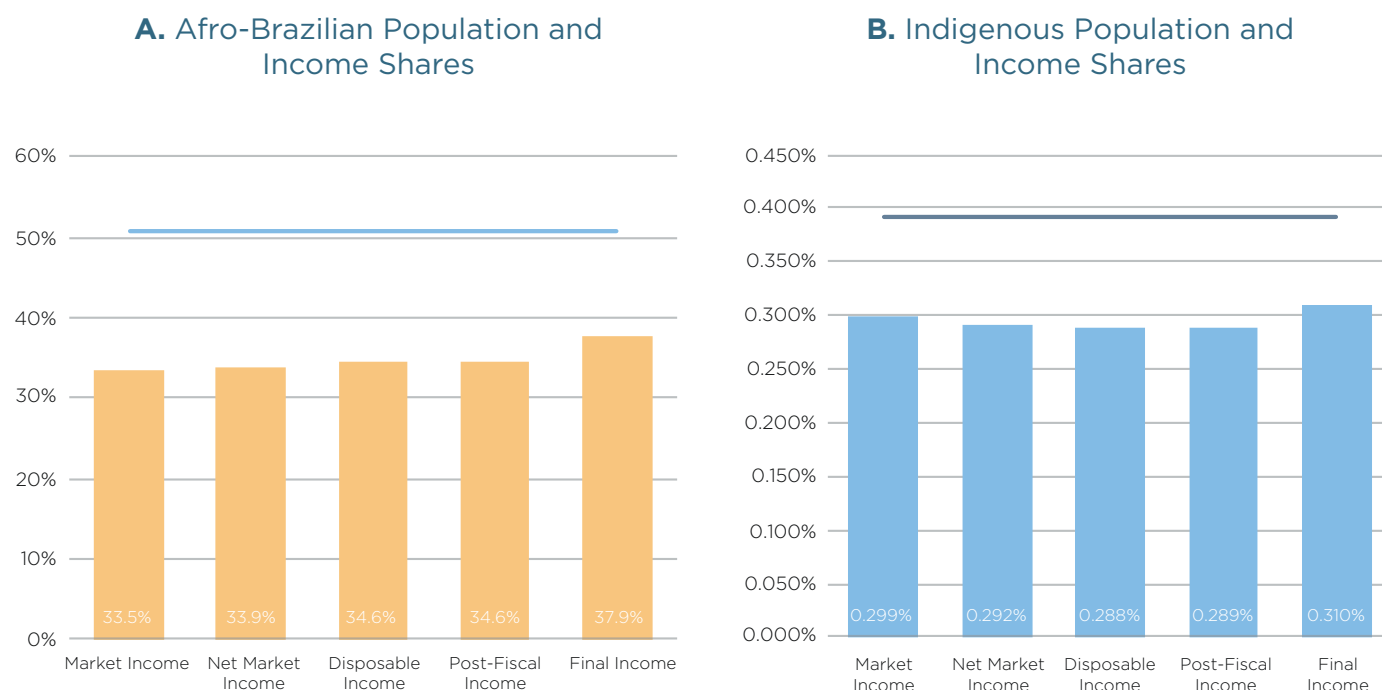
the white population between Market and Post-Fiscal Income, the equalization of Afro-Brazilian and white income marks an important reduction in ethno-racial inequalities. The monetization of the public health and education services further improves equality in Brazil with the Gini coefficient declining to 0.439. Additionally, the mean incomes of Afro-Brazilians and indigenous peoples increase relative to the white population with mean incomes at 59.1 and 62.7 percent, respectively, of the white population at Final Income. Although large income inequalities still exist, the impact of fiscal policy on mean incomes across ethno-racial lines in Brazil is important.

**Figure 20. Impact of Fiscal Policy on Mean Incomes and Inequality in Brazil, 2009**



Source: Higgins and Pereira, 2013 CEQ-IDB.

**Figure 21. Impact of Fiscal Policy on Ethno-Racial Income Shares in Brazil, 2009**



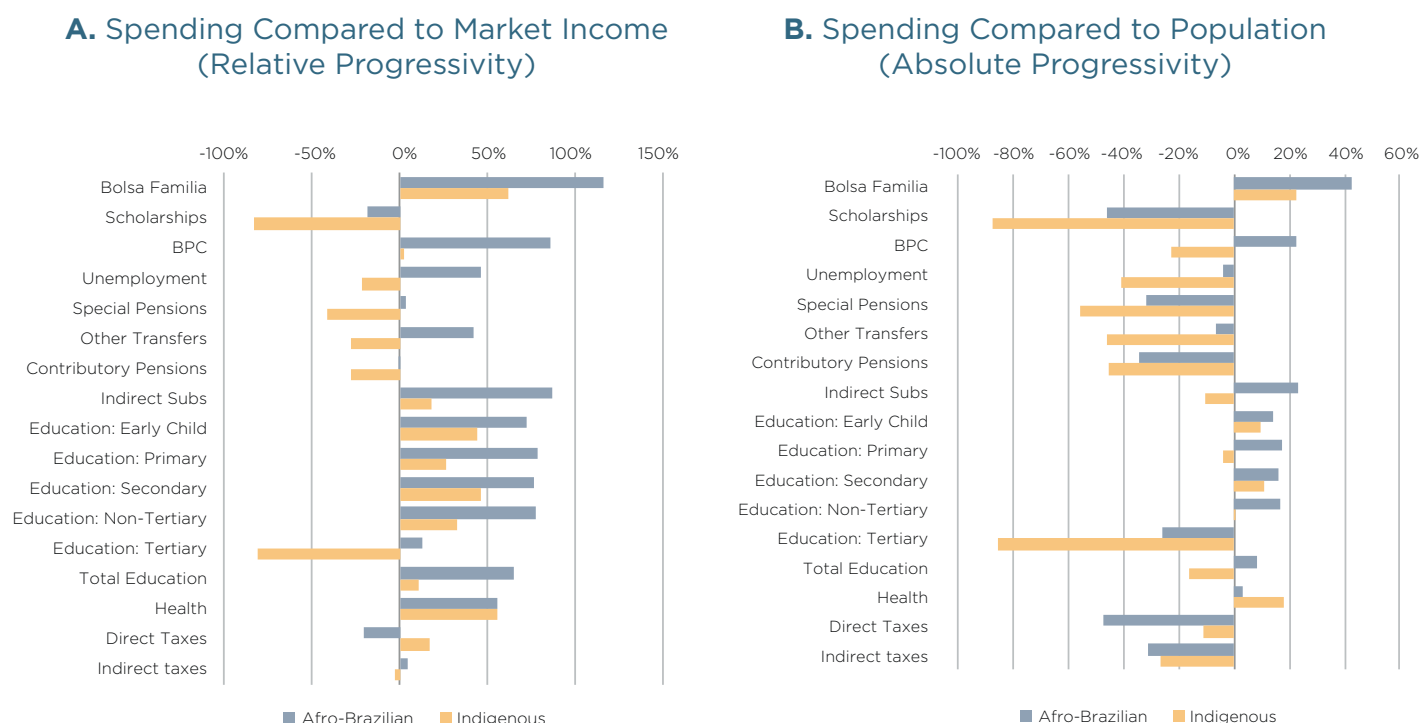
Source: Higgins and Pereira, 2013 CEQ-IDB.

The reduction in inequality is also reflected in the equalization of income shares across ethno-racial lines (See Figure 20 and 21). The share of national income held by Afro-Brazilians increases through the use of each type of fiscal intervention with the exception of indirect taxes, which does little to change the income distribution for Afro-Brazilians (See Figure 21.A). However, there is a decline in the share of national income held by indigenous peoples in Brazil (See Figure 21.B). Despite this decline, the monetization of public services leads to an increase in the share of national income held by indigenous peoples.

Looking at the ethno-racial progressivity of each of Brazil's individual programs helps illuminate why fiscal policy leads to a more equitable distribution of income for Afro-Brazilians while, if we exclude the monetization of public services, a lower share of national income for the nation's

indigenous population. Of the seventeen fiscal interventions that are analyzed here, seven are regressive for indigenous peoples (See Figure 22.A). Although there are three fiscal interventions that are ethno-racially regressive towards Afro-Brazilians, the level to which these are regressive is significantly less than towards the indigenous population and, in the case of contributory pensions is negligibly regressive. Furthermore, although nine of programs were absolutely progressive for Afro-Brazilians, only five programs are absolutely progressive for the country's indigenous population (See Figure 22.B).

**Figure 22. Progressivity of Fiscal Spending and Taxation in Brazil, 2009**



Source: Higgins and Pereira, 2013 CEQ-IDB.

Even the impact of Brazil's direct transfers are largely unequalizing for Brazil's indigenous peoples, with two of the four non-pension targeted direct transfers, scholarships and unemployment benefits, being ethno-racially regressive for this population (See Figure 22.A). In fact, the only direct transfer program that is absolutely ethno-racially progressive for both indigenous peoples and Afro-Brazilians is the *Bolsa Familia* program (See Figure 22.B). A troubling element of this comes from the fact that *Bolsa Familia* is the only one of these programs that is specifically targeted to the poor. This suggests that although the nation's flagship CCT program equalizes ethno-racial inequalities, it is likely due to the large gaps in poverty rates experienced by indigenous peoples and Afro-Brazilians relative

to the nation's white population rather than as an intended policy aimed at promoting ethno-racial equality in the country.

Another element that explains an important component of Brazil's fiscal policy is the role of formality in the labor market and its impact on particular social safety nets in the country. Labor formality plays an important role in Brazil's fiscal policy as it has direct implications for pensions, both special pensions and contributory pensions, as well for unemployment benefits. All three of these fiscal interventions are ethno-racially regressive for Brazil's indigenous peoples, while only unemployment benefits are relatively progressive for Afro-Brazilians.<sup>19</sup> It is important

<sup>19</sup> Although Afro-Brazilians receive a larger share of special pensions benefits than their share of Market Income, the difference is minimal making the program more ethno-racially neutral than progressive.



to note that all three of these fiscal interventions provide relatively large transfers compared to those received by beneficiaries of the *Bolsa Familia* program, and, as they are not ethno-racially progressive, weaken the equalizing impacts of all direct transfers. Seeking policies that provide for all elderly individuals rather than just those that were previously employed in the formal labor market may do much to improve ethno-racial equality in Brazil. Additionally, creating mechanisms to ensure that Brazilians employed in the informal economy have access to social safety nets, such as unemployment benefits, would likely reduce some of the ethno-racial inequalities associated with informality.

The impact of monetizing public services, both for education and health spending, in Brazil are absolutely ethno-racially progressive. Total non-tertiary education and public health expenditure in Brazil are absolutely ethno-racially progressive for both Afro-Brazilians and indigenous peoples (See Figure 22.B). Although primary education is only relatively ethno-racially progressive for Brazil's indigenous population, all other non-tertiary levels of education are absolutely progressive for both indigenous peoples and Afro-Brazilians. However, as noted in Chapter 4, although education and health spending are progressive, questions remain about the quality of these services, particularly as one of the drivers of the progressivity of health and education spending is the opting for private services among white Brazilians.

The story is slightly different when it comes to the tertiary education, which is regressive for indigenous peoples and only relatively ethno-racially progressive for Afro-Brazilians. However, the 2012 passage of affirmative action policies for students entering Brazil's federal universities, which was not captured in this analysis, is likely to increase the ethno-racial progressivity of tertiary education expenditure and may lead to higher levels of formal employment for indigenous peoples and Afro-Brazilians. The design of Brazil's affirmative action policy for federal universities is designed to target students coming from public schools (a proxy for lower income individuals) along with special quotas for Afro-Brazilians and indigenous peoples. This is likely to increase the general progressivity of the tertiary education spending as those lower on the income distribution are likely to gain more benefits from government spending as well as for Afro-Brazilians and indigenous peoples.

