



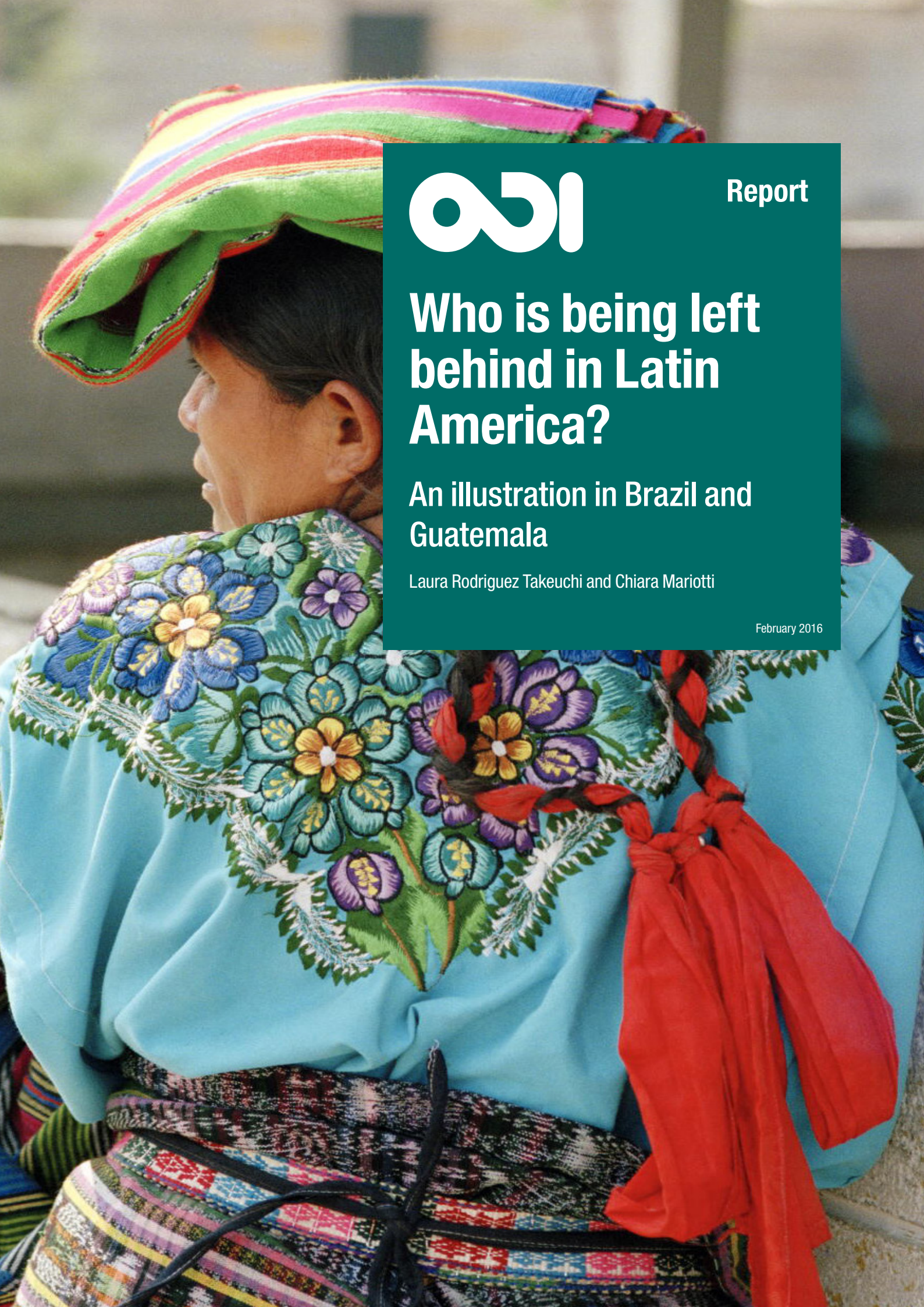
Report

Who is being left behind in Latin America?

An illustration in Brazil and Guatemala

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February 2016



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ISSN: 2052-7209

Cover photo: John Olsson, UN Photo, Mayan woman in Quiche, Guatemala.

Contents

Key messages	6
Acknowledgments	7
Acronyms	8
Introduction	9
Diversity, poverty and marginalisation in Brazil	12
Income poverty	12
Access to basic services	17
Education, nutrition and health	18
A narrowing gap? Discussion of racial inequalities in Brazil	22
Ethnicity, poverty and marginalisation in Guatemala	25
Income poverty	25
Access to basic services	29
Child health	30
Education	31
Persisting gaps: discussion of ethnic inequalities in Guatemala	35
Conclusion	37
References	38
Appendices	40
Appendix 1: Methodological notes	40
Appendix 2: List of indicators and definitions	41
Appendix 3: Regression results and predicted probabilities for selected groups and interactions, Brazil	42
Appendix 4: Regression results and predicted probabilities for selected groups and interactions, Guatemala	42

List of tables, figures and boxes

Tables

Table 1: Population by groups, 2004 and 2012 (%)	13
Table 2: Income poverty composition by race, 2004 and 2012 (%)	14
Table 3: Income poverty rate by race (national poverty line), 2004 and 2012 (%)	15
Table 4: Access to improved sanitation, 2004 and 2012 (%)	19
Table 5: Education poverty rate by race, 2004 and 2012 (%)	20
Table 7: Evolution of gaps, 2004-2012	21
Table 7: Population by groups, 2000 and 2011 (%)	26
Table 8: Share of indigenous population according to available census data, 2000 and 2010 (%)	27
Table 9: Income poverty composition by ethnicity (national poverty line), 2000 and 2011 (%)	27
Table 10: Rural/urban distribution by ethnicity, 2000 and 2011 (%)	28
Table 11: Access to improved sanitation by ethnic group, 2000 and 2011 (%)	29
Table 12: Use of clean cooking fuel by ethnic group, 2000 and 2011 (%)	31
Table 13: Under-five children not receiving diarrhoea treatment by ethnic group, 2000 and 2011 (%)	31
Table 14: Education poverty by ethnic group (15-24 years), 2000 and 2011 (%)	33
Table 15: Evolution of gaps, 2000-2011	34

Figures

Figure 1: Likelihood of being poor by race, 2004 and 2012 (%)	15
Figure 2: Likelihood of being poor by selected interactions of race and region, 2004 and 2012 (%)	16
Figure 3: Wage categories by race, A-2004, B-2012 (%)	16
Figure 4: Likelihood of living in a household earning less than half a minimum wage by race, 2004 and 2012 (%)	17
Figure 5: Cooking with clean fuel by race and place of residence, A-2004, B-2012 (%)	18
Figure 6: Likelihood of using clean cooking fuel by selected interactions of race and place of residence, 2004 and 2012 (%)	18
Figure 7: Likelihood of improved sanitation access by selected interactions of race and place of residence, 2004 and 2012 (%)	19

Figure 8: Likelihood of being in moderate education poverty by selected interactions of race and income quintile, 2004 and 2012 (%)	20
Figure 9: Likelihood of stillbirths by race and place of residence, 2012 (%)	21
Figure 10: Poverty (moderate) by place of residence and ethnicity, A-2000, B-2011 (%)	26
Figure 11: Likelihood of being poor by ethnicity, 2000 and 2011 (%)	28
Figure 12: Likelihood of being poor by ethnicity and place of residence, 2000 and 2011 (%)	28
Figure 13: Likelihood of having access to sanitation by selected ethnic groups and poverty categories, 2000 & 2011 (%)	30
Figure 14: Likelihood of receiving diarrhoea treatment by selected group, 2000 and 2011 (%)	32
Figure 15: Likelihood of being in education poverty for selected interactions of gender and ethnicity, 2000 & 2011 (%)	34

Boxes

Box 1: A note on the methodology	10
Box 1: A note on the methodology (continued)	11
Box 2: Racial classification in Brazil	14
Box 3: The quilombola group	23
Box 4: Indigenous categories in Guatemala	26
Box 5: Do conditional cash transfer programmes work for indigenous communities?	32

Key messages

- The Sustainable Development Goals (SDGs) state that progress must leave no one behind. This paper is one of a series setting out the first step along the road to implementing this agenda – the step of identifying marginalised communities.
- Race and ethnicity are key markers of social exclusion in Latin America. Using household survey data for Brazil and Guatemala, this paper identifies the gaps for these groups in achieving a number of outcomes that relate to key SDG targets.
- Afro-Brazilians have long been among Brazil's most marginalised. There were absolute gains in reducing the gap in poverty rates between the Afro-Brazilian and white population between 2004 and 2012, but almost no relative change: Afro-Brazilians remained 1.6 times as likely to be poor as whites. Absolute gains were visible in indicators of education and household services while relative gaps fell at a slower rate.
- In Guatemala, indigenous groups continue to underperform in comparison with the non-indigenous majority. The chances of being poor were below 10% for non-indigenous households but between 15% and 25% for different indigenous groups. A household from the poorest indigenous group was 2.5 times as likely as a non-indigenous household to be in poverty, a ratio that did not change between 2000 and 2011. Both absolute and relative gaps in Guatemala remain stubbornly high.

Acknowledgments

The authors are grateful for useful discussions and comments from colleagues Francesca Bastagli, Susan Nicolai, Maria Quattri, Emma Samman, Andrew Shepherd and Elizabeth Stuart (ODI). They are also thankful for comments from Maynor Cabrera (FEDES), Naila Kabeer (LSE), Rafael Guerreiro Osório (IPEA), Jose Manuel Roche (Save the Children) and Frances Stewart (Oxford University) on earlier versions of the draft.

We are grateful to Maynor Cabrera (FEDES), Walter Flores (CEGSS), Rafael Guerreiro Osório (IPEA), Juan Loera (ICIIS) and Alex Shankland (IDS) for their time and willingness to share their knowledge and expertise with us.