Although Brazil's fiscal policy does little to reduce the differences in poverty across ethno-racial lines and inequality is only reduced to a large extent by the monetization of public services, many of Brazil's fiscal interventions promote ethno-racial equality. By improving access to the different pension systems for Afro-Brazilians and indigenous peoples either by increasing labor formality within the labor market or by creating opportunities for those working in the informal economy, the government could improve the livelihoods of these marginalized populations. Such policies could include pensions targeted at those individuals who are not part of other old-age programs and increased access, unemployment insurance programs, and the expansion of existing safety nets. Additionally, the recent implementation of affirmative action measures is likely to lead to increased opportunities for Afro-Brazilians and indigenous peoples in the country.

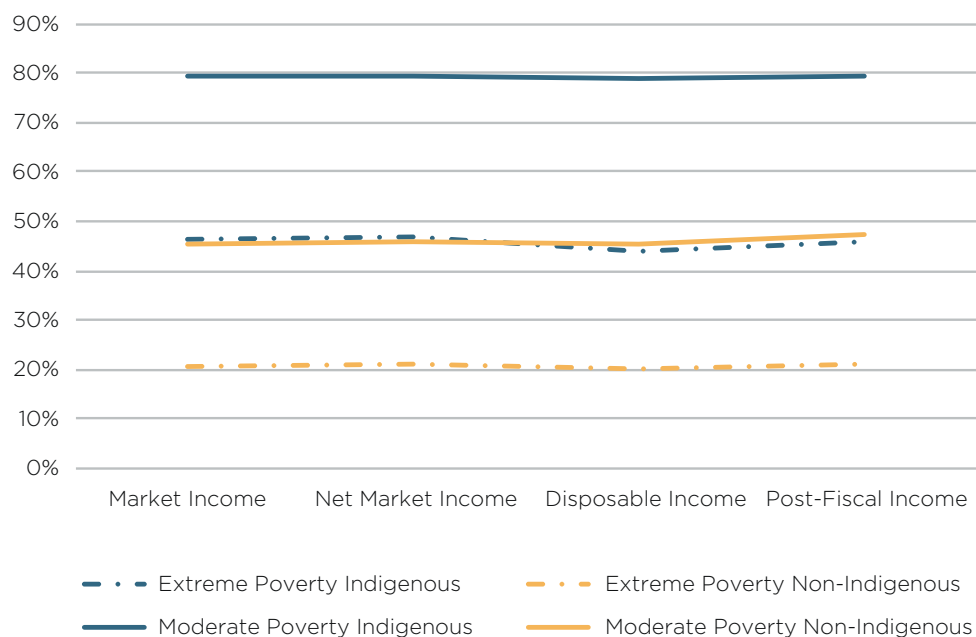
# Chapter 07

## Guatemala

Despite its relatively small size, with 41 percent of the population self-identifying as indigenous, Guatemala accounts for approximately 9.2 percent of the indigenous population of Latin America (IDB, 2015). Although Guatemala's indigenous peoples account for a large portion of the national population, they remain economically

marginalized within society. Four out of every five individuals who self-identify as indigenous live below the national moderate poverty line (Cabrera and Moran, 2013) and indigenous peoples are more than three times less likely to have a secondary education or higher than their non-indigenous compatriots (World Bank, 2016a).

**Figure 23.** Impact of Fiscal Policy on Poverty in Guatemala, 2010/2011

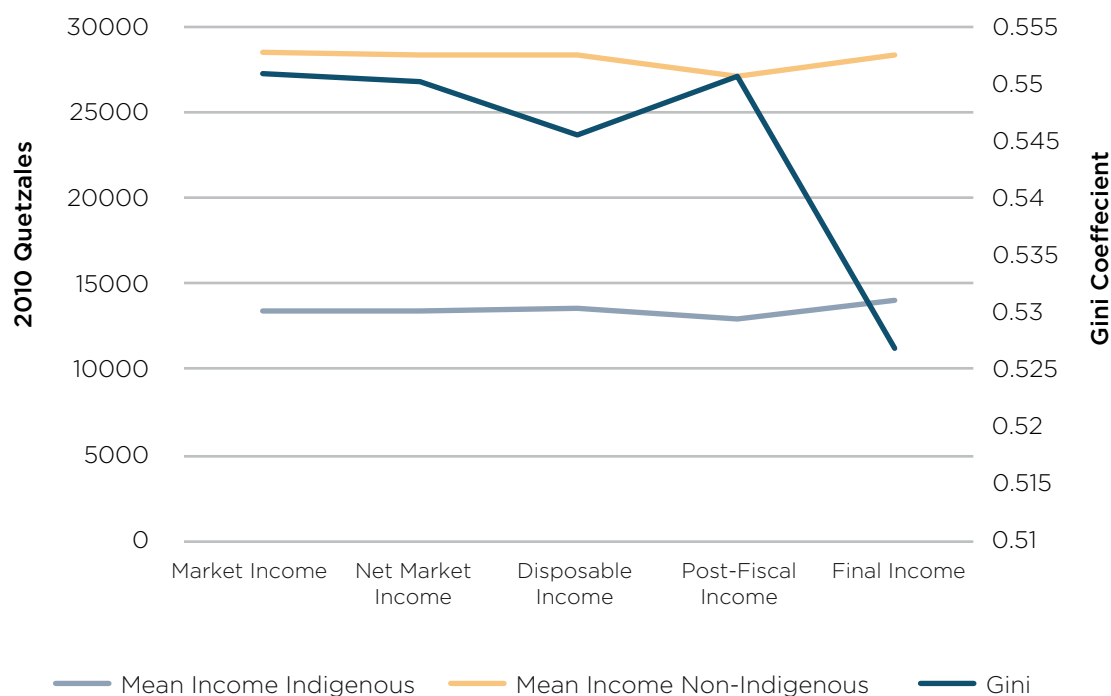


Source: Cabrera and Moran, 2013 CEQ-IDB.

Despite the large ethno-racial gaps in poverty rates experienced by indigenous and non-indigenous populations, Guatemala's fiscal policies do little to reduce poverty rates (See Figure 23). Nationally, both moderate and extreme poverty are exacerbated by existing fiscal interventions, with moderate increasing from 59.3 to 60.6 percent between market and Post-Fiscal Income and extreme poverty increasing from 31.2 to 31.3 percent. While these high rates of poverty at the national level are troubling, particularly given the increase in poverty rates as a result of fiscal policy, the poverty rates faced by indigenous peoples are even more stunning. At Market Income, indigenous peoples are exposed to an extreme poverty rate

of 46.6 percent, 2.26 times higher than that of the non-indigenous population, and a moderate poverty rate of 79.3 percent, 1.75 times higher than that of the non-indigenous population. Although direct transfer programs may reduce poverty in Guatemala, the amount is minimal and completely erased by the tax burden in the country. Although there is a minimal degree of ethno-racial poverty convergence in Guatemala, with the ratio between indigenous and non-indigenous extreme poverty rates shrinking from 2.26 to 2.16 and for moderate poverty from 1.75 to 1.68, the magnitude of this difference remains incredibly large and little fiscal impact on poverty rates can be seen at all.

**Figure 24. Impact of Fiscal Policy on Poverty in Guatemala, 2010/2011**



Source: Cabrera and Moran, 2013 CEQ-IDB.

Likewise, the impact of fiscal policy on mean incomes for both indigenous peoples and the non-indigenous population is negative, but very modestly equalizing across ethno-racial lines (See Figure 24). Between market and Post-Fiscal Income, mean incomes for the indigenous population decline by approximately 3.1 percent compared to a decline of nearly 5 percent for the non-indigenous population. While

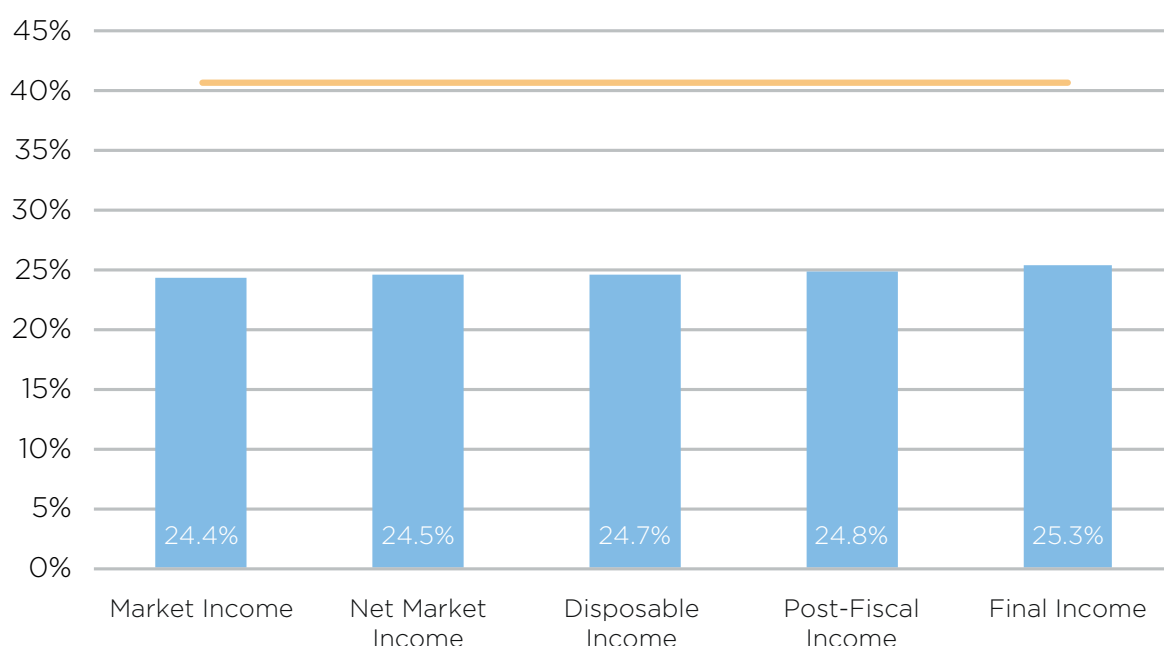
this marks a slight convergence in the mean incomes experienced by the two populations, the difference in mean incomes remains large, with mean incomes for the non-indigenous population still equal to more than double that of the indigenous population at Post-Fiscal Income. Similarly, the Gini coefficient sees very little change between market and Post-Fiscal Income, with a drop of only .00005. While the monetization of

public services drives the Gini coefficient down significantly more, with a drop of .0239 between Post-Fiscal and Final Income, it does little to equalize incomes between indigenous and non-indigenous groups.

This trend can also be seen when one examines the share of national income held by indigenous peoples. Despite representing 40.7 percent of the national population in the 2010/2011 *Encuesta Nacional de Ingresos y Gastos Familiares*, indigenous peoples only control approximately

24.4 percent of national Market Income. Although the implementation of direct taxes, direct transfers, indirect taxes and subsidies and monetize public services all increase the share of national income held by Guatemala's indigenous peoples, the change is small, with a less than one percentage point change in the income distribution through all of the fiscal policies (See Figure 25). While it is important to note that the sum of all of the interventions moved policy in the right direction, the total impact on ethno-racial inequality was slight.

**Figure 25. Impact of Fiscal Policy on Ethno-Racial Income Shares in Guatemala, 2010/2011**



Source: Cabrera and Moran, 2013 CEQ-IDB.

The equalizing impact of fiscal policy is highlighted by the fact that nearly all of Guatemala's fiscal interventions are ethno-racially progressive (See Figure 26). While by far the most ethno-racially progressive fiscal intervention was the country's flagship conditional cash transfer program, *Mi Familia Progres*, primary education and the total impact of non-tertiary education are also both absolutely progressive in ethno-racial terms. Additionally, the impacts of non-contributory pensions are highly progressive, although still

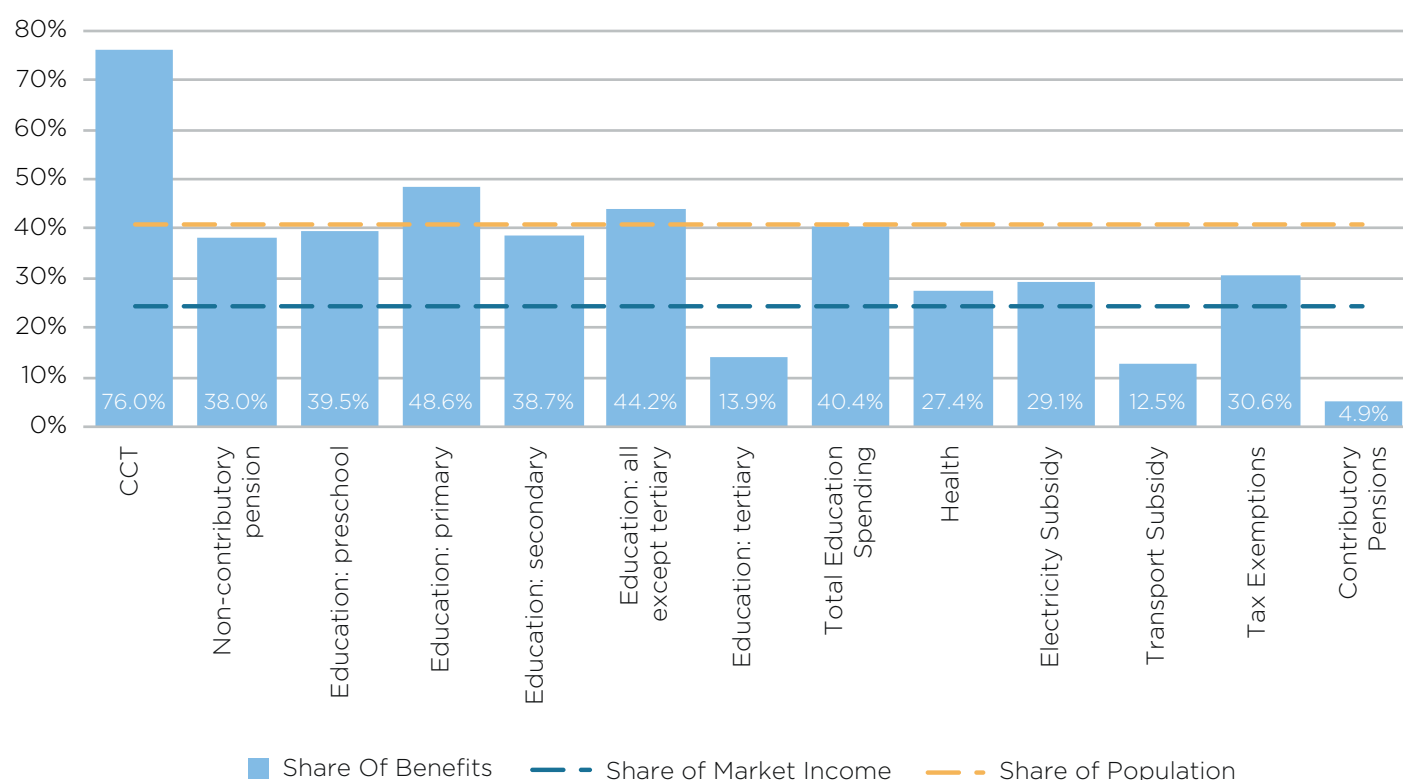
only relatively, in the ethno-racial space. However, despite their progressivity, direct transfers account for a small portion of Guatemala's budget, 8.3 percent of total social spending.

Although the monetization of public services and direct transfer programs are highly progressive in ethno-racial terms, the impacts of contributory pensions and different federal subsidies are far less progressive. The nation's contributory pension system is highly regressive. While this

is likely due to levels of labor formality across ethno-racial lines, it is highly problematic given the lower levels of labor formality among indigenous peoples and the higher share of this population residing in rural areas. These factors also help to explain the ethno-racial regressivity of the Guatemala's transportation subsidies

which disproportionately benefit the more urban non-indigenous population. Likewise, although electric subsidies and tax exemptions are relatively progressive, the primary beneficiaries are less likely to reside in more heavily indigenous rural areas.

**Figure 26. Progressivity of Fiscal Spending and Taxation in Guatemala, 2010/2011**



Source: Cabrera and Moran, 2013 CEQ-IDB.

Although many of Guatemala's fiscal interventions are ethno-racially progressive, their impact on reducing gaps across ethno-racial lines are minimal. This should come as little surprise given the incredibly high levels of poverty experienced in the country and the large ethno-racial inequalities that are evident. In addition to the large task the Guatemalan government faces in promoting ethno-racial equality in the country is the problem that they are faced with

a significantly smaller budget than the other countries considered in this analysis. Although the Guatemalan government spends a larger share of their budget on social spending than both Brazil and Uruguay, the size of these other nations' budgets and the fact that initial poverty rates are substantially lower in these countries allows the governments of Brazil and Uruguay to have a larger impact than that of Guatemala. This is particularly challenging for Guatemala given

that the government collects a substantially smaller share of gross domestic product in taxes than other Latin American countries, much of which comes from indirect taxation (World Bank, 2014). Seeking to increase labor market formality and the share of taxes collected through direct taxation may allow the Guatemalan government to increase the budget that they are able to spend on government programs that reduce poverty and inequality. If Guatemalan government is to leverage the progressivity of their fiscal system into reducing ethno-racial inequalities, it is critical that the government increase spending on effective programs and retarget expenditures that disproportionately benefit the urban centers.

# Chapter

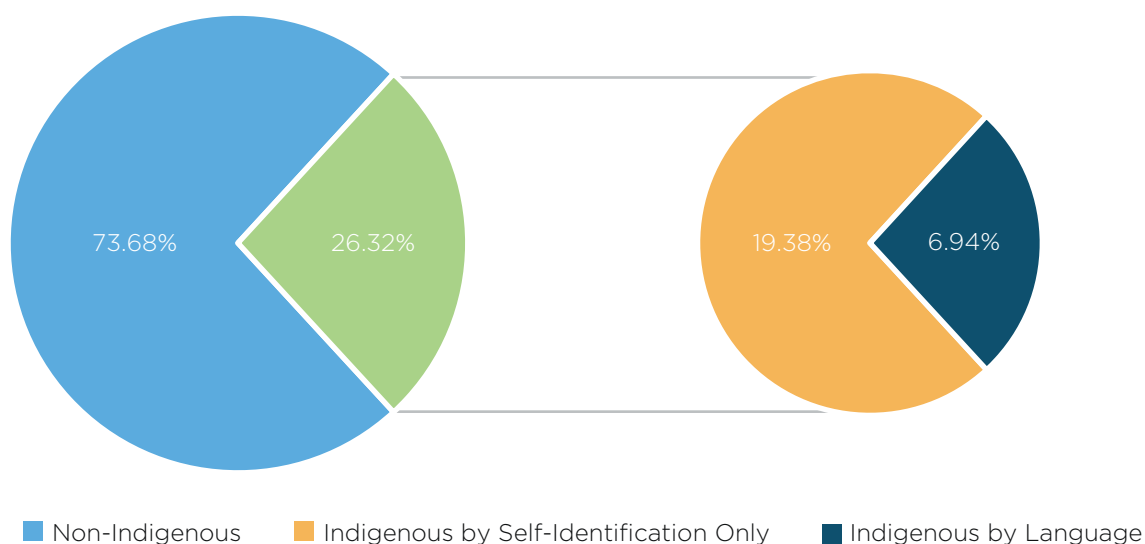
# 08

## Mexico

Mexico is the second most populous country in Latin America and, with a large portion of the population identifying as indigenous, accounts for approximately half of the region's total indigenous population (IDB, 2015). Additionally, Mexico has played an important role in the development of fiscal policy in the region as it was the first country to design and implement

conditional cash transfer programs. In 1997, Mexico implemented the *Progres*a CCT program, which was since renamed as *Oportunidades*, and later as *Prospera*. While this program is targeted at the poor and has been credited with reducing poverty in the country, does it reduce ethno-racial inequalities in the country?

**Figure 27.** Breakdown of Mexican Population by Ethnicity, 2012

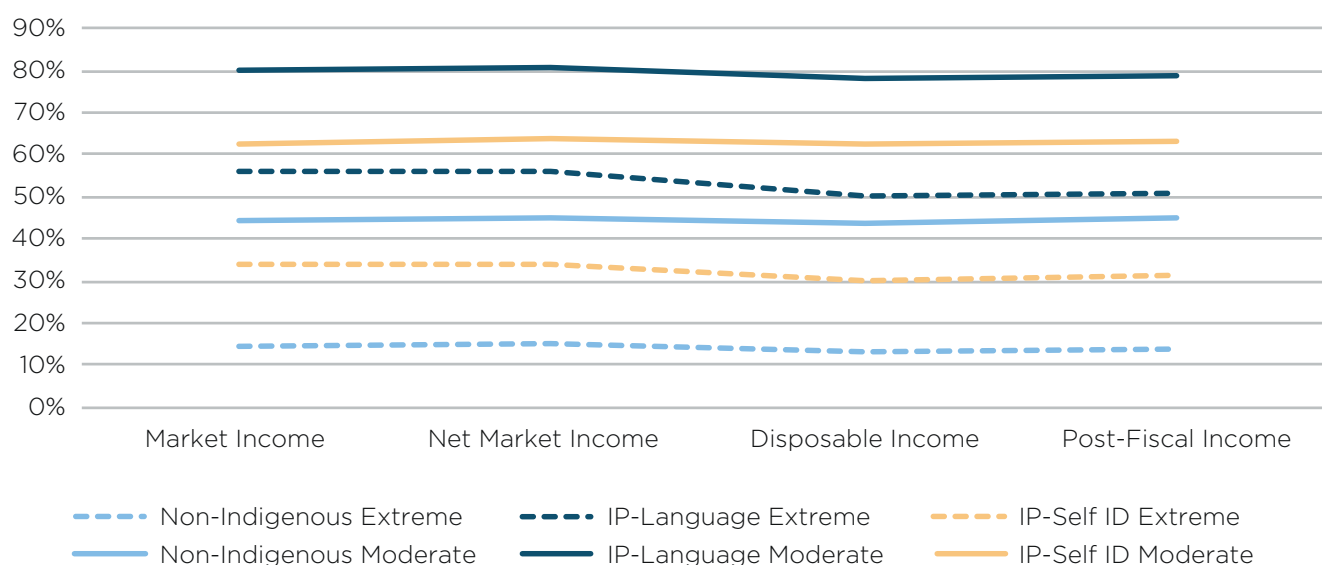


Source: Aranda and Scott, 2016 CEQ-IDB.

Although most countries in the region, and this study, utilize self-identification as the primary method for determining who is indigenous, the Government of Mexico typically utilizes questions on whether an individual speaks an indigenous language as their typical form of ethno-racial identification. While 26.3 percent of the population self-identifies as being indigenous, only 6.9 percent of the population speaks an indigenous language (See Figure 27).<sup>20</sup> As the Mexican Government often utilizes language as a means of identifying indigenous peoples for policy purposes, it is important to see if there are double penalties faced by indigenous peoples who speak indigenous languages and determine if fiscal policies in Mexico benefit indigenous peoples who speak indigenous languages differently than those who do not.

Large differences in the poverty rates exist not only between indigenous peoples and the non-indigenous population, but also between those whose primary language is indigenous and those who self-identify as indigenous. At Market Income, the non-indigenous population faces an extreme poverty rate of 14.7 percent compared to 33.6 percent of the self-identified indigenous population and 56.1 percent for those who speak an indigenous language (See Figure 28). For moderate poverty, these numbers are 44.0, 62.8 and 80.1 percent respectively. These numbers suggest that the indigenous population whose primary language is indigenous are faced with a double penalty over their Spanish speaking indigenous compatriots.

**Figure 28. Impact of Fiscal Policy on Poverty in Mexico, 2012**



Source: Aranda and Scott, 2016 CEQ-IDB.