This paper is an output of the following projects: 'Building a post-2015 sustainable development agreement' and 'Effective international development action beyond 2015'. Details of current funders of the project can be found online. The usual disclaimers apply.

Acronyms

BPC	Benefício de Prestação Continuada (Old Age and Disability Benefit)	OECD	Organisation for Economic Co-operation and Development
CCT	Conditional Cash Transfer	PNAD	Pesquisa Nacional por Amostra de Domicílios (National Household Sample Survey)
CEBRAC	Centro Brasileiro de Cursos (Brazilian Research Centre)	PPP	Purchasing Power Parity
ENCOVI	Encuesta Nacional de Condiciones de Vida (National Living Conditions Survey)	PUC-Rio	Pontifícia Universidade Católica do Rio de Janeiro (Pontifical Catholic University of Rio de Janeiro)
IGBE	Instituto Brasileiro de Geografia e Estatística (Brazilian Institute of Geography and Statistics)	SDG	Sustainable Development Goal
INE	Instituto Nacional de Estadística (National Institute of Statistics)	SEDLAC	Socio-Economic Database for Latin America and the Caribbean
JMP	Joint Monitoring Programme	UN	United Nations
LAC	Latin America and the Caribbean	UNESCO	UN Educational, Scientific and Cultural Organization
LNOB	Leave No One Behind	US	United States
MDG	Millennium Development Goal		

Introduction

Countries in Latin America and the Caribbean (LAC) have made impressive gains towards meeting the Millennium Development Goals (MDGs). Extreme income poverty has halved from 12% to 6%, 95% of children are enrolled in primary education and the under-five mortality rate is now below 20 deaths per 1,000 live births (UN, 2015a). Yet these averages conceal differences within and across countries.

The LAC region is the most unequal in the world. In spite of reductions over the past decade, by the end of it, the region housed 10 of the world's 15 most unequal countries by the Gini coefficient (Gasparini and Lustig, 2011). On average across the countries in the region, the top 20% of the distribution hold close to half of the income, the bottom 40% have 16% and the bottom 10% have less than 2%.¹ So, although very few people live under \$1.25 a day, millions struggle to reach middle-class status and are at risk of falling back into poverty. It is estimated that, without changes in income inequality, about a third of the region's population will belong to this vulnerable group by the time the Sustainable Development Goals (SDGs) end in 2030 (Birdsall et al., 2013).

This unequal income distribution illustrates the extent of social exclusion in the region (Kabeer, 2010). A large part of this pattern of exclusion can be explained by inequalities between groups. The regional MDG Progress Report (UN, 2010) stressed that addressing the wellbeing gaps associated with gender, race and ethnicity was important for full achievement of the MDGs. Moreover, these large gaps across groups are intrinsically unfair and violate the universal agenda of the SDGs.

The aim to 'leave no one behind' (LNOB) is central to the SDGs. The final outcome document not only emphasises the aim to reduce income inequality but also states 'we emphasize the responsibilities of all States... to respect, protect and promote human rights and fundamental freedoms for all, without distinction of any kind as to race, colour, sex, language, religion, political or other opinion, national or social origin, property, birth, disability or other status' (UN, 2015b). Melamed (2015) has proposed that countries commit to identifying their marginalised populations within the first three years, and prepare for a global LNOB summit where

countries would share experiences and make commitments to implement policies that address the vulnerabilities these marginalised people face.

This paper is one in a series of three regional briefings that aims to do this. In it, we explore how we can examine inequalities through a group lens to aid in identifying who is being left behind – an important first step in addressing impediments to their progress. Using household survey data for two countries in Latin America – Brazil and Guatemala – we provide new empirical evidence to show that group-based identities can hold members back from achieving progress. While these surveys contain a wealth of valuable information, they also have limitations in terms of identifying the most marginalised groups, because they may already excluded from household surveys (Box 1). In that sense, the exercise is designed to be illustrative rather than exhaustive.

We focus on racial and ethnic minority groups in both countries, recognised as a key markers of social exclusion in LAC (de Ferranti et al., 2004; Kabeer, 2010) and therefore important to implementing the LNOB principle in the region (Christian Aid, 2015). Black and mixed race groups (collectively known as Afro-Brazilian) are in fact numerically now in the majority in Brazil, but they have long been the country's most disadvantaged on some measures. While much progress has been made – and we tell this success story – marginalisation persists in some important ways. For Guatemala, we focus on indigenous groups as they continue to underperform in comparison with the non-indigenous majority.

The two countries also offer a varied perspective of these group inequalities in LAC as well as representing a mixture of geographic location, size and development levels. Brazil and Guatemala have interesting contrasting histories in terms of their approaches to social policy. Moreover, household survey data containing race/ethnicity markers were readily available for both countries. However, of course, they are not representative of the situation in LAC as a whole, or of indigenous or black communities in other countries.

1 Author's calculations from CEPALStat.

Box 1: A note on the methodology

The findings presented in this briefing are based on the analysis of national household surveys, the National Household Sample Survey (PNAD) in Brazil and the National Living Conditions Survey (ENCOVI) in Guatemala. The PNAD includes five racial categories: white (white), preta (black), Asian (yellow/Asian descent, mainly alluding to Japanese migrants and their descendants), parda (brown, mixed race) and indígena (indigenous). Because of the strong identity of indigenous groups in Guatemala, ENCOVI in turn collects data on indigenous and non-indigenous populations (mainly mixed race ladinos), and also allows for distinguishing between different Mayan groups as well as the non-Mayan Xinca indigenous and the black descendent Garifuna population.

These surveys contain a wealth of valuable information, but also some limitations in terms of identifying the most marginalised groups, and thus for implementing the LNOB principle. Some of these limitations apply generally to most household surveys. By design, sampling frames of household surveys tend to exclude the homeless, people in institutions and mobile, nomadic or pastoralist populations, and in practice also tend to underrepresent people living in urban slums, dangerous places and fragile or transient households (Carr-Hill, 2013). For example, although both ENCOVI and PNAD are nationally representative, PNAD did not include remote rural areas in some states of the North region – which has the highest poverty prevalence in the country – before 2004. Another example is the exclusion in both surveys of information to assess disability status, although both countries have alternative health or disability surveys.

Other limitations are more specific to the representativeness of these surveys of the race/ethnic population of the country. PNAD allows for distinguishing black and mixed race groups, but does not permit disaggregating between the more than 200 indigenous groups in Brazil, or between black groups, particularly those in quilombos, or communities of the descendants of escaped slaves. ENCOVI, in turn, presents problems when trying to analyse the situation of the smaller indigenous groups. In particular, given the small populations of the Xinca and Garifuna, the sample sizes of these two groups in a nationally representative household survey are extremely limited. Consequently, any analysis of these groups will have a large degree of uncertainty surrounding the estimates and alternative sources of data and methods would be needed to shed light on their situation. A more complete analysis would entail going beyond nationally representative household surveys statistics to use participatory research methods such as focus groups.

With these limitations in mind, the analysis in this paper aims to identify the extent of group-based inequalities in Brazil and Guatemala, with an emphasis on ethnic and racial inequalities. Indicators were selected from across a range of outcomes that can be illustrative of key SDG areas (see Appendix 2 for a complete list of the indicators used in each country). The internationally used threshold for these indicators may seem low applied to LAC, a region where most countries are in the middle-income category, particularly Brazil. Indicators that reflect the quality of services, for example, could be more relevant for these countries, and may reveal a more persistent pattern of inequality – but the selection of indicators was driven by data availability.

The method adopted is to estimate the probability of having a certain outcome conditional on the characteristics of a person or household. This is done through a regression model for a binary (yes/no) or categorical (three or more responses) dependent variable. In addition to race/ethnicity, the characteristics used as control variables are place of residence (rural/urban), subnational region and income quintile. For outcomes measured at the individual level, the regressions control for the gender and age. The advantage of this approach, compared with a more simple description of average outcomes for different groups, is it allows for isolating the effect of race from that of other individual characteristics that may influence outcomes. In addition, groups ‘intersect’ with other characteristics; they overlap in a double pattern of exclusion. For example, the effect of ‘race’ may vary with where the person lives or their gender. Consequently, to avoid obscuring differences within the groups, the regression also tests whether selected intersections of interest make a difference.

The results are reported in terms of the predicted probability – that is, the likelihood of having a certain outcome for people belonging to different groups or at the intersection of a group with some other characteristics. For instance, to estimate the difference that being white or Afro-Brazilian makes in having, say, access to electricity, the likelihood of the outcome is first calculated for all individuals as if they were Afro-Brazilian, then repeated as if all individuals were white. Results are reported when the group variable is statistically significant in the regression model. A more technical description of the methodology is available in Appendix 1.

Diversity, poverty and marginalisation in Brazil

Brazil is the largest country in South America and the world's fifth largest in terms of area and population. It covers more than 8.5 million km² spread across a heterogeneous territory of 27 federation units. The country is home to more than 190 million people. Clearly then, to consider only national average rates of progress would obscure the trajectories of different groups and regions in the country.

Poverty in Brazil has fallen dramatically. Only about 3% of the population live on less than R\$70 per month, the extreme poverty benchmark of the national poverty reduction plan – Brasil Sem Miséria (Brazil Without Extreme Poverty).² Access to electricity is almost universal, less than a quarter of the population lacks clean water and less than a third lacks adequate sanitation facilities. Educational attainment has also improved. Between 2004 and 2012, average years of education rose from six to seven. The share of young people with under four years of education fell from 9% to 4%.

Yet, despite this generally optimistic picture, some gaps persist. Brazil has long been known for its high levels of income inequality. Comparative data from the region³ show the concentration of income in the top 10% of the distribution remains the second highest in Latin America, despite a decline in inequality in the 2000s. Data from PNAD confirm this trend: between 2004 and 2012, the Gini coefficient fell from 0.57 to 0.52. Meanwhile, the share of income of those in the bottom 40% of the distribution has risen slightly, from 9.4% to 11.4%, and that of the top 20% has declined modestly, from 60.5% to 56.6%.