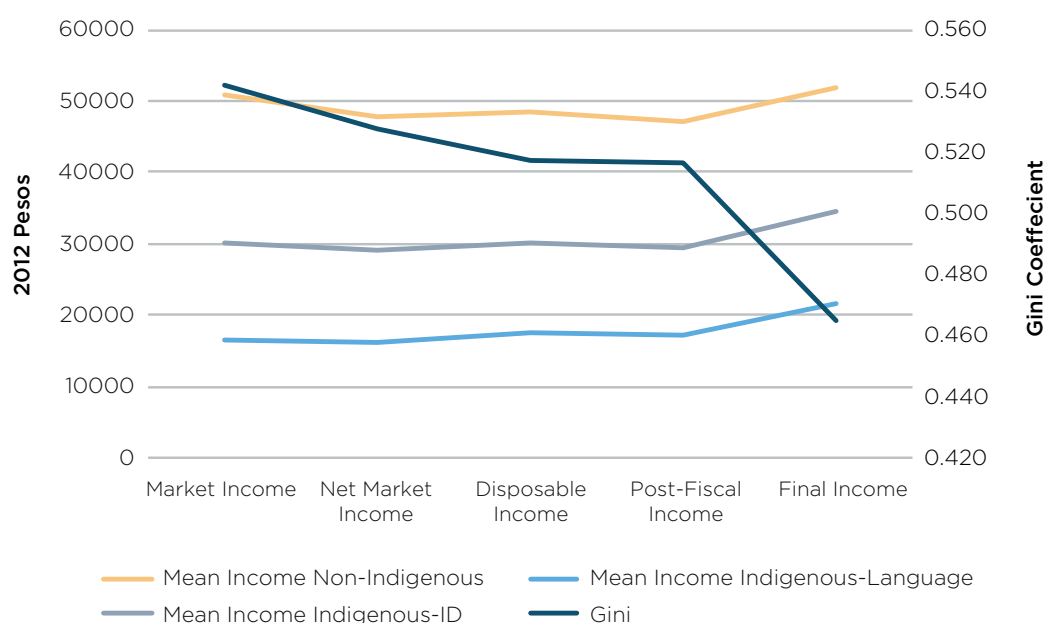
<sup>20</sup> Note that for the purpose of this analysis, the indigenous population by self-identification includes those that both self-identified as indigenous and speak an indigenous language.



Although Market Income reveals large ethno-racial inequalities in the poverty rates seen in Mexico, the government's fiscal interventions do close these gaps slightly (See Figure 28). The total impact of direct and indirect taxes, direct transfers, and subsidies (or the total change between Market Income and Post-Fiscal Income) leads to relatively small, but important reductions in national extreme poverty for all ethno-racial groups, with the non-indigenous seeing a decline of 4.7 percent, the self-identified indigenous population seeing a decline of 7.7 percent and the those who speak an indigenous language seeing declines of 9.1 percent of extreme poverty. These reductions are particularly important not just in that they reduce poverty across all groups, but because these also mark an important convergence in extreme poverty rates across ethno-racial lines. A similar convergence in moderate poverty rates is also evident, with those who speak an indigenous language seeing moderate poverty fall by 1.5 percent. Although this is a modest decline, the non-indigenous population and self-identified indigenous peoples, albeit to a lesser extent, actually see an increase in moderate poverty as a result of these fiscal interventions. It is important to note that all of the ethno-racial categories do see a decline in moderate poverty when one excludes the impacts of indirect taxes.

In addition to the large ethno-racial differences in poverty rates, indigenous peoples see average incomes that are significantly lower than those of the non-indigenous population (See Figure 29). At Market Income, the non-indigenous population has an average income that is 1.68 times higher than that of self-identified indigenous peoples and more than triple that of the indigenous speaking population. This gap is reduced however through the implementation taxes, transfers and subsidies, with self-identified indigenous peoples seeing the gap between mean incomes relative to the non-indigenous population fall to 1.59 at Post-Fiscal Income and the indigenous speaking population seeing the ratio fall to 2.72. These are further reduced if one considers the monetization of public health and education services, with the white population having a Final Income of 1.50 and 2.38 times that of the self-identified and language-identified indigenous populations, respectively. This impressive decline in ethno-racial inequality is also mirrored in the impressive reduction in overall inequality, as measured by the Gini coefficient, which fell from .542 at Market Income to .465 at Final Income. It is also important to note that all types of intervention in Mexico led to a reduction in inequality and, with the exception of the implementation of indirect taxes and subsidies, this reduction was by an impressive .01 or more.

**Figure 29. Impact of Fiscal Policy on Mean Incomes and Inequality in Mexico, 2012**

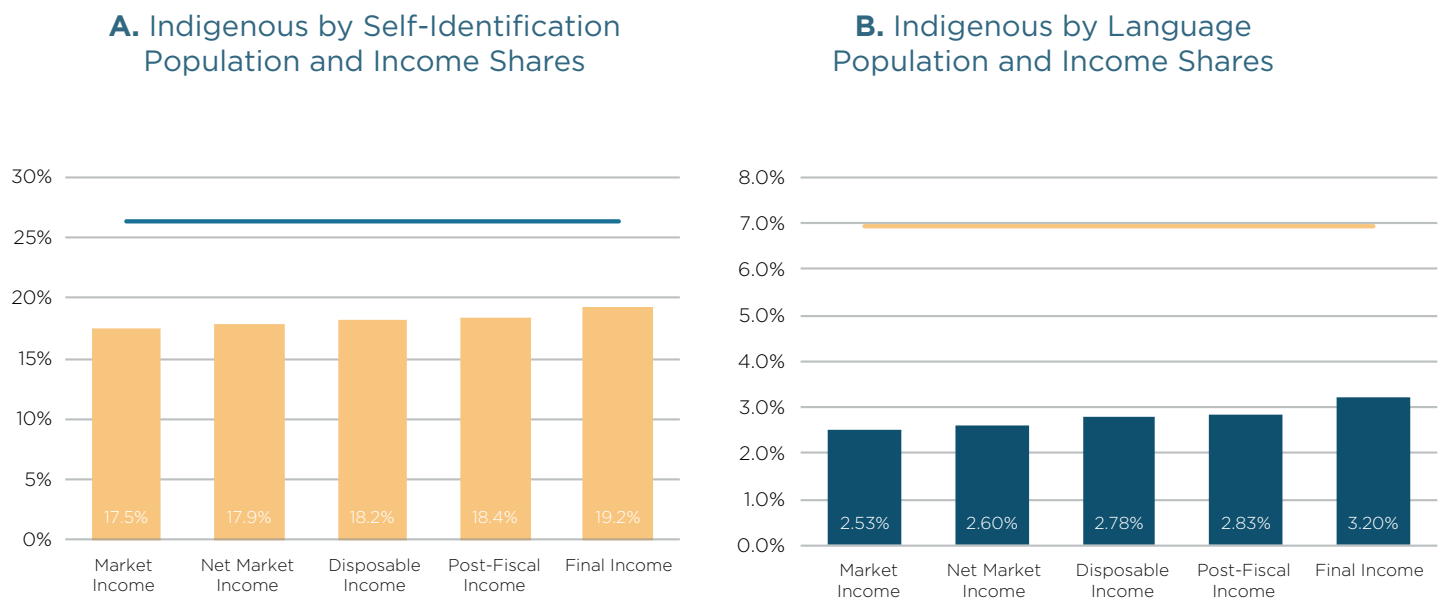


Source: Aranda and Scott, 2016 CEQ-IDB.

Another way to look at the impact of fiscal interventions on ethno-racial inequality is to examine the extent to which it increased the share of national income held by indigenous peoples relative to their population. As was evident by the changes in average income (See Figure 29), the share of national income held by indigenous peoples, identified either by language or self-identification, increases as result of each type

of fiscal intervention (See Figure 30). However, despite the increases in the share of national income held by indigenous peoples in the country, the share of income remains significantly lower than the indigenous share of the population. What is notable here, however, is that the tax burden, both in terms of direct and indirect taxes, faced by indigenous peoples serves as an equalizing factor in terms of the ethno-racial income distribution.

**Figure 30. Impact of Fiscal Policy on Ethno-Racial Income Shares in Mexico, 2012**



Source: Aranda and Scott, 2016 CEQ-IDB.

Although Mexico's overall fiscal impact is ethno-racially progressive, the impacts of different fiscal interventions differ. Of Mexico's direct transfer programs, nearly all are absolutely progressive in the ethno-racial space, both for indigenous peoples who self-identify as such and for those who speak an indigenous language (See Figure 31.B). However, the Mexican Government's scholarship program remains only relatively progressive for self-identified indigenous peoples and regressive for the indigenous language speaking peoples (See Figure 31.A). The regressivity of the scholarship program for indigenous peoples who speak their native tongue may be, in part, due to language barriers faced by students who

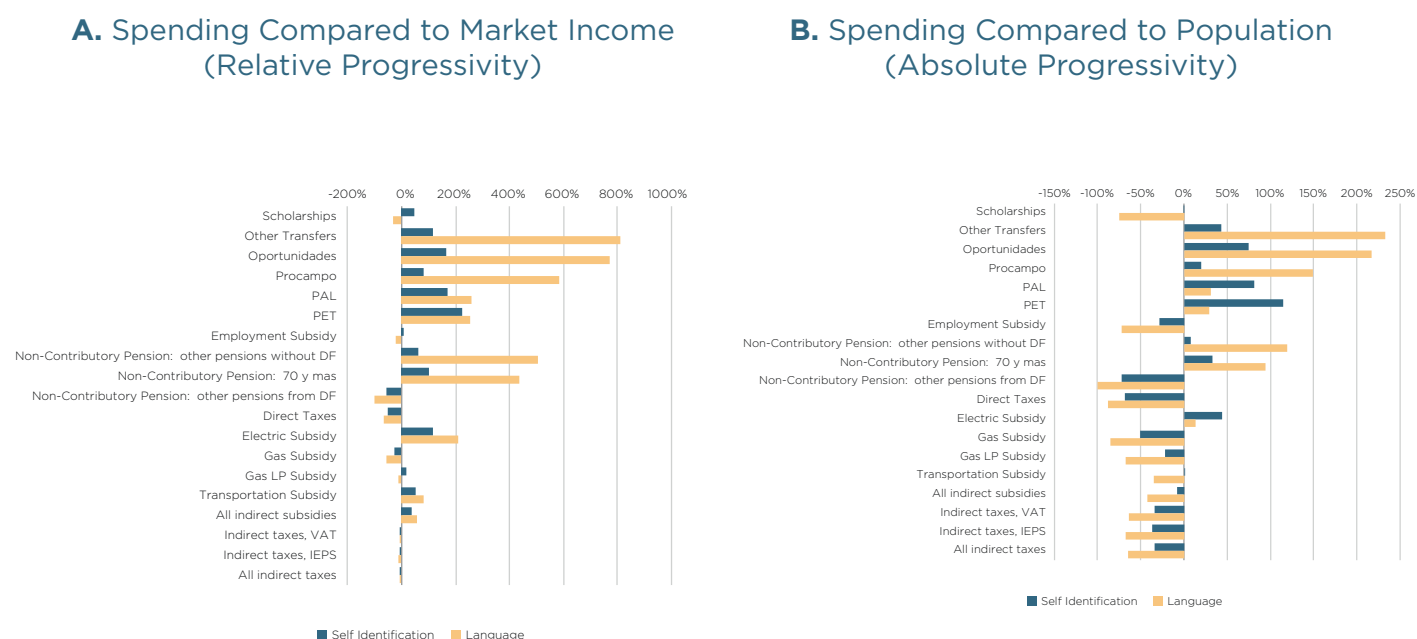
do not speak Spanish as their primary language. The higher poverty rates experienced by this population and the lack of government funding to pursue educational opportunities may cause ethno-racial inequalities to be exacerbated in the future if efforts to address inequalities are not addressed.

Additionally, employment subsidies are ethno-racially regressive for the indigenous peoples who speak an indigenous language and only slightly progressive among the self-identified indigenous population. Although the progressivity of employment subsidies among

self-identifying indigenous peoples is laudable, the regressivity of the program for non-Spanish speakers is problematic, particularly given that this is the population that faces the highest rates of poverty. *Oportunidades*,<sup>21</sup> the Mexican CCT program, is absolutely progressive for both indigenous groups. However, given that *Oportunidades* is specifically targeted to the poor and the large gaps in poverty rates experienced by indigenous peoples relative to the non-indigenous population, this is to be expected. The *Programa de Apoyos Directos al Campo* (*Procampo*), is a direct transfer program aimed at small land owners. *Procampo* is absolutely ethno-racially progressive for both self- and language-identified indigenous peoples, with a significant share of benefits going to these populations. In fact, language-identified indigenous peoples' share of *Procampo*'s benefits is nearly two and half times that of their share of the population. As with *Oportunidades*, however, this is partially due to demographic conditions in Mexico, with a larger portion of the indigenous population residing in rural areas, rather than a direct effort on the part of the government to close ethno-racial

gaps. The *Programa Alimentario* (PAL) is another direct transfer program that was implemented in 2006 with the goal of providing assistance to families in remote areas that were not being covered by *Oportunidades*. Like *Oportunidades*, PAL is absolutely progressive for indigenous peoples. However, unlike *Oportunidades*, PAL is more ethno-racially progressive for self-identified indigenous peoples than for those who speak an indigenous language. While it is important that these programs are ethno-racially progressive, it is important to remember that the indigenous speaking population faces additional penalties relative to self-identified indigenous peoples as seen by significantly lower incomes and higher poverty rates. The *Programa de Empleo Temporal* (PET), which provides temporary employment benefits to the unemployed or to the seasonally employed is also absolutely ethno-racially progressive. Like the PAL program, PET is more progressive for self-identified indigenous peoples. Policy makers in some of the other countries considered in this report should take note of PET as it is one of the few employment based programs that is ethno-racially progressive.

**Figure 31. Progressivity of Direct Fiscal Spending and Taxation in Mexico, 2012**



Source: Aranda and Scott, 2016 CEQ-IDB.

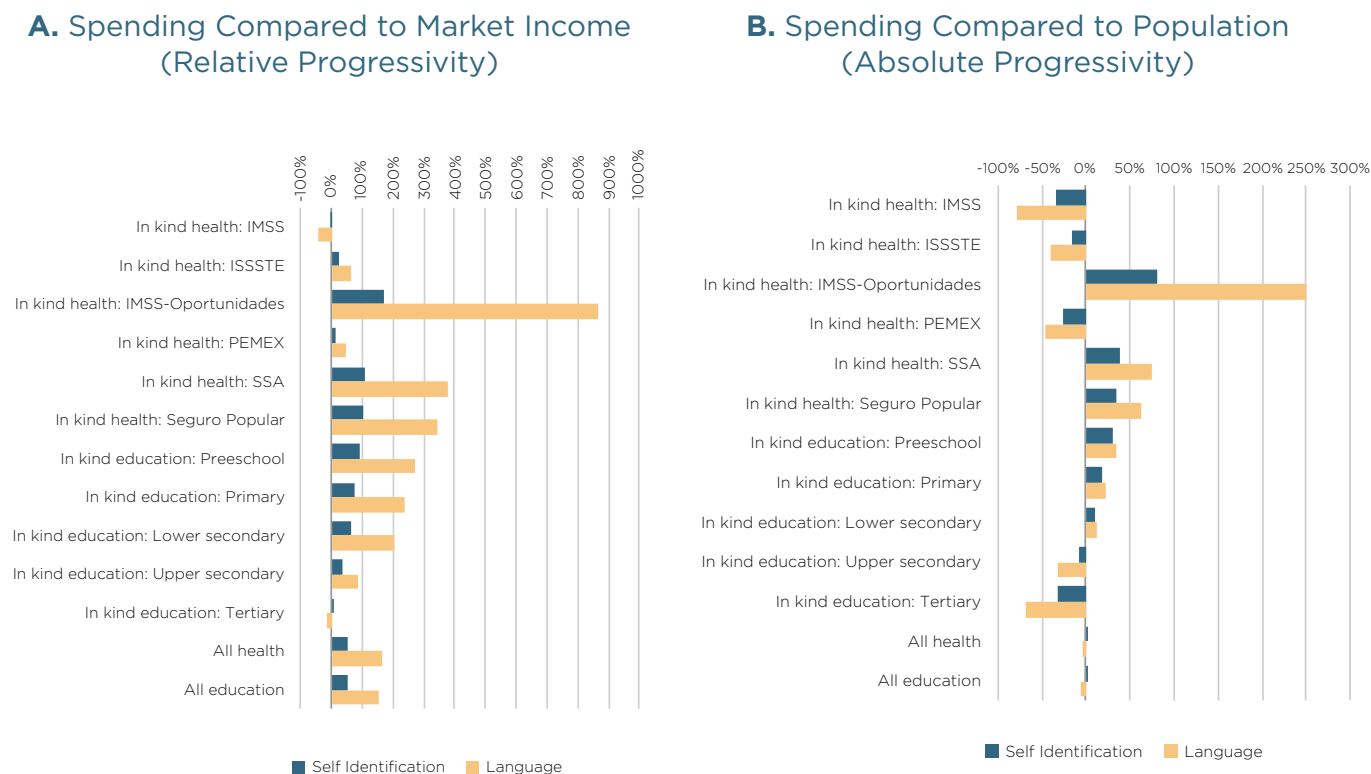
<sup>21</sup> Since at the period analyzed the program was named *Oportunidades*, this is the name that will be used throughout.

The non-contributory pension system in Mexico is also ethno-racially progressive for most programs. The *70 y mas* non-contributory pension program is absolutely ethno-racially progressive, particularly for language-identified indigenous peoples (See Figure 31.B). Other non-contributory pension programs are funded through the state level governments rather than directly through the federal government. Although the non-contributory pensions that are managed through the government of the *Distrito Federal* (DF), which has since been renamed *Ciudad de México*, are ethno-racially regressive (See Figure 31.A), the impact of state led non-contributory pensions outside of the capital are absolutely progressive. These numbers however are somewhat misleading as the populations residing in the different states and within the DF will not necessarily mirror that of the national population. However, when considered together, total state and DF led contributory pensions are regressive for self-identified indigenous peoples and relatively progressive for those who speak an indigenous language.

Subsidies and indirect taxes are far less progressive than other forms of fiscal intervention in Mexico. Although the electric subsidy is ethno-racially absolutely progressive (See Figure 31.B), no other subsidy in the country is absolutely progressive. In fact, the impact of gas subsidies is ethno-racially regressive, with indigenous peoples seeing this subsidy result in a lower share of national income relative to the non-indigenous population. Despite these findings among many subsidies, the total impact of indirect subsidies is relatively progressive across ethno-racial lines. All types of indirect taxes are ethno-racially neutral, with the amount indigenous peoples spend on indirect taxes closely correlating to their share of national Market Income (See Figure 31.A). As evident by the increase in the share of national income held by indigenous peoples at Post-Fiscal Income relative to Disposable Income (See Figure 30), the total impact of indirect taxes and subsidies was ethno-racially progressive.

As discussed in Chapter 4, public health and education spending in Mexico are both relatively ethno-racially progressive (See Figure 32.A). However, different health and education services have heterogeneous levels of progressivity. Spending on education is absolutely progressive for both self-identified and language identified indigenous peoples for preschool, primary education and lower secondary education while

spending on upper secondary education is only relatively ethno-racially progressive. However, spending on tertiary education is essentially neutral for self-identified indigenous peoples, with the share of benefits from tertiary education equal to 1.3 percent more than their share of Market Income, and regressive for those speaking an indigenous language. Given that tertiary education spending accounts for 23.3 percent of Mexico's public education expenditure, this drives down the overall progressivity of total education spending in Mexico.

**Figure 32. Progressivity of Spending on Health and Education in Mexico, 2012**

Source: Aranda and Scott, 2016 CEQ-IDB.

Spending on public health programs is also heterogeneous. With the exception of the portion of the IMSS program not supported through *Oportunidades*, each of the different healthcare programs is at least relatively ethno-racially progressive. Additionally, each of these programs is more progressive for language identified indigenous peoples who face double penalties in terms of economic outcomes. However, only three of the public health initiatives prove to be absolutely progressive for indigenous peoples (See Figure 32.B). Additionally, some of the high usage of the public health system by indigenous peoples may be due to perceived discrimination from private providers of public healthcare. In fact, one study in rural Mexico showed that indigenous women received higher quality service from public rather than private healthcare providers (Barber et al., 2007).

Although the total impact of Mexico's fiscal interventions is ethno-racially progressive and

benefits indigenous speaking indigenous peoples more in an effort to erase dual biases, there are many individual policies that could be better targeted or adjusted to better promote ethno-racial equality in the country. These may include programs aimed at indigenous populations specifically rather than programs that target the poor and efforts to improve access to tertiary and upper secondary education for indigenous peoples. In addition to promoting ethno-racial equality in the short run, increasing access to educational opportunities may help reduce ethno-racial inequalities in the future. Despite some the potential for some areas of improvement, Mexico's *Programa de Empleo Temporal* is an important example of how labor market policies can be designed in a way that does not discriminate among ethno-racial populations that are more likely to work outside of the formal labor market. As such, the PET design of assisting seasonal workers should be a model explored by other countries in the Americas.

# Chapter

# 09

## Uruguay

Unlike the other countries analyzed in this report, Uruguay has relatively small indigenous and African descendant populations. In fact, in the 2011 Census, 89.9 percent of the national population self-identified as white for their primary racial descent compared to just 4.7 percent identifying as African descendant and 2.4 percent self-identifying as indigenous (See Table 8).<sup>22</sup> Uruguayan surveys are, however, interesting as in addition to having individuals self-identify their primary race or ethnicity, surveys ask if individuals also self-identify as being descendant

or other ethno-racial groups. As such, despite the small portion of the population that self-identifies as African descendant or indigenous, a notable portion of the white population self-identifies as being of either indigenous or African descent. Although this analysis uses primary racial identity so as to not double count individuals and to maintain comparability with the other analyses, it is important to note that a portion of the primarily self-identifying white population recognizes having an indigenous and African heritage as well.

**Table 8. Ethno-Racial Composition of Uruguay's Population**

	Household Survey (2009)		Census (2011)	
	Allows multiple descent	Primary racial descent	Allows multiple descent	Primary racial descent
Afro-Descendant	9.3%	3.4%	8%	4.7%
Indigenous Peoples	5.1%	1.0%	5.0%	2.4%
White	98.9%	95.5%	93.1%	89.9%
Other	0.3%	0.1%	1.6%	2.9%
Total	113.6%	100.0%	107.7%	100.0%

Source: Censo de Población 2011, INE 2011; and Bucheli, Rossi and Amabile, 2013 CEQ-IDB.

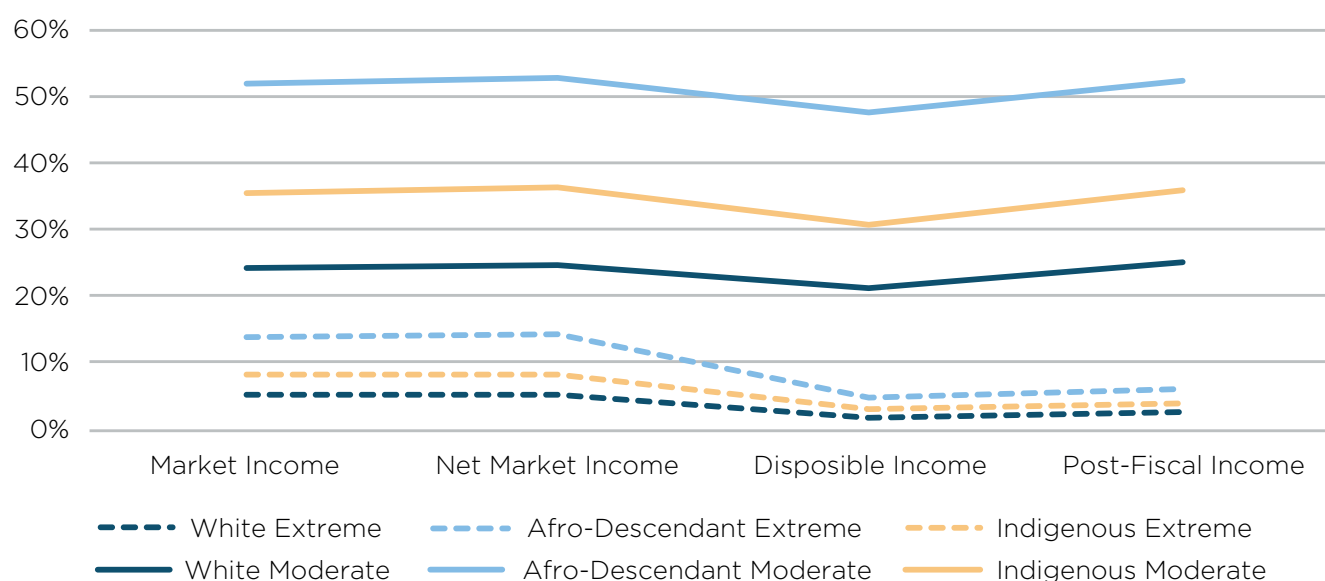
<sup>22</sup> Note that the household survey data used in this analysis has slightly lower levels of the population self-identifying as indigenous peoples or African descendants.