Against this backdrop, this section illustrates⁴ inequalities by focusing on black and mixed race groups (collectively known as Afro-Brazilian) and how their circumstances have changed over time. Brazil is proud of its diverse cultural and racial composition (Box 2). Indeed, the 2010 Census revealed that the share of the population

declaring themselves as black or mixed race increased to the point that this 'minority' group comprised more than half of the country's population.

Income poverty

Key messages

- Afro-Brazilians are overrepresented among the income poor. In absolute terms, the likelihood of being in poverty declined between 2004 and 2012 but the relative gap with the white population remained almost unchanged.
- Using a measure of relative poverty - households with an income below half a minimum wage - the absolute and relative gap between Afro-Brazilians and whites changed marginally between 2004 and 2012. There is nonetheless some evidence of faster change occurring for younger people.

Absolute poverty

Brazil has a very low level of extreme poverty. In 2012, only about 2.5% of the population lived in households where the monthly income per capita was below R\$70 per day and 3% of the population live below the international \$1.25 extreme poverty line. The prevalence of moderate poverty (R\$140) was higher (7.4% in 2012).⁵ We focus on this indicator in the subsequent poverty analysis as it can be seen as a proxy for vulnerability to extreme poverty.

Afro-Brazilians are disproportionally represented among the income poor. They were close to half of the population but about three-quarters of those below the national poverty line in 2012 (Table 2). Moreover, between

2 This poverty line sets the eligibility threshold for Bolsa Família and is the criterion for measuring and monitoring changes in the rate of extreme poverty in the national poverty reduction plan (Falcao and Vieira da Costa, 2014). The current value is R\$77 per capita per month.

3 Author's calculations from CEPALStat data on the share of income per capita by decile for 17 countries.

4 Unless otherwise stated, all tables, graphs and figures in this section are the author's calculations based on Brazil's PNAD 2004 and 2012. The author expresses her gratitude to Data Zoom, developed by the Department of Economics at the Pontifical Catholic University of Rio de Janeiro (PUC-Rio), for providing the codes for converting the Brazilian Institute of Geography and Statistics (IBGE) microdata into Stata (<http://www.econ.puc-rio.br/datazoom/english/index.html>)

5 The national poverty lines are roughly the equivalent of about \$1.64 purchasing power parity (PPP) per day for the extreme line and \$3.29 PPP for the moderate line.

2004 and 2012, there was an increase in the share of Afro-Brazilians among the poor: their share rose from 69% to 76%, exceeding the rise in the share of population declaring themselves as Afro-Brazilians.⁶ This rise occurred despite the fall in group's poverty rate⁷ their headcount ratio was 33% in 2004, the highest among all racial groups that year, but it fell considerably to 11% in 2012 (Table 3). The very low poverty rates of the white and Asian groups explain this increase in the relative poverty of Afro-Brazilians, despite an absolute reduction in the group's poverty rate. Indigenous groups, on the other hand, did not show statistically significant poverty reduction, even overtaking Afro-Brazilians as the group with the highest poverty rate. Indigenous people represent a low share of the poor because of their small population (3% of the total in 2012). The small sample of the group in the survey means that estimates have a large degree of uncertainty and thus the following analysis will not focus on indigenous people.⁸ Afro-Brazilian populations live predominantly in the North-East and South-East regions, but they are spread throughout the country. The distribution of income poverty

for Afro-Brazilians also depends on where they live. For example, poverty is now below 5% for all racial groups, including Afro-Brazilians, in the South and South-East and for all but indigenous groups in the Centre-West. In contrast, the poverty rates of Afro-Brazilians in the North and North-East remain above 10%, and are up to 19% for the mixed race group in the North-East, despite a reduction since 2004.

These poverty rates on their own do not control for other individual and household characteristics that influence poverty alongside race. Following the methodology described in Box 1, holding all else constant, the likelihood of being in poverty for the average Afro-Brazilian in 2004 was 28% – that is, an absolute gap of 10 percentage points with respect to the white population. By 2012, the likelihood of being poor for Afro-Brazilians had fallen to 9%, and the absolute gap between them and the white population had also declined to only three percentage points (Figure 1). But, because poverty also fell for the white population, in relative terms Afro-Brazilians remained below whites. In fact, they were in as bad

Table 1: Population by groups, 2004 and 2012 (%)

Category	Group	2004	2012
Place of residence	Rural	17.3	15.2
	Urban	82.7	84.8
Subnational region	Central-West	7.0	7.4
	Northeast	28.1	27.8
	North	7.9	8.4
	South-East	42.4	42.0
	South	14.5	14.3
	Indigenous	0.2	0.3
Gender	Male	48.8	48.7
	Female	51.2	51.3
Race/ethnicity	White	51.3	46.3
	Afro-Brazilian	48.1	52.9
	Mixed/brown (parda)	42.2	45.0
	Black (preta)	5.9	7.9
	Asian (Asian)	0.4	0.5
	Indigenous	0.2	0.3
Total sample size	Unweighted	397,948 individuals	361,468 individuals
	Weighted	182,877,286 individuals	199,174,001 individuals

Note: Afro-Brazilian refers to the combination of black and mixed-race groups.

6 The increase in the number of people declaring themselves Afro-Brazilians for first time in 2012 may explain some of the change in circumstances. However, as PNAD is not a panel survey, it is not possible to track the evolution of the situation of those individuals who declared themselves Afro-Brazilians in both 2004 and 2012. Moreover, the changes showed through the section tend to be of a greater magnitude than the population increase.

7 Increases or decreases are assessed with a 95% confidence interval.

8 Estimates for the Asian group face similar problems; this paper does not discuss this group.

Box 2: Racial classification in Brazil

Until relatively recently, there had been a widespread belief that race in Brazil did not matter. Class, income and regional differences were the most discussed forms of inequality, and the idea of a multiracial Brazilian society where there was no formal segregation was well embedded (Telles, 2006). However, evidence suggests racism is manifest in other ways. In a 2008 survey conducted by the Brazilian Institute of Geography and Statistics (IBGE), 63% of people said they thought race had an influence on people's lives – particularly at work but also in the relations with the justice system and the police (IBGE, 2011).

Racial information has been included in the Brazilian Census since 1872 (Telles, 2006), in the main household surveys in 1987 and incrementally after the late 1990s in other surveys and administrative records. The statistical tradition in Brazil has been to differentiate ethnic-racial patterns by self-reported skin colour rather than ancestry or language (Urrea-Giraldo and Rodriguez-Sanchez, 2014); both the Census and the main household surveys such as PNAD use self-reported questions.

The way race information is collected has not been without debate. Some have questioned the terms used for the racial categories (i.e. *preta* and *pardo* are more used in colloquial language to describe objects rather than people) and the suitability of the inclusion of the mixed race category. It has been argued the latter may obscure a more binary racial divide in the country, a loss of the 'black' identity and thus a perpetuation of the view that Brazilian racial dynamics are fluid as opposed to characterised by sharp contrasts and inequalities between whites and blacks (Loveman et al., 2011). There is also the question of whether race, as defined in the surveys, poorly or incompletely captures actual racial inequality, given that it emphasises appearance rather than cultural differences.

However, regardless of how race is defined, the patterns of inequality by race persist. In Brazil (although not in all countries in the region), the different methods of racial classification are highly correlated with each other. IBGE's predetermined self-reported race categories correlate highly with a skin colour palette identified by the interviewers (i.e. those who report themselves as 'black' have in fact a darker skin colour), as well as with open-ended self-identification responses (Guerreiro Osório, 2003). Moreover, both strict self-identification categories as well as open-ended questions have been found to be significant determinants of disadvantages in Brazil (e.g. in schooling (Telles et al., 2015)).

In the social sciences, as well as in the law (Statute of Racial Equality 2010), there is now a common agreement that the blacks and browns should be conceptualised together and studied as a single collective, most commonly referred to as Afro-Brazilians or *negros* (Telles et al., 2015). Proponents emphasise that both black and mixed race differ significantly from whites and very little among themselves in various socioeconomic indicators, and that the idea is also not to identify a precise biological difference but rather a social one that reflects patterns of discrimination (Guerreiro Osório, 2003). This study follows such an approach.

Table 2: Income poverty composition by race, 2004 and 2012 (%)

	Extreme		Moderate	
	2004	2012	2004	2012
White	26.7	21.4	31.1	22.8
Afro-Brazilian	73.0	77.5	68.6	76.1
Asian	0.1	0.1	0.1	0.1
Indigenous	0.2	1.0	0.2	0.9
	100	100	100	100

a situation as they were in 2004: in both years, Afro-Brazilians were 1.6 times as likely to be poor as the white population.

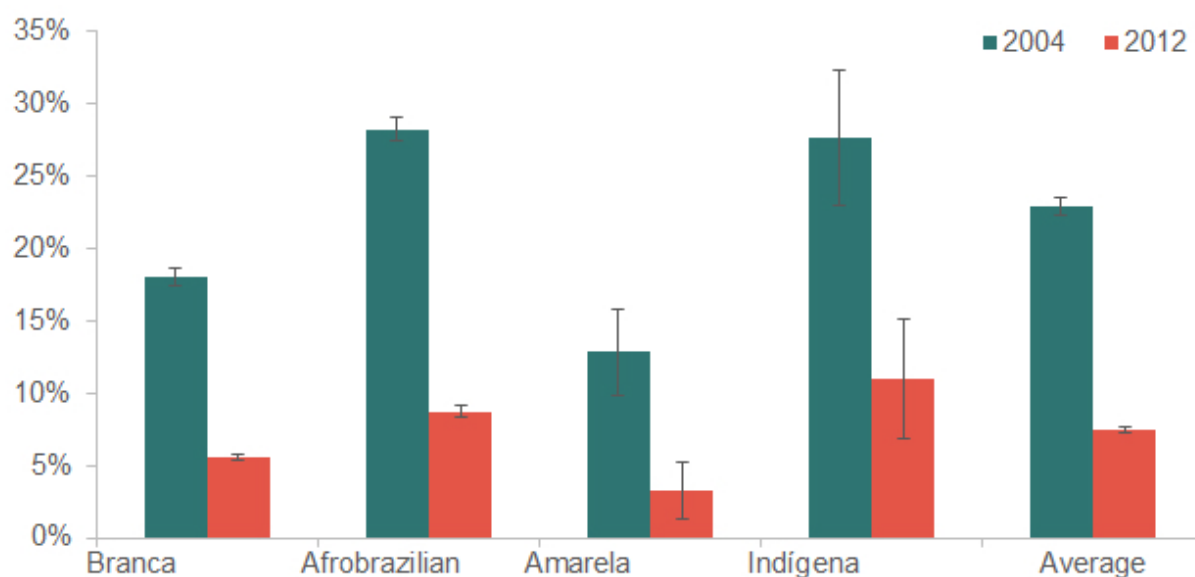
As mentioned, there were also regional differences for Afro-Brazilians. The higher probabilities of being poor in 2004 were for Afro-Brazilians in the North-East region (45%), although this figure declined substantially to 16% in 2012 (Figure 2).

Relative poverty

Brazil uses a multiplicity of poverty lines for different purposes. The income poverty lines discussed in the previous section are based on an absolute level of income and are used in the national poverty reduction plan and the main cash transfer programme. Other programmes use different criteria. The Social Assistance Law defined a quarter of the minimum wage per capita per month as the threshold for receiving the Old Age and Disability Benefit (BPC)⁹ or half the minimum wage to be included in the register for social programmes of the federal government.

⁹ An income guarantee of at least one minimum wage to the elderly (over 65) and people with disabilities.

Figure 1: Likelihood of being poor by race, 2004 and 2012 (%)



Note: Confidence intervals in this and all subsequent graphs are those corresponding to the standard error of the predicted probabilities.

Table 3: Income poverty rate by race (national poverty line), 2004 and 2012 (%)

Year		Extreme		Moderate	
		2004	2012	2004	2012
White	E	3.9	1.1	13.9	3.7
	UB	3.6	1	13.4	3.5
	LB	4.1	1.3	14.5	3.9
Afro-Brazilian	E	11.2	3.6	32.6	10.6
	UB	10.5	3.3	31.6	10.2
	LB	11.8	3.9	33.5	11.1
Asian	E	1.6	0.7	7	1.4
	UB	0.8	0.1	4.6	0.7
	LB	2.3	1.2	9.4	2.1
Indigenous	E	9.4	8.2	29.6	22.8
	UB	4.7	2.2	22.6	14.2
	LB	14.1	14.2	36.6	31.4
Total	E	7.4	2.5	22.9	7.4
	UB	7	2.3	22.2	7.1
	LB	7.8	2.7	23.6	7.7

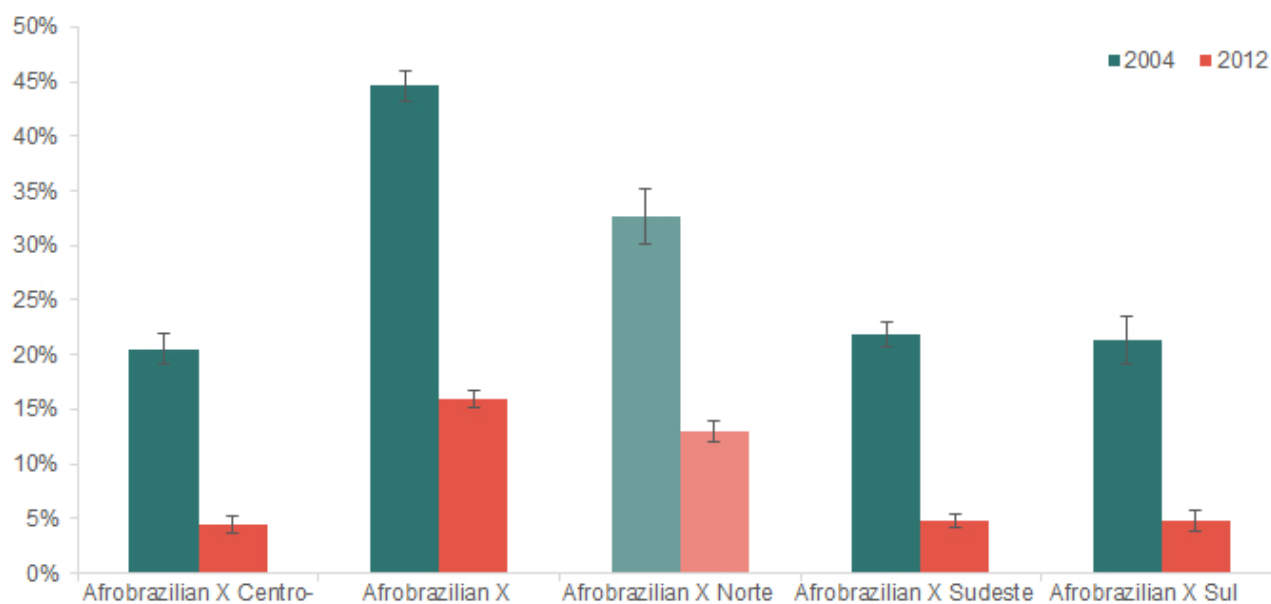
Note: Estimates (E) are in the highlighted columns; UB = upper bound and LB = lower bound of the estimate.

The following analysis classifies households according to whether their monthly income was less than half the minimum wage, up to two minimum wages or more than two minimum wages. This does not imply the household income is derived from wage employment, but rather indicates whether the income level is below a threshold set by the minimum wage level. With the rise in the wage level, the thresholds have risen such that they can be considered relative measures of poverty.

At the national level and with very little difference in 2004 and 2012, about a third of households earned less than half the minimum wage, and half lived in households earning between half and up to two minimum wages; the remaining fifth lived in households earning more than two minimum wages. Figure 3 shows the share of people living in households earning less than half, up to two and more than two minimum wages for each race group. It shows that, for Afro-Brazilians, the shares were skewed with respect to these national averages and with respect to the white population. Disproportionately more households were in the bottom category (40% lived in households with earnings below half the minimum wage) and considerably less were in the top one (less than 10%). Some important differences are also associated with place of residence. In urban areas, about half of households (52%) were in the middle category (i.e. earning up to two minimum wages), whereas in rural areas more than half of households (57%) were in the poorest group.

The likelihood of living in a household earning less than half the minimum wage for an average Afro-Brazilian was

Figure 2: Likelihood of being poor by selected intersections of race and region, 2004 and 2012 (%)



Note: Bars in light colour indicate the effect of region within race categories is not statistically significant in determining the probability of being in poverty.

38% in 2004 and 33% in 2012. The absolute gap was 13 percentage points higher than for the average white person in 2004 and 11 percentage points higher in 2012 (Figure

4). In relative terms, Afro-Brazilians were 1.5 times more likely to be living in a household earning less than half a

Figure 3: Wage categories by race, A-2004, B-2012 (%)

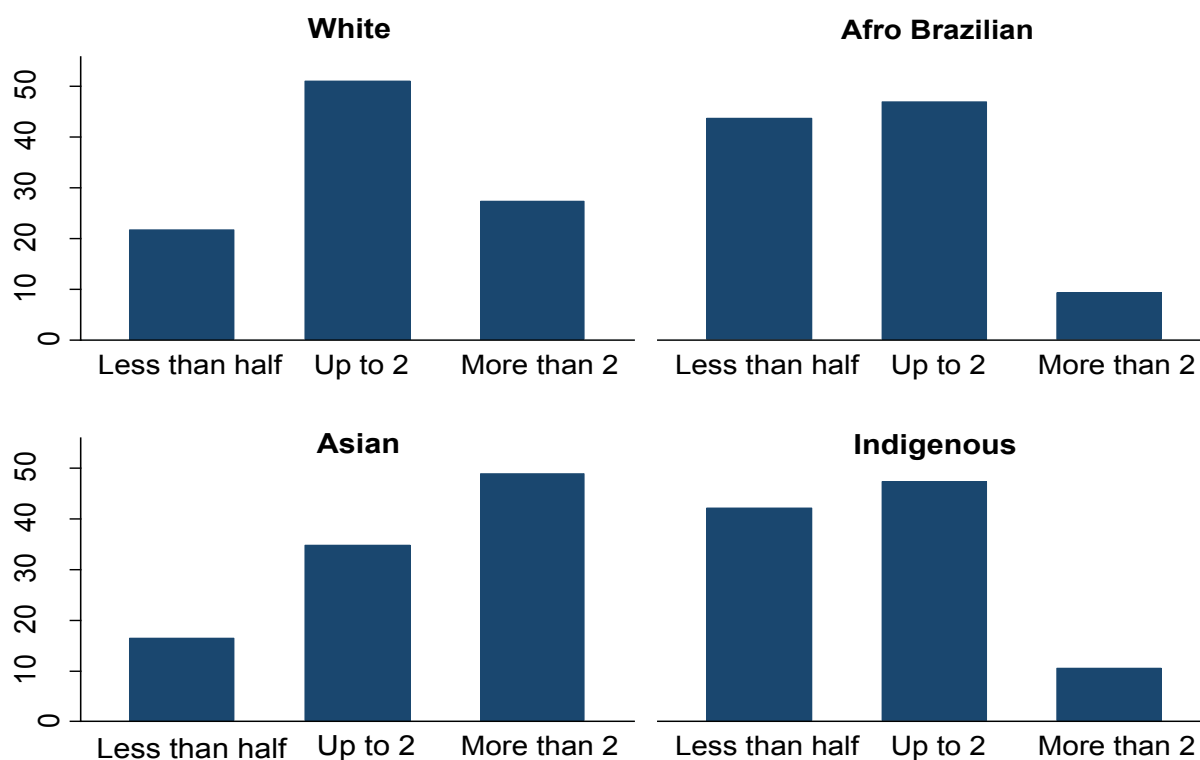
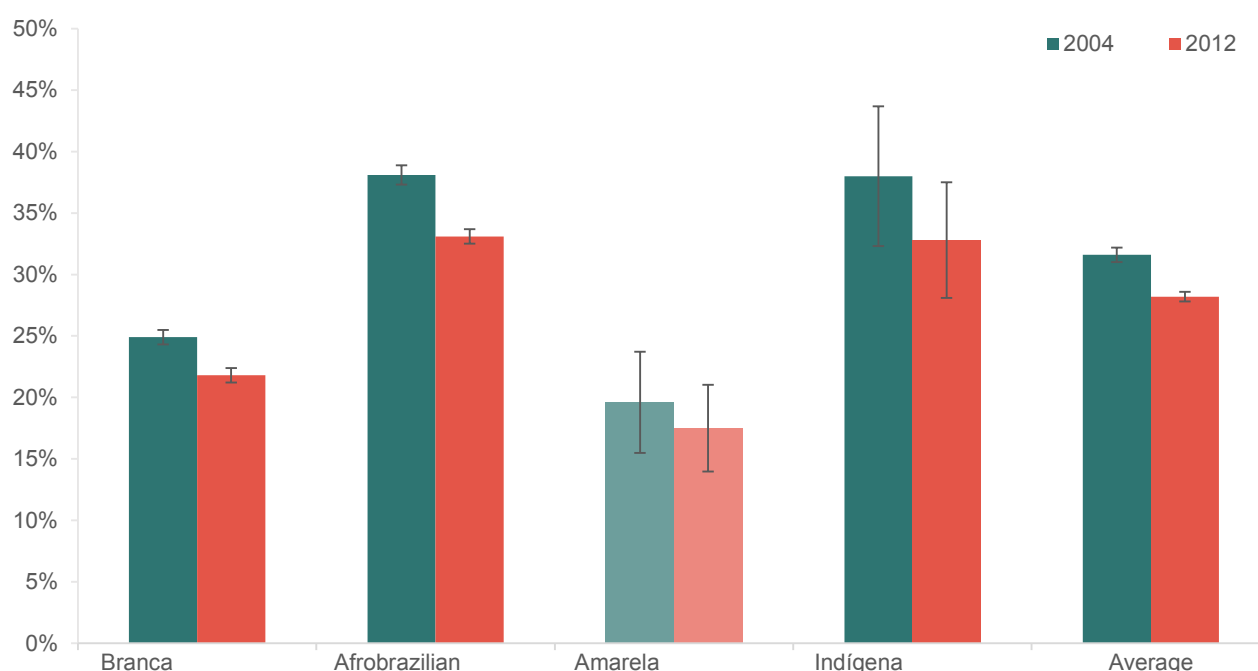