Uruguay is among the most equitable countries in Latin America, with a Gini coefficient of 0.416 in 2014 (World Bank, 2016b). It is also among the Latin American countries with the lowest poverty rates (World Bank, 2014). However, studies have highlighted that ethno-racial inequalities across a number of areas and labor market discrimination towards Uruguay's African descendant population (Bucheli and Cabella, 2010; Bucheli and Porzecanski, 2011). Given this information, it is important to determine if fiscal interventions manage to close ethno-racial gaps that are due to discrimination and lack of opportunity.

Large differences in national Market Income poverty rates are evident in Uruguay (See Figure 33). Although there is a notable gap between indigenous peoples and the white population, the poverty rates faced by African descendants is significantly higher. In fact, African descendants are 2.15 times more likely to live in moderate poverty at Market Income and 2.75 times more

likely to live in extreme poverty than the white population, compared to 1.46 and 1.57 times for the indigenous population, respectively. Direct taxation has little impact on these large ethno-racial gaps in terms of poverty rates. Direct transfers however are more problematic. Although direct transfers lead to an impressive reduction in both moderate and extreme poverty rates, they exacerbate ethno-racial inequalities, with African descendants experiencing extreme poverty rates 2.87 times higher than the white population at Disposable Income and indigenous peoples experiencing extreme poverty rates 1.82 times higher. Indirect taxes increase poverty across all ethno-racial groups, albeit for extreme poverty to levels that are still lower than experienced at Market Income. Moderate poverty rates at Post-Fiscal Income are, however, higher than at Market Income. Additionally, the fiscal impact of indirect taxes equalizes poverty rates across ethno-racial lines to the most equitable distribution of poverty rates.

**Figure 33. Impact of Fiscal Policy on Poverty in Uruguay, 2009**

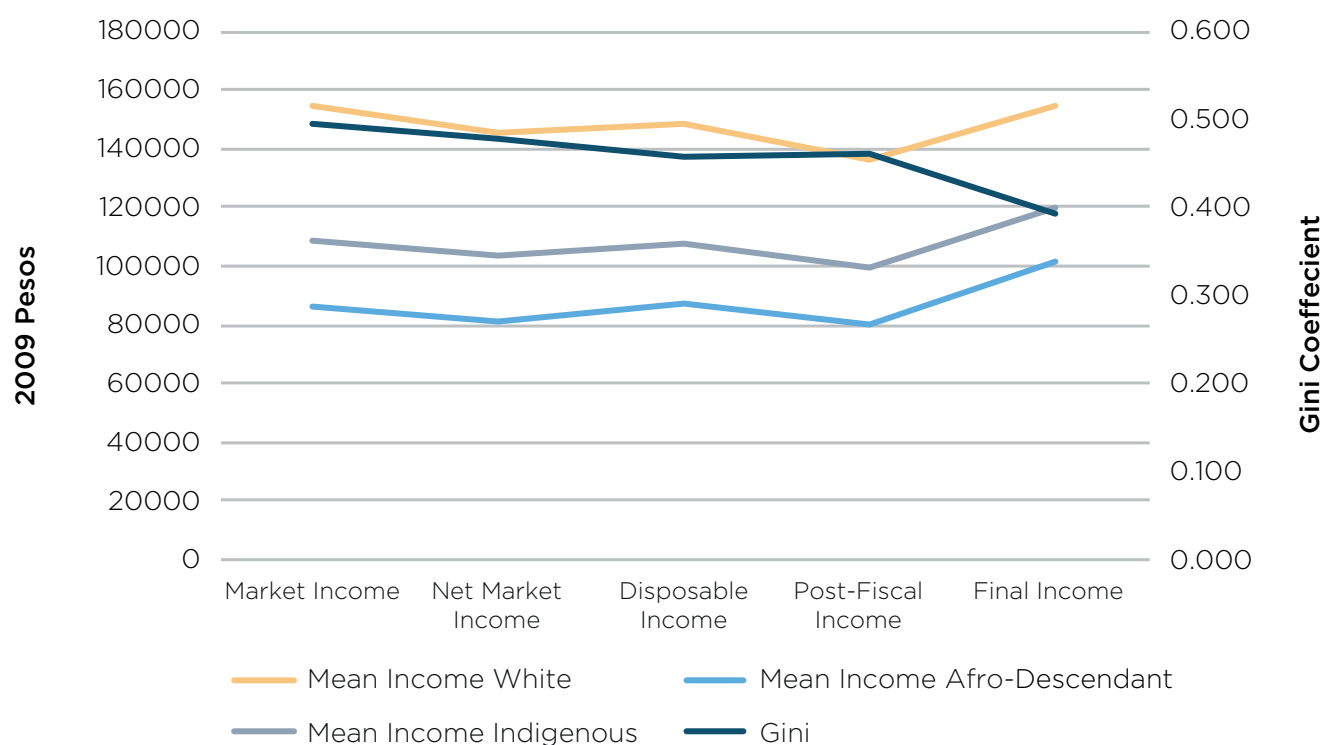


Source: Bucheli, Rossi and Amabile, 2013 CEQ-IDB.

Fiscal interventions also help reduce overall inequality in Uruguay. The Market Income Gini coefficient of 0.493, lower than the other countries considered in this report, is reduced to 0.394 at Final Income. Additionally, each grouping of interventions, with the exception of indirect taxes, is equalizing. Although indirect taxes do not equalize overall, it is important to remember that indirect taxes did equalize poverty rates across ethno-racial lines. Ethno-racial inequalities in income rates once again highlight the marginalization of African descendants in Uruguay, even when compared with the nation's indigenous peoples. At Market Income, African

descendants' mean income is only 55.8 percent of the white population's mean income while the indigenous population has a mean income equal to 70.7 percent that of the white population. Each set of fiscal interventions however equalizes the mean incomes of African descendants and indigenous peoples relative to the white population (See Figure 34). This is particularly true when one includes the monetization of public health and education services which increases the mean incomes of African descendants to 65.7 percent of the white population's mean income and indigenous peoples' mean income up to 77.2 percent of the white population.

**Figure 34. Impact of Fiscal Policy on Mean Incomes and Inequality in Uruguay, 2009**



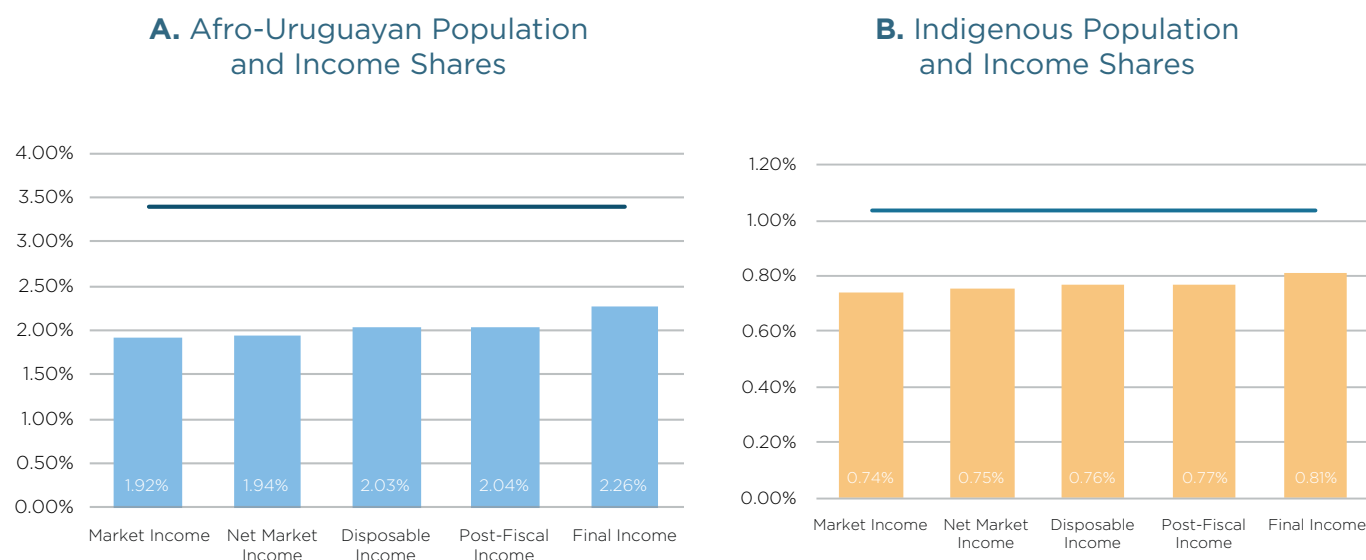
Source: Bucheli, Rossi and Amabile, 2013 CEQ-IDB.



The equalizing of incomes across ethno-racial lines is also evident when one looks at the share of income held by indigenous peoples and African descendants relative to their share of the national population (See Figure 35). Although the shares of Uruguay's national income held by indigenous

peoples and African descendants remains significantly lower than their share of population, across all income concepts, it is clear that fiscal interventions close the differences in income.

**Figure 35. Impact of Fiscal Policy on Ethno-Racial Income Shares in Uruguay, 2009**



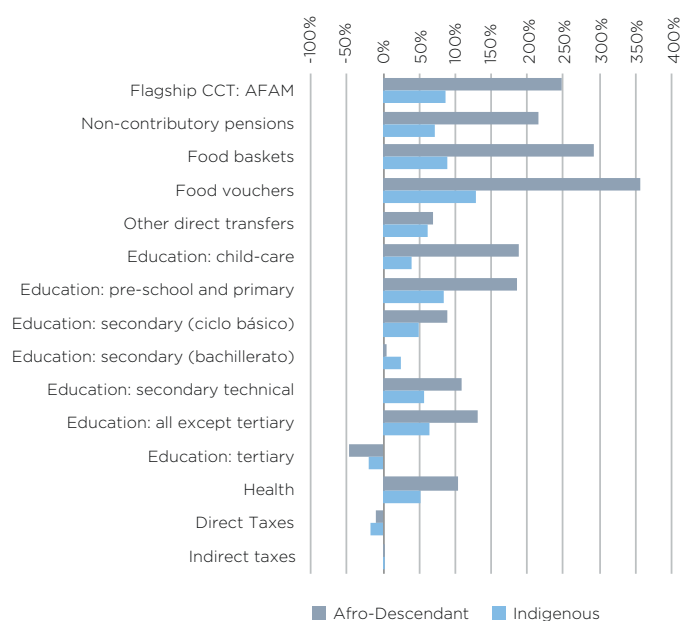
Source: Bucheli, Rossi and Amabile, 2013 CEQ-IDB.