Figure 4: Likelihood of living in a household earning less than half a minimum wage by race, 2004 and 2012 (%)



Note: Bars in light colour indicate the effect of the race group is not statistically significant in determining the probability of being in poverty.

minimum wage than the white population in 2004, a ratio that remained unchanged in 2012.

It is worth noting these gaps have closed faster for younger people. When estimating the likelihood of earning less than half a minimum wage for the population as a whole and for individuals in the younger cohort separately (20-25 years old), we find that, for the former, the relative likelihood (ratio) between Afro-Brazilian and white people fell from 1.5 to 1.4 between 2004 and 2012; for young people the decline was faster: from 1.5 times as likely to earn below the minimum wage to 1.3 times.¹⁰

There is also evidence of a small gender pay gap for Afro-Brazilians, although the effect of race was stronger. The relative gap between female and male Afro-Brazilians was close to one (1.2 and 1.1 in 2004 and 2012, respectively), meaning they were almost as likely to earn below half a minimum wage. On the other hand, an Afro-Brazilian woman was twice as likely to earn less than half a minimum wage as a white woman, and an Afro-Brazilian man 2.4 times as likely as a white man. These ratios remained virtually unchanged in 2012.

Access to basic services

Key messages

- The differences in the likelihood of using clean cooking fuel between Afro-Brazilians and whites were small in 2004 and non-significant in 2012. Rural/urban differences were more pronounced.
- Similarly in the case of access to improved sanitation, the racial differences were not significant but rural/urban ones were large. Even within the Afro-Brazilian population, those residing in urban areas were twice as likely to access to sanitation as those in rural areas.

Electricity

Access to electricity is almost universal in Brazil, with few differences by race or even by quintile or place of residence. However, fewer households use gas or electricity to cook, instead relying on coal or wood. This is a more prevalent in rural than in urban areas (in the former 71% used clean cooking fuel in 2012, whereas in urban areas almost all households did), and, within rural areas, for indigenous and Afro-Brazilians in particular (Figure 5).

There was only a small absolute difference in the likelihood of using clean cooking fuel between Afro-Brazilians and whites. In 2004, the absolute gap was of

¹⁰ These estimates are calculated for individual earnings to be able to incorporate age in the model and test whether the gaps have closed at a different rate for young people. The former analysis of minimum wage is done for household aggregate earnings for comparability with the income poverty estimates.

Figure 5: Cooking with clean fuel by race and place of residence, A-2004, B-2012 (%)

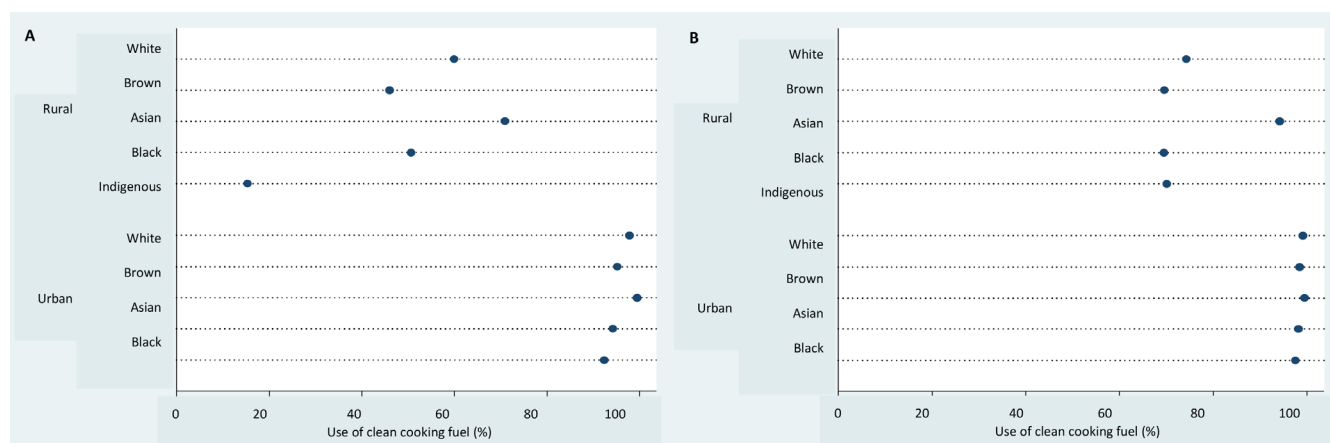
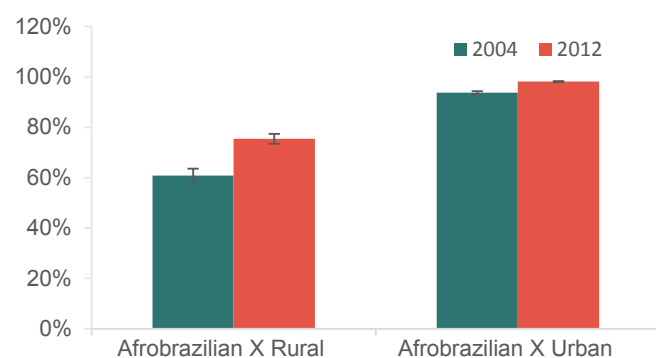


Figure 6: Likelihood of using clean cooking fuel by selected interactions of race and place of residence, 2004 and 2012 (%)



only 3 percentage points and, in 2012, the effect of being Afro-Brazilian loses statistical significance. Differences between rural and urban areas are more pronounced with some differences within the Afro-Brazilian population according to where they lived. Those in urban areas had a higher probability of using clean cooking fuel: 94% in 2004 and 98% in 2012. In 2004, the likelihood of an Afro-Brazilian in a rural area using clean cooking fuel was 58%, and in 2012 it was 75% – still a more than 20 percentage point absolute gap with urban Afro-Brazilians (Figure 6).

Water and sanitation

Access to water and sanitation is high but not universal. Overall, 84% of households have access to clean water and 76% to improved sanitation facilities. The patterns by group are similar for both services, despite the difference in coverage levels. Hence, for brevity, we discuss only the results for improved sanitation. Just over half of Afro-Brazilians had access to improved sanitation in 2004 but this had risen to close to 70% in 2012. In comparison,

access to improved sanitation for the white population was 76% and 83% in the same years. With only 18% of rural households and three-quarter of urban ones having access to sanitation in 2004, rural-urban gaps were large. By 2012, rural areas showed significant improvements – improved sanitation had increased to cover one-third of the population (Table 4).

The likelihood of having access to improved sanitation did not differ significantly by race. On the other hand, residents of urban areas had a much higher likelihood of accessing this basic service (close to 40 percentage points higher than those in rural areas). Moreover, when race and place of residence are combined, the likelihood of having access to sanitation for Afro-Brazilians in urban areas was three times higher than for Afro-Brazilians in rural areas in 2004, and, although there were improvements for both groups, the likelihood was still twice as high for those in urban areas in 2012 (Figure 7).

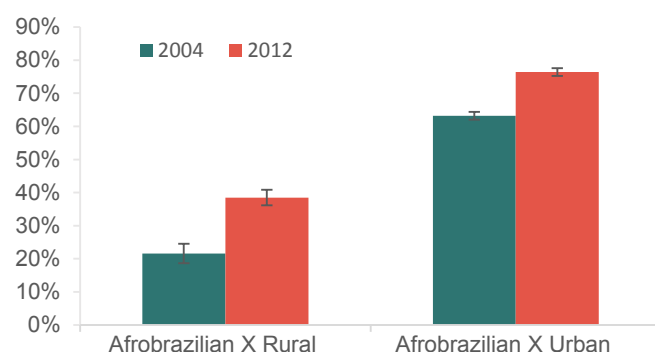
Education, nutrition and health

Key messages

- By 2012, race and income were no longer associated with a lower likelihood of being in education poverty (having less than 4 years of education).
- The chances of having a stillbirth are not significantly influenced by race. Nonetheless, when disaggregating by place of residence, there are small but statistically significant differences for Afro-Brazilians in urban and rural areas.

The educational attainment of the population in Brazil is relatively high. In 2012, only about 3% of the population

Figure 7: Likelihood of improved sanitation access by selected interactions of race and place of residence, 2004 and 2012 (%)



had less than two years of education (what is called extreme education poverty (UNESCO, 2010)), and a

Table 4: Access to improved sanitation, 2004 and 2012 (%)

		2004	2012
White	E	75.5	83.4
	UB	74.4	82.5
	LB	76.6	84.2
Afro-Brazilian	E	54.7	69.2
	UB	53.2	68.2
	LB	56.1	70.2
Asian	E	82.6	89.8
	UB	77.8	87.1
	LB	87.4	92.5
Indigenous	E	59.8	43.5
	UB	48.1	32.8
	LB	71.4	54.3
Rural	E	18	32.3
	UB	15.8	30
	LB	20.2	34.6
Urban	E	75.4	83.6
	UB	74.4	82.8
	LB	76.4	84.3
Total	E	65.5	75.8
	UB	64.3	74.9
	LB	66.6	76.6

Note: Estimates (E) are in the highlighted columns; UB = upper bound and LB = lower bound of the estimate.

further 3.6% had more than two but less than four years of education (moderate education poverty). We focus on the latter in the following analysis, bearing in mind this does not reflect education quality, where sharper differences may be found. Compared with the country average, Afro-Brazilians have higher rates of moderate education poverty: 12% in 2004 and 5% in 2012 (Table 5).¹¹

The likelihood having less than four years of education was 7% for Afro-Brazilians; the absolute gap with the white population was two percentage points in 2004.¹² By 2012, being Afro-Brazilian was not associated with a higher likelihood of being deprived in education. In other

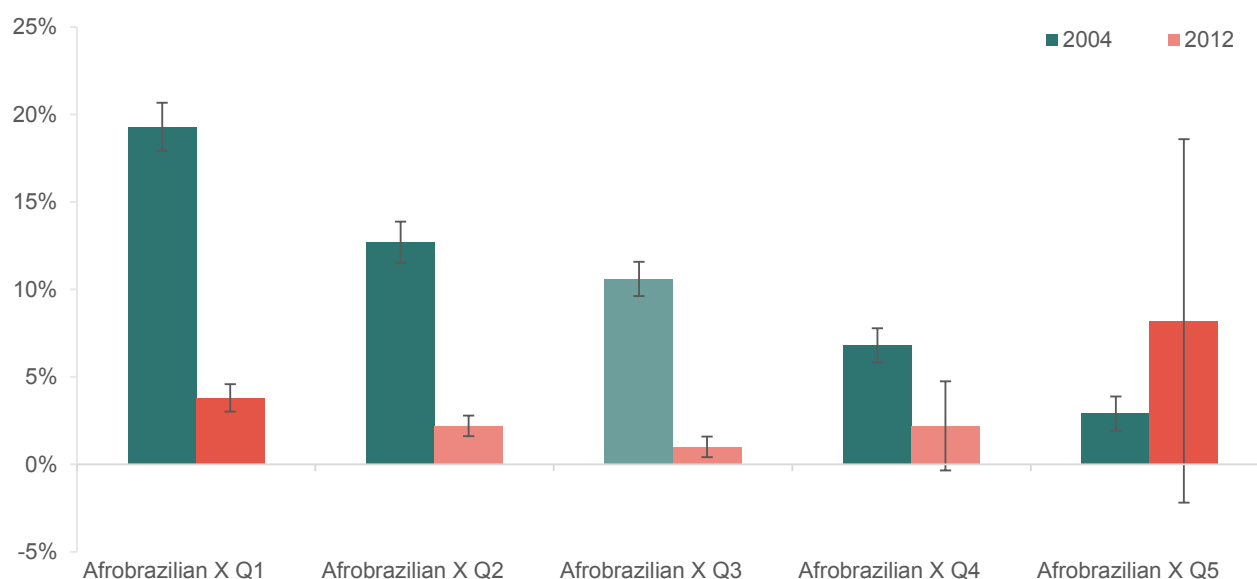
words, race was no longer an important characteristic in determining the likelihood of being in education poverty.

Nevertheless, as was the case for other indicators discussed previously, not all Afro-Brazilians fare the same. Differences by income quintile were particularly salient in

11 Indigenous groups have also a higher rate but this is not statistically different from the average or from that of Afro-Brazilians.

12 For 2004, the probability was estimated as a multinomial logit for the outcome 'between two and four years of education' (as opposed to less than two years or more than four years). For 2012, it was estimated as a logit for the same outcome (as opposed to less than two years and more than four years). Sensitivity tests using a multinomial logit but a different interaction led to similar results.

Figure 8: Likelihood of being in moderate education poverty by selected interactions of race and income quintile, 2004 and 2012 (%)



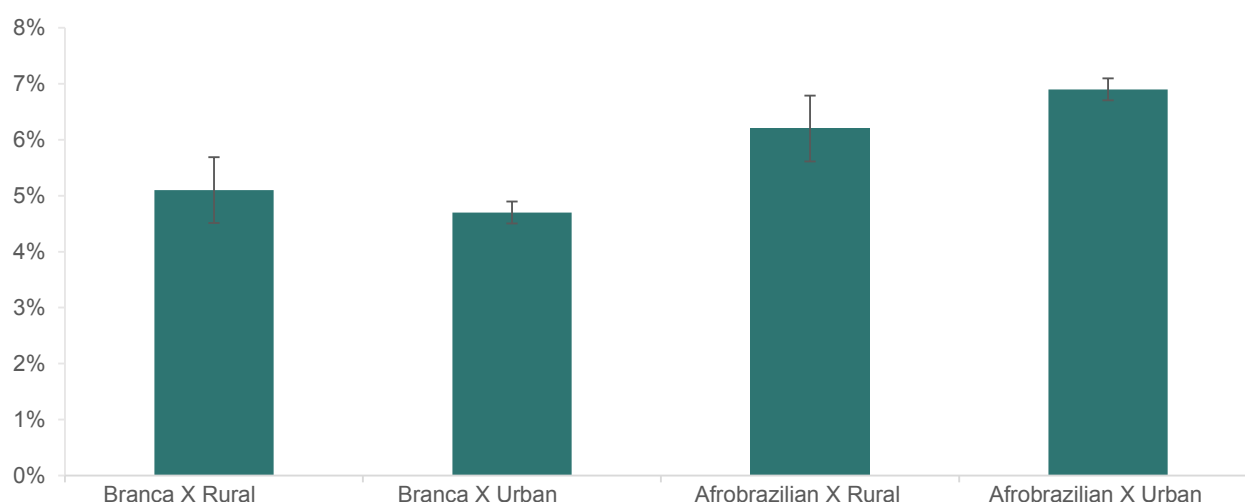
Note: Bars in light colour indicate that the effect of the income quintiles within race categories is not statistically significant in determining the probability of being in education poverty.

Table 5: Education poverty rate by race, 2004 and 2012 (%)

		2004			2012		
		Extreme	Moderate	>4 years	Extreme	Moderate	>4 years
White	E	3.8	5.9	90.3	1.8	2	96.3
	UB	3.5	5.5	89.7	1.5	1.7	95.9
	LB	4.1	6.3	90.9	2	2.2	96.6
Afro-Brazilian	E	9.2	12	78.7	4	4.9	91.1
	UB	8.6	11.4	77.8	3.6	4.6	90.6
	LB	9.8	12.6	79.7	4.3	5.3	91.6
Asian	E	3.5	0	96.5	0.9	0	99.1
	UB	0.1	0	93.1	-0.4	0	97.8
	LB	6.9	0	99.9	2.2	0	100.4
Indigenous	E	11.9	11.6	76.6	10.2	3.6	86.2
	UB	4.4	4.4	67.3	3.9	0.2	79.3
	LB	19.4	18.8	85.8	16.5	7	93
Total	E	6.6	9	84.5	3	3.6	93.4
	UB	6.2	8.6	83.8	2.8	3.3	93
	LB	6.9	9.4	85.1	3.2	3.8	93.8

Note: Estimates (E) are in the highlighted columns; UB = upper bound and LB = lower bound of the estimate.

Figure 9: Likelihood of stillbirths by race and place of residence, 2012 (%)



2004; the likelihood of being in education poverty for an Afro-Brazilian in the lowest quintile was close to 20% and for one in the highest quintile it was less than 3% (Figure 8). By 2012, the gap had narrowed considerably: the effects of income quintile and of race are no longer associated with education poverty. Gender differences within the group were not found to be statistically important in either of the two years.

Given the lack of other health or health care information in PNAD, the share of stillborn pregnancies is taken here as an indication of gaps in maternal health. This rate is low in Brazil – only about 6% of pregnancies ended

in stillbirths in both 2004 and 2012. This rate is somewhat higher for Afro-Brazilians (circa 7%). There are also higher rates in rural areas, where the rate of stillbirths was 7% in 2004 and 2012.

The chances of having a stillbirth are not significantly influenced by race, controlling for the number of births¹³ and other individual and group characteristics.¹⁴ Nevertheless, when disaggregating further by place of residence, there are small but statistically significant differences for Afro-Brazilians in urban and rural areas (the figures are 7% and 6%, respectively).