The decline in inequalities is in part due to the fact that nearly all of Uruguay's fiscal interventions are at least relatively ethno-racially progressive (See Figure 36.A). Importantly, most of the interventions are particularly ethno-racially progressive for Uruguay's African descendant population. Additionally, all of Uruguay's large direct transfer programs are absolutely ethno-racially progressive (See Figure 36.B). However, as has been previously discussed, many of the direct transfer programs are specifically targeted

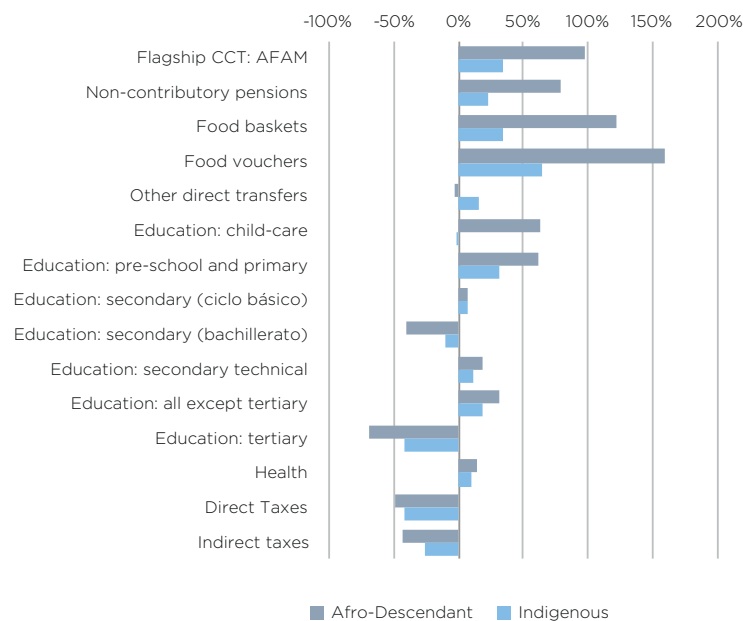
at the nation's poor. Given the large differences in poverty rates across ethno-racial lines, it is not surprising that these programs are ethno-racially progressive. As noted above, the impacts of direct transfers actually exacerbated differences in poverty rates across ethno-racial lines suggesting that although these programs are targeted specifically to the poor and are ethno-racially progressive, the poor white population actually benefits relatively more than the indigenous and African descendant poor.

**Figure 36. Progressivity of Fiscal Spending and Taxation in Uruguay, 2009**

**A. Spending Compared to Market Income  
(Relative Progressivity)**



**B. Spending Compared to Population  
(Absolute Progressivity)**



Source: Bucheli, Rossi and Amabile, 2013 CEQ-IDB.

Direct taxes are also ethno-racially progressive as they equalize incomes across ethno-racial lines (See Figure 36.A). However, the impacts of indirect taxes are essentially neutral in ethno-racial terms. As noted above however, payment of indirect taxes equalizes poverty rates across populations. While this implies a higher indirect tax burden on wealthier indigenous peoples and African descendants, the determination of whether this is a positive or negative impact in ethno-racial terms depends on the priorities of the government.

As noted in one of the preceding chapters, public spending on primary and secondary education in Uruguay are absolutely progressive in ethno-racial terms (See Figure 36.B), while the monetization of tertiary education is ethno-racially regressive (See Figure 36.A). However, when one disaggregates the different types of secondary education spending, it becomes evident that there are large differences in terms of ethno-racial progressivity. While all forms of secondary education are at least relatively ethno-racially progressive (See Figure 36.A), the tertiary preparation education (bachillerato) is not absolutely progressive. The lower level of progressivity evident in this type of secondary education highlights one of the rationale as to why public tertiary education is ethno-racially regressive. The regressivity of tertiary education is likely exacerbated by lower levels of secondary school enrollment among indigenous peoples and African descendants and the large portion of the white population that attends a private secondary institution.

Although government social expenditures in Uruguay are ethno-racially progressive, this is largely due to the large differences in poverty rates across ethno-racial lines rather than the implementation of specific policy interventions that provide financial support to the nation's indigenous peoples and African descendants. Creating programs that seek to address the multi-dimensional exclusion faced by Uruguay's indigenous peoples and African descendants is necessary to improving ethno-racial equality in the country. If the Uruguayan Government seeks to promote ethno-racial inclusion within society, it is critical that they increase the number of job and educational opportunities for indigenous peoples and African descendants. This can be done through a number of different types of interventions, including increasing the quality of public tertiary preparation education and the

number of indigenous and African descendant students enrolled in these programs. This has the potential of increasing the share of indigenous and African descendant students enrolled in tertiary education, thus boosting the ethno-racial progressivity of these expenditures. Although ethno-racial inequalities account for a smaller portion of total inequality in Uruguay than in the other countries considered in this report, Uruguay still has much to do in order to promote ethno-racial equality.

# Chapter 10

## Conclusions and Policy Implications

Although many of the fiscal interventions implemented in Bolivia, Brazil, Guatemala, Mexico and Uruguay are ethno-racially progressive, inequalities due to one's ethno-racial identity remain large in all of these countries. The aggregate fiscal impacts in each of the five countries examined in this report equalize incomes and opportunities across ethno-racial groups. However, the magnitude of these impacts is minimal in all of the countries considered and inequalities in terms of income shares and levels of poverty remain large between ethno-racial groups. As recent studies have shown that racial inequalities can lead to slower economic growth (Alesina et al., 2012), governments should focus on promoting the wellbeing of indigenous peoples and African descendants in their respective countries.

Much of the ethno-racial progressivity of fiscal interventions in the five countries considered comes from direct cash transfer programs and through the monetization of public health and education services. While it is important that this continue, the progressivity of these fiscal interventions obscures the challenges faced by indigenous peoples and African descendants. The high ethno-racial progressivity of direct cash transfer programs, and in particular of each nation's flagship conditional cash transfer program, is not due to specific government efforts to close ethno-racial inequalities in these countries, but rather due to the high levels of poverty experienced by indigenous peoples and African descendants relative to the white or non-indigenous population. In fact, many of the

programs examined reduce poverty relatively more among the white and non-indigenous poor than they do among the indigenous or African descendant poor. Although the total percentage point decline in poverty amongst indigenous peoples and African descendants may be larger than for the white population, significantly higher rates of poverty remain and often, the share of the poor who self-identify as indigenous or African descendant actually increases as a result of current fiscal interventions. This suggests that although these programs are colorblind in theory and the vast majority of beneficiaries may be indigenous or of African descent, in practice there is a degree of potential bias in their provision. If governments in the region wish to close the ethno-racial divide, it will be necessary to adjust targeting mechanisms to ensure that poor indigenous peoples and African descendants are not less likely to receive benefits than their poor white counterparts.

The progressivity of pension programs varies across the countries analyzed, but highlight an important issue. Several of the pension programs that are considered in this analysis are ethno-racially progressive, but the impacts appear to benefit the poor white population relatively more than poor indigenous peoples and African descendants. This is likely due to differences in rates of labor market informality across ethno-racial lines. The challenge of targeting social safety nets to populations with higher levels of labor market informality is not only evident in pension programs, but also within social safety net programs aimed at workers. One notable

exception to this is Mexico's *Programa de Empleo Temporal* (PET), which provides assistance to individuals who work seasonally. The design of the PET allows for more effective reductions in ethno-racial inequality as Mexico's indigenous peoples are more likely employed in seasonal labor than non-indigenous Mexicans. Although the targeting mechanisms of pension and labor protections are colorblind in their design, labor force discrimination can play a large role in the ethno-racial progressivity of programs designed to support the elderly and unemployed.

The ethno-racial progressivity of public health and education services is beneficial to both society and for indigenous peoples and African descendants. However, the overall ethno-racial progressivity of these interventions is, at least in part, due to the fact that wealthier individuals choose to opt out of publicly provided services in favor of private providers. Once again, although the provision of these services benefits indigenous peoples and African descendants, questions over the quality of public services may lead to future inequalities. This is perhaps best highlighted in the case of public expenditure on education. Although public expenditure on non-tertiary education is absolutely ethno-racially progressive in all of the countries analyzed, with the exception of Brazil, public expenditure on universities is ethno-racially regressive. In Brazil, efforts to implement affirmative action policies in public universities dates back to the early 2000s and highlights how ethno-racial targeting can improve the progressivity of tertiary education expenditure. Additionally, the data for Brazil analyzed in this report predates the implementation of federally mandated affirmative action policies in federal universities which is likely to further increase the modest progressivity of this expenditure.

What these examples highlight is that if governments seek to promote ethno-racial equality within their borders, it is necessary to do more than make the targeting mechanisms of fiscal interventions colorblind. While colorblind interventions benefit indigenous peoples and African descendants, other factors play an important role in determining the ethno-racial progressivity and degree to which interventions close ethno-racial gaps. These factors may include access to services, the levels of formality within the labor market, discrimination within the labor market, and language barriers. As such, governments should implement programs that target based on income as well as by race. This

will allow governments to ensure that potential beneficiaries of different fiscal interventions and public services are not being excluded due to factors outside of their control.

Promoting ethno-racial equality is an important action that governments should take which would benefit society as a whole. By creating fiscal interventions that specifically target marginalized segments of society governments can promote ethno-racial equality and foster economic growth for the country as a whole. Although fiscal policy is just one tool that can be leveraged for promoting ethno-racial equality, as this report highlights, fiscal policy can have an important impact that could be even greater with better targeting mechanisms and by removing barriers to indigenous peoples and African descendants within programs that are designed to be colorblind. While only a first step towards promoting ethno-racial equality, fiscal policy can be an effective tool in combatting the inequalities evident in society.

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# Annexes

## Annex 1. | Summary Poverty Rates

		Market Income	Net Market Income	Disposable Income	Post-Fiscal Income
<b>National Extreme Poverty</b>					
	<b>Bolivia</b>	...	23.8%	21.4%	24.4%
	Indigenous	...	31.5%	28.3%	31.3%
	Non-Indigenous	...	14.7%	13.4%	16.3%
	<b>Brazil</b>	10.0%	10.3%	6.3%	9.8%
	White	5.2%	5.4%	3.1%	5.0%
	Afro-Descendant	14.6%	15.0%	9.3%	14.4%
	Indigenous	12.3%	12.7%	7.1%	12.0%
	<b>Guatemala</b>	31.2%	31.4%	29.9%	31.3%
	Indigenous	46.6%	46.8%	44.0%	45.8%
	Non-Indigenous	20.6%	20.9%	20.2%	21.3%
	<b>Mexico</b>	19.7%	19.9%	17.6%	18.5%
	Indigenous by Lang.	56.1%	56.1%	50.1%	50.9%
	Indigenous Self-ID	33.6%	33.9%	30.3%	31.0%
	Non-Indigenous	14.7%	14.9%	13.1%	14.0%
	<b>Uruguay</b>	5.5%	5.5%	1.7%	2.8%
	White	5.1%	5.2%	1.6%	2.7%
	Afro-Descendant	14.1%	14.2%	4.7%	6.2%
	Indigenous	8.1%	8.1%	3.0%	3.8%

National Moderate Poverty					
	<b>Bolivia</b>	...	46.7%	45.4%	49.6%
	Indigenous	...	54.6%	53.1%	57.0%
	Non-Indigenous	...	37.4%	36.2%	40.9%
	<b>Brazil</b>	23.9%	25.0%	20.9%	28.3%
	White	14.2%	15.1%	12.2%	17.4%
	Afro-Descendant	33.1%	34.4%	29.1%	38.5%
	Indigenous	30.5%	31.5%	26.3%	39.8%
	<b>Guatemala</b>	59.2%	59.5%	58.9%	60.5%
	Indigenous	79.3%	79.6%	78.8%	79.6%
	Non-Indigenous	45.3%	45.7%	45.3%	47.3%
	<b>Mexico</b>	48.9%	50.0%	48.4%	49.6%
	Indigenous by Lang.	80.1%	80.7%	78.2%	78.9%
	Indigenous Self-ID	62.8%	63.9%	62.3%	63.0%
	Non-Indigenous	44.0%	45.0%	43.4%	44.8%
	<b>Uruguay</b>	25.3%	25.8%	22.3%	26.0%
	White	24.2%	24.8%	21.3%	25.0%
	Afro-Descendant	52.1%	52.9%	47.5%	52.6%
	Indigenous	35.4%	36.3%	30.8%	35.9%

**Source:** Author's based on Bolivia (2009): Paz-Arauco et al., 2013 CEQ-IDB; Brazil (2009): Higgins and Pereira, 2013 CEQ-IDB; Guatemala (2010/2011): Cabrera and Moran, 2013 CEQ-IDB; Aranda and Scott, 2016 CEQ-IDB; Uruguay (2009): Bucheli, Rossi and Amabile, 2013 CEQ-IDB.