Table 7: Evolution of gaps, 2004-2012

Indicator	Absolute gap (percentage points)			Relative gap (ratio)		
	Direction of change	2004	2012	Direction of change	2004	2012
Income poverty	↓	10	3	↔	1.6	1.6
Minimum wage	↓	13	11	↔	1.5	1.5
Household services	↓	3	-	↑	0.9	-
Education	↓	2	-	↑	-	-
Health	N.A.	2	N.A.	N.A.	1.4	N.A.

Note: - indicates the gap is statistically insignificant. A relative gap closer to or above 1 indicates a better situation in the case of sanitation, clean cooking fuel and child health but a worse situation in income and education poverty.

¹³ As a history of stillbirths is correlated with a higher chance of a future stillbirth pregnancy.

¹⁴ The probability analysis was only done for 2012. The 2004 model did not converge.

A narrowing gap?

Discussion of racial inequalities in Brazil

The above analysis of data from Brazil's PNAD shows important improvements in poverty reduction, household services and education in Brazil, alongside a pattern of declining race gaps.

In 2004, the gaps between Afro-Brazilians and white groups were clearly evident, but by 2012 many had closed considerably (Table 6), as expected given fast overall progress in reducing deprivations in Brazil. However, it is important to stress the differences between absolute and relative improvements. Absolute improvements for Afro-Brazilians are undeniable – for example average years of education have gone up, closing the gap with the white group. However, relative gaps have not fallen as fast. These relative gaps show how much better/worse off one group is with respect to the other, and thus what each group's chances are with respect to the other.

On income indicators, relative gaps remain unchanged despite absolute falls in deprivation (i.e. income poverty reduction). In contrast, relative gaps on non-income indicators (household services and education poverty) have closed. For a country like Brazil, it is evident the universal agenda of the SDGs needs to go beyond extreme poverty reduction. The LNOB agenda in Brazil and the indicators used to track inequalities would look very different to those in a poorer country, even though it is still very important for governments to identify and address the remaining pockets of deprivation. The indicators and thresholds used in this study refer to a very low level of deprivation that most Brazilians have now escaped. Using higher thresholds, for example indicators that reflect quality of services and outcomes rather than just access, may reveal a different pattern.

The fall in the relative gap in education but not in wages shows that gaps on indicators with higher thresholds take longer to close. We found race was no longer important in determining the likelihood of being in education poverty in Brazil¹⁵ and, within race groups, gender was not an

important determinant of education poverty. Nevertheless, gains in education may take a while to translate into the labour market. In fact, we found the wage gap by race declined at a slower pace for older generations than for younger ones, and gender was still an important determinant of income gaps (although not as important as race).

Other studies echo these persistent relative gaps: Osório (2009) for example, stress the reduction in the relative income gap between Afro-Brazilians and whites has fallen very slowly. Between 1976 and 2003 the income of whites was always at least twice that of Afro-Brazilians, and between 2004 and 2008 it fell only from 2.15 times to 1.99 times as high (in Guerreiro Osório and Ferreira de Sousa, 2011). While Afro-Brazilian children now have a better standard of living than their parents did, for most the relative position in society may not have changed.

Intergenerational income mobility in Brazil is low, at both the top and the bottom ends of the distribution. Veloso (2009) (in Azevedo and Bouillon, 2009), for example, estimates the probability the sons of fathers in the lowest quintiles will remain there at 35%, whereas the probability the sons of fathers in the richest quintile will remain there is 43%, much higher levels than those found for Chile, European countries and the US. Given the low mobility of the Brazilian structure, the same people tend to remain at the bottom of the scale, despite gains in absolute levels. These inequalities may take generations to disappear, but there are some signs of a change in a positive direction. For instance, differences by income quintile within the Afro-Brazilian group, salient in 2004, were no longer associated with the likelihood of being in education poverty in 2012.

Given the size of the Afro-Brazilian population, it is noticeable that differences within the group have also declined, although some remain. Among the declining ones are gaps related to income in determining education

15 Gaps in education quality, which are not captured in the education poverty indicator, may be marked by race (e.g. de Oliveira Barbosa, 2005; Paixao et al., 2010).

poverty. Differences by region and place of residence remain, however. For instance, in 2004, Afro-Brazilians in the North-East had more than a 20 percentage point higher probability of being in poverty than those in the Centre-West. By 2012, this gap had narrowed in absolute terms but relative gaps had widened.

Other studies echo the findings of this intersection of race and space: Kabeer's (2010) intersecting inequalities report highlights the overlap of ethnic and spatial inequalities is very marked in Brazil, with the poorest states being those with the highest concentrations of Afro-descendants. Guerreiro Osório and Ferreira de Sousa (2011) estimate that about a third of income inequality between black and whites can be attributed to regional inequalities, with the remaining two-thirds attributed to other factors. Thus, even if all racial inequality were eliminated – that is, assuming all Afro-Brazilians and whites within each region had the same income – total inequality would fall only marginally because there would still be regional differences. The authors conclude policies destined exclusively to fight racism and discrimination are insufficient without addressing other sources of inequality.

The progress Afro-Brazilians have made mirrors reductions in income inequality in the country (e.g. Gasparini and Lustig, 2011; Veras Soares et al., 2006) and the national lower level of inequality in terms of non-income indicators of wellbeing (Justino et al., 2004). Some of this success can be attributed to investments in social programmes, particularly the renowned *Bolsa Família* cash transfer programme and other social transfer programmes such as the BPC (Medeiros et al., 2008; Soares et al., 2009), which have had impacts on income poverty but also on health and education through the conditional

part of the programme as well as through broader public investment in the sectors.¹⁶ Favourable macroeconomic conditions and fiscal policy reforms, particularly to the tax system, provided the fiscal space for these investments (Melo et al., 2014; Durán-Valverde and Pacheco, 2012).

None of these explicitly targeted Afro-Brazilians, but, because income poverty in Brazil was a largely Afro-Brazilian phenomenon, there was an implicit targeting of this group and the programmes have in fact reached them. In 2008, for example, less than 10% of white families received *Bolsa Família* benefits compared with close to a quarter of Afro-Brazilian families (MDS, 2009, in Morrison, 2012).

In addition, two important labour market effects contributed to the decline in income inequality and the catching-up of the poorest (among which Afro-Brazilians were overrepresented). First, the rise in the minimum wage had a direct impact on those receiving it but also indirect impacts on those earning below this level because social security benefits are pegged to it (Lopez-Calva et al., 2012). Second, the expansion of education in Brazil resulted in a decrease in the skills premium (i.e. the extra pay for an additional year of schooling) and thus a decline in the income gap between more and less educated workers (ibid.).

In sum, the large improvements seen for Afro-Brazilians can be attributed largely to the success and expansion of social programmes as well as a decline in labour income inequality. Finally, while the analysis of the previous section emphasised the experiences of Afro-Brazilians, it became evident the living conditions of indigenous groups may not have improved similarly and, given their small size, data from PNAD are insufficient to analyse their situation.¹⁷ For example, the poverty rate has not declined for this group,

Box 3: The quilombola group

Among Afro-Brazilians there is one group that is most likely left behind but whose situation is not possible to analyse separately in PNAD: the quilombola communities. Originally communities formed by slaves escaping plantations, these are groups of black slave descendants living in communal territories and sharing specific cultural practices. There are an estimated 3,000 quilombola communities in Brazil, mostly located in rural areas of the country (CEBRAC and Christian Aid, 2012). Various studies reveal a pattern of marginalisation the data analysis in this study is not able to uncover. According to an interviewee, despite being racially 'Afro-Brazilians', the quilombolas face the problems of indigenous groups – namely, cultural differences and geographical remoteness, which make it difficult to access public services, particularly medical ones. For instance, just a third of quilombola households have access to a direct water supply compared with over 80% of the population nationally, and only a quarter of quilombola children over 10 years of age have basic literacy skills compared with a 95% literacy rate at the national level (ibid.). Moreover, despite the importance of land in the identity of quilombola communities, less than 6% had regularised land titles (ibid.), making it difficult to reach them for anti-poverty programmes or to guarantee the provision of essential public services, as well as potentially exacerbating their social exclusion (Christian Aid, 2015).

16 *Bolsa Família* requires school attendance of 85% for school-age children, updated immunisation cards for children under seven years old and regular visits to health centres for breastfeeding or pregnant women. Public spending on education rose from 11% in 2000 to 17% in 2009, one of the steepest rates of growth among 33 Organisation for Economic Co-operation and Development (OECD) countries (OECD, 2012).

17 Unlike Afro-Brazilians, indigenous groups are a population minority, they comprise about 4% of the population according to 2010 Census data. However, they comprise less than 1% of the PNAD sample, which is not designed to be representative of the racial groups in the country. Census data are available at <http://indigenas.ibge.gov.br/graficos-e-tabelas-2>

whereas it has fallen for all other groups in the country, and an interviewee reported that this group had a child mortality rate comparable with that of the world's poorest countries, when the national average is that of a highly developed country.

The low rates of poverty change for indigenous groups suggest social programmes may have failed not only to reach them but also, more importantly, to effectively address the barriers of marginalisation they face. In the case of health care, for instance, there have been attempts to establish a specific Indigenous Health Subsystem within the national Unified Health System in order to guarantee their access to health service. While this is a positive step, the initiative faces many challenges, including how to adapt health protocols to the cultural practices of indigenous groups, technical difficulties in reaching remote groups and political and institutional difficulties for the government agency in charge of dealing with indigenous health issues

– the Special Secretary of Indigenous Health (Shankland et al., 2013).

The situation of indigenous groups in contrast with Afro-Brazilians leads to a more general question about the changing nature of marginalisation the LNOB agenda must address. If Afro-Brazilians and their situation featured prominently in the Brazilian political agenda at the beginning of the 2000s, and a universal social policy agenda has been enough to reach them, it has not necessarily been appropriate for other marginalised groups, which are excluded culturally and politically as well as socioeconomically. 'Brazil's government policy has emphasised inclusion without transforming practices and this is a problem for groups that are culturally so different [...] LNOB doesn't mean to expand what you are doing but to change what you are doing' (interview with Shankland, 2015).