**Note:** The extreme poverty lines used in this analysis correlate with the extreme poverty lines used by the government or by an in-country leading expert on poverty calculation. In some cases these vary by region or municipality. These are set at \$3.05 for urban areas and \$2.31 2005 PPP/day for rural areas in Bolivia, between \$1.18 and \$2.18 2005 PPP/day in Brazil, \$2.03 2005 PPP/day in Guatemala, between \$5.64 and \$7.94 2005 PPP/day in Mexico and at \$3.35 2005 PPP/day in Uruguay. Moderate poverty lines are set at \$5.80 for urban areas and \$4.06 2005 PPP/day in Bolivia for rural areas, between \$2.35 and \$4.37 2005 PPP/day in Brazil, \$3.71 2005 PPP/day in Guatemala, between \$10.51 for and \$16.43 2005 PPP/day in Mexico and at \$7.70 2005 PPP/day in Uruguay.

# Annex 2.

## Summary Inequality Indicators

		<b>Market Income</b>	<b>Net Market Income</b>	<b>Disposable Income</b>	<b>Post-Fiscal Income</b>	<b>Final Income</b>
<b>Gini Coefficient</b>						
	Bolivia	...	0.503	0.493	0.503	0.446
	Brazil	0.579	0.565	0.544	0.546	0.439
	Guatemala	0.551	0.550	0.546	0.551	0.527
	Mexico	0.542	0.527	0.517	0.516	0.465
	Uruguay	0.493	0.478	0.457	0.462	0.394
<b>Theil Index</b>						
	Bolivia	...	0.4969	0.4777	0.499	0.3967
	Brazil	0.674	0.630	0.588	0.590	0.401
	Guatemala	0.692	0.691	0.682	0.701	0.645
	Mexico	0.604	0.558	0.538	0.535	0.439
	Uruguay	0.456	0.422	0.389	0.399	0.299
<b>Share of Inequality Due to Race and Ethnicity</b>						
	Bolivia	...	4.9%	4.8%	4.4%	4.4%
	Brazil	9.1%	9.3%	9.2%		
	Guatemala	8.5%	8.4%	8.3%	8.0%	8.1%
	Mexico	3.6%	3.6%	3.5%	3.3%	3.2%
	Uruguay	1.0%	1.0%	1.0%	0.9%	0.9%

Source: Author's based on Bolivia (2009): Paz-Arauco et al., 2013 CEQ-IDB; Brazil (2009): Higgins and Pereira, 2013 CEQ-IDB; Guatemala (2010/2011): Cabrera and Moran, 2013 CEQ-IDB; Aranda and Scott, 2016 CEQ-IDB; Uruguay (2009): Bucheli, Rossi and Amabile, 2013 CEQ-IDB.

# Annex 3.

## Summary Income and Population Shares

	Population	Market Income	Net Market Income	Disposable Income	Post-Fiscal Income	Final Income
<b>Bolivia</b>						
Indigenous	54.2%	...	43.3%	43.6%	43.6%	44.8%
Non-Indigenous	45.8%	...	56.7%	56.4%	56.4%	55.2%
<b>Brazil</b>						
White	48.0%	64.9%	64.4%	63.9%	63.9%	60.6%
Afro-Descendant	50.8%	33.5%	33.9%	34.6%	34.6%	37.9%
Indigenous	0.4%	0.3%	0.3%	0.3%	0.3%	0.3%
<b>Guatemala</b>						
Indigenous	40.7%	24.4%	24.5%	24.7%	24.8%	25.3%
Non-Indigenous	59.3%	75.6%	75.5%	75.3%	75.2%	74.7%
<b>Mexico</b>						
Indigenous by Lang.	6.9%	2.5%	2.6%	2.8%	2.8%	3.2%
Indigenous Self-ID	26.3%	17.5%	17.9%	18.2%	18.4%	19.2%
Non-Indigenous	73.7%	82.5%	82.1%	81.8%	81.6%	80.8%
<b>Uruguay</b>						
White	95.5%	97.2%	97.2%	97.1%	97.1%	96.8%
Afro-Descendant	3.4%	1.9%	1.9%	2.0%	2.0%	2.3%
Indigenous	1.0%	0.7%	0.8%	0.8%	0.8%	0.8%

Source: Author's based on Bolivia (2009): Paz-Arauco et al., 2013 CEQ-IDB; Brazil (2009): Higgins and Pereira, 2013 CEQ-IDB; Guatemala (2010/2011): Cabrera and Moran, 2013 CEQ-IDB; Aranda and Scott, 2016 CEQ-IDB; Uruguay (2009): Bucheli, Rossi and Amabile, 2013 CEQ-IDB.

# Annex 4. | Target Ages for Education

Ages Used to Define Each Education Group

	<b>Pre-school</b>	<b>Primary</b>	<b>Secondary</b>	<b>Tertiary</b>
Bolivia	4 to 5	6 to 13	14 to 17	18 to 22
Brazil	3 to 6	7 to 14	15 to 18	18 to 23
Guatemala	4 to 6	7 to 12	13 to 17	18 to 25
Mexico	4 to 5	6 to 11	12 to 15	15 to 23
Uruguay	Less than 4	4 to 11	12 to 17	18 to 24

**Source:** Author's based on Bolivia (2009): Paz-Arauco et al., 2013 CEQ-IDB; Brazil (2009): Higgins and Pereira, 2013 CEQ-IDB; Guatemala (2010/2011): Cabrera and Moran, 2013 CEQ-IDB; Aranda and Scott, 2016 CEQ-IDB; Uruguay (2009): Bucheli, Rossi and Amabile, 2013 CEQ-IDB.

# Annex 5.

## Bolivia: Share of Fiscal Interventions

	Indigenous	Non-Indigenous
<b>Population</b>	54.2%	45.8%
<b>Net Market Income</b>	43.3%	56.7%
Bono Juana Azurduy	74.6%	25.4%
Bono Juancito Pinto	60.2%	39.8%
Desayuno escolar	59.2%	40.8%
Renta Benemerito	44.8%	55.2%
Renta Dignidad	61.1%	38.7%
Pensions	35.6%	61.7%
Indirect taxes	43.5%	56.3%
Education: Yo si puedo	76.5%	23.5%
Education: preschool	59.8%	40.2%
Education: primary	60.2%	39.8%
Education: secondary	58.5%	41.5%
Education: all except tertiary and PAN	60.1%	39.9%
Education: tertiary	40.1%	59.9%
Education: PAN	60.5%	39.5%
Total Education Spending	52.1%	47.9%
Health Funds	47.3%	52.7%
Health Public System	56.8%	43.2%
Total Health	55.2%	44.8%

Source: Paz-Arauco et al., 2013 CEQ-IDB.

# Annex 6.

## Brazil: Share of Fiscal Interventions

	African Descendant	Indigenous	White
<b>Population</b>	50.8%	0.4%	48.0%
<b>Market Income</b>	33.5%	0.3%	64.9%
Direct Taxes	26.8%	0.3%	71.4%
Bolsa Familia	72.3%	0.5%	26.6%
BPC	62.3%	0.3%	36.9%
Unemployment	48.9%	0.2%	50.5%
Scholarships	27.4%	0.1%	72.2%
Special Pensions	34.7%	0.2%	64.5%
Other Transfers	47.6%	0.2%	51.9%
Contributory Pensions	33.2%	0.2%	65.4%
Indirect Subsidies	62.4%	0.4%	36.5%
Indirect taxes	34.8%	0.3%	63.6%
Education: Early Child	57.8%	0.4%	41.5%
Education: primary	59.7%	0.4%	39.5%
Education: secondary	58.9%	0.4%	40.1%
Education: Non-Tertiary	59.3%	0.4%	39.8%
Education: tertiary	37.6%	0.1%	58.9%
Total Education	55.1%	0.3%	43.5%
Health	52.3%	0.5%	46.9%

Source: Higgins and Pereira, 2013 CEQ-IDB.



# Annex 7.

## Guatemala: Share of Fiscal Interventions

	Indigenous	Non-Indigenous
<b>Population</b>	40.7%	59.3%
<b>Market Income</b>	24.4%	75.6%
Direct Taxes	7.7%	92.3%
CCT	76.0%	24.0%
Non-contributory pension	38.0%	62.0%
Contributory Pensions	4.9%	95.1%
Indirect taxes	22.0%	78.0%
Tax Exemptions	30.6%	69.4%
Transport Subsidy	12.5%	87.5%
Electricity Subsidy	29.1%	70.9%
Education: preschool	39.5%	60.5%
Education: primary	48.6%	51.4%
Education: secondary	38.7%	61.3%
Education: all except tertiary	44.2%	55.8%
Education: tertiary	13.9%	86.1%
Total Education Spending	40.4%	59.6%
Health	27.4%	72.6%

Source: Cabrera and Moran, 2013 CEQ-IDB.

# Annex 8. | Mexico: Share of Fiscal Interventions

	Indigenous (Self-Identification)	Indigenous (Language)	Non-Indigenous
<b>Population</b>	26.3%	6.9%	73.7%
<b>Market Income</b>	17.5%	2.5%	82.5%
Scholarships	26.2%	1.7%	73.8%
Oportunidades	46.1%	22.0%	53.9%
Procampo	31.6%	17.3%	68.4%
PAL	47.6%	9.1%	52.4%
PET	56.4%	9.0%	43.6%
Employment Subsidy	18.9%	1.9%	81.1%
Other Transfers	37.7%	23.0%	62.3%
Non-Contributory Pension: 70 y mas	34.9%	13.5%	65.1%
Non-Contributory Pension: other pensions without DF	28.4%	15.2%	71.6%
Non-Contributory Pension: other pensions from DF	7.3%	0.0%	92.7%
Direct Taxes	8.4%	0.8%	91.6%
Electric Subsidy	37.9%	7.9%	62.1%
Gas Subsidy	13.1%	1.1%	86.9%
Gas LP Subsidy	20.5%	2.3%	79.5%
Transportation Subsidy	26.4%	4.5%	73.6%
All indirect subsidies	24.1%	4.0%	75.9%
Indirect taxes, VAT	17.4%	2.5%	82.6%
Indirect taxes, IEPS	16.6%	2.3%	83.4%
All indirect taxes	17.3%	2.5%	82.7%
In kind health: IMSS	17.3%	1.4%	82.7%
In kind health: ISSSTE	22.0%	4.2%	78.0%
In kind health: IMSS-Oportunidades	47.6%	24.3%	52.4%
In kind health: PEMEX	19.5%	3.8%	80.5%
In kind health: SSA	36.3%	12.1%	63.7%
In kind health: Seguro Popular	35.3%	11.2%	64.7%

All health	26.5%	6.7%	73.5%
In kind education: Preeschool	34.1%	9.3%	65.9%
In kind education: Primary	30.9%	8.5%	69.1%
In kind education: Lower secondary	29.1%	7.8%	70.9%
In kind education: Upper secondary	24.1%	4.8%	75.9%
In kind education: Tertiary	17.7%	2.2%	82.3%
All education	26.9%	6.5%	73.1%

Source: Aranda and Scott, 2016 CEQ-IDB.

## Annex 9. | Uruguay: Share of Fiscal Interventions

	<b>African Descendant</b>	<b>Indigenous</b>	<b>White</b>
Population	3.4%	1.0%	95.5%
Market Income	1.9%	0.7%	97.2%
Direct Taxes	1.7%	0.6%	97.6%
Flagship CCT: AFAM	6.7%	1.4%	91.9%
Food baskets	7.5%	1.4%	91.1%
Food vouchers	8.8%	1.7%	89.5%
Other direct transfers	3.3%	1.2%	95.4%
Non-contributory pensions	6.1%	1.3%	92.6%
Indirect taxes	1.9%	0.8%	97.2%
Education: child-care	5.5%	1.0%	93.4%
Education: pre-school and primary	5.5%	1.4%	93.1%
Education: secondary (bachillerato)	2.0%	0.9%	97.0%
Education: secondary (ciclo básico)	3.6%	1.1%	95.2%
Education: secondary technical	4.0%	1.2%	94.8%
Education: all except tertiary	4.4%	1.2%	94.3%
Education: tertiary	1.0%	0.6%	98.3%
Health	3.9%	1.1%	94.9%

Source: Bucheli, Rossi and Amabile, 2013 CEQ-IDB.