Chichicastenango Market, Guatemala - Ismael Alonso

Ethnicity, poverty and marginalisation in Guatemala

Guatemala is a lower-middle-income country with a relatively high incidence of poverty: in 2011, 13% of Guatemalans lived in extreme poverty – that is, on less than Q\$4,300 per capita per year. An additional 40% lived in moderate poverty (below Q\$8,283).¹⁸ Income inequality is also high: Guatemala has the third highest Gini coefficient in LAC and is one of only three countries in the region where the Gini has not decreased since 2000.¹⁹

This high and rising vertical income inequality runs in parallel with marked group differences. Despite having passed almost two decades since the end of a civil war (1960-1996) in which more than 200,000 people, a large proportion of them indigenous, were killed and tens of thousands disappeared, the living conditions of indigenous groups in the country have not improved overall. This section analyses the extent to which they Guatemala are being left behind on a number of socioeconomic indicators. It follows the approach described in Box 1 and uses data from ENCOVI for 2000 and 2011.

Guatemala stands out in Latin America for its high share of indigenous people (Box 4) – according to ENCOVI, they make up just under 40% of the population. Being such a large group, there is value in looking for diversity in the experiences of different indigenous populations. This section uses an ethnic self-identification question (‘Which of the following ethnic groups do you belong to?’), which allows for separate analysis of the four largest Mayan groups – Kaqchikel (or Kaqchiquel), K’iche’ (or Quiche), Q’eqchi’ (or Kekchi) and Mam – and other Mayan, non-Mayan and non-indigenous people.

Among the indigenous groups, K’iche’ are the largest (8.9% of the population in 2000 and 11.1% in 2011), followed closely by Q’eqchi’ and Kaqchikel (Table 7). The non-Mayan Xinca and Garifuna²⁰ are very small

and together comprise less than 1% of the sample. As a consequence, any results for these groups have large confidence intervals and the section does not discuss them. The Constitution of Guatemala recognises the duty to protect ethnic groups and their traditions. In recent years, a national dialogue has sought to improve the economic, political and cultural status of indigenous groups. These groups are highly politically active and have protested in large numbers for more equitable labour rights; for the fulfilment of peace accords related to land distribution; for public exposure of and prosecution for human rights violations committed by the government during the civil war; and against a lack of constitutional support for indigenous people in the country (Minorities at Risk, 2009). More legislation and funding was passed in 2004 to promote and protect indigenous languages and provide money for bilingual education but, overall, legal advances have yet to make a significant difference in the quality of life for indigenous groups in the country (ibid.)

Income poverty

Key message

- The likelihood of being in income poverty was higher for all indigenous groups than for the non-indigenous population. In relative terms, the changes of being poor were up to 2.6 times as high for an indigenous household as they were for a non-indigenous one.

Poverty in Guatemala is high by Latin American standards. In 2011, 54% of the population was poor, of which 13% were living in extreme poverty (according to national

18 These national poverty lines are roughly equivalent to \$2.6 PPP and \$5.0 PPP per day.

19 Author’s calculations using Socio-Economic Database for Latin America and the Caribbean (SEDLAC) data from Milanovic (2014). The rise in income inequality is also reflected in the increase in income concentration in the top 10% and 20% of the distribution.

20 Descendants of West and Central African blacks and native indigenous Carib and/or Arawak people of Central America.

Box 4: Indigenous categories in Guatemala

Guatemala has the second highest share of indigenous people in LAC (Table 8). Countries in the region have favoured self-identification questions to classify ethnic groups in censuses and survey instruments (Schkolnik and del Popolo, 2005). Bolivia and Guatemala are the two countries in the region that still include three types of questions that allow the identification of ethnicity: self-identification, language spoken and maternal language. In the 2002 Census of Guatemala, 38% of people (15 and older) self-identified as indigenous; 32% said they spoke an indigenous language and 30% said they had an indigenous language as mother tongue (ibid.) Given its ethnic diversity, Guatemala also stands out in the region for the level of detail by which it identifies indigenous groups – individuals can choose from among 22 possible groups in the census and surveys.

Table 7: Population by groups, 2000 and 2011 (%)

Category	Group	2000	2011
Place of residence	Rural	61.6	51.6
	Urban	38.4	48.4
Gender	Male	49.0	49.0
	Female	51.0	51.0
Ethnicity	Non indigenous	60.6	60.3
	K'iche'	8.9	11.1
	Q'eqchi'	6.1	8.4
	Kaqchikel	8.3	7.9
	Mam	7.7	5.2
	Other Mayan	8.2	6.4
	Other	0.2	0.6
Total sample size	Unweighted	37,490 individuals	66,324 individuals
	Weighted	11,305,457 individuals	14,595,876 individuals

Note: The ethnic category 'Other' corresponds to Xinca and Garifuna. Foreigners are excluded from the ethnic categories.

Figure 10: Poverty (moderate) by place of residence and ethnicity, A-2000, B-2011 (%)

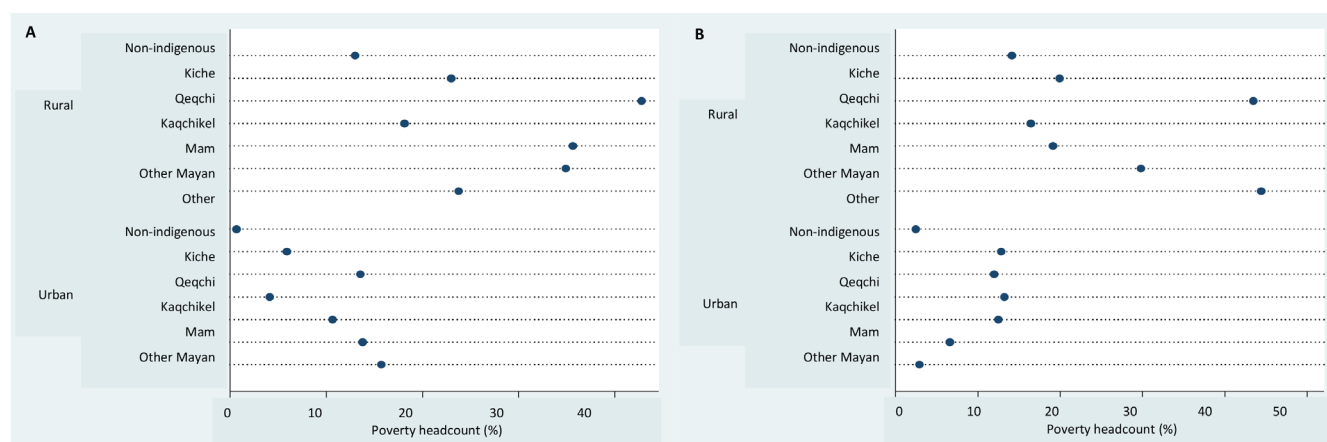


Table 8: Share of indigenous population according to available census data, 2000 and 2010 (%)

Country	2000 Census	2010 Census
Bolivia (Plurinational State of)	62.2	-
Brazil	0.4	0.9
Chile	4.6	-
Colombia	3.4	-
Costa Rica	1.7	2.5
Ecuador	6.8	7
Guatemala	41	-
Honduras	7	-
Mexico	6.5	15.3
Nicaragua	6.3	-
Panama	10.1	12.3
Paraguay	1.7	-
Peru	24	-
Uruguay	-	2.4
Venezuela (Bolivarian Republic of)	2.3	2.7

Source: <http://celade.cepal.org/redatam/ryesp/sisppi/>

Table 9: Income poverty composition by ethnicity (national poverty line), 2000 and 2011 (%)

Group	Extreme		Moderate	
	2000	2011	2000	2011
Non-indigenous	29.5	33.7	44.5	45.7
Total indigenous	70.4	66.2	55.4	54.3
K'iche'	11.1	14.4	10.7	14.6
Q'eqchi'	16.4	24.3	9.4	13.3
Kaqchikel	7.5	8.7	9.5	9.6
Mam	17.4	6.8	12.6	7.7
Other Mayan	17.7	11.3	12.9	8.6
Other	0.3	0.7	0.3	0.5
Total	100	100	100	100

poverty lines). Moreover, poverty fell only slightly between 2000 and 2011.²¹ Indigenous groups are overrepresented among the poor (Table 10). They comprise in total about two-thirds of the extreme poor, while making two-fifths of the total population.

Their poverty rate is higher than that of non-indigenous groups. In 2011, the highest rates of extreme poverty were for Q'eqchi' (38%) and other Mayan peoples (23%); for all other ethnic groups, rates were also higher than the country average and than the rate of poverty for non-indigenous people.²² Between 2000 and 2011, poverty declined significantly only for Mam and other Mayan groups. Indigenous groups in Guatemala are geographically concentrated. For most groups, there are one or two regions where close to three-quarters of their population live (see map in Appendix 5). There is also a higher concentration of indigenous groups in rural areas, but with variation across groups (Table 10). In urban areas, the poverty rates are considerably lower for all groups (Figure 11).

Following the methodology described in Box 1, it is useful to look at the likelihood of being in poverty for the different ethnic groups, controlling for other individual or household characteristics that may influence the rates presented in the descriptive statistics. The likelihood of being in poverty for the average Guatemalan was 16% in 2000 and 13% in 2011; for non-indigenous people, this was 10% and 8% in the same years. For the K'iche' group, the absolute gap was 7 percentage points higher (17%) than the likelihood for the non-indigenous group, for Q'eqchi' 13 percentage points higher (22%), for Kaqchikel 15 percentage points higher (24%), for Mam 15 percentage points higher (25%) and for other Mayan 9 percentage points higher (19%). In relative terms, for a household in the group with the highest rate (Mam), the chances of being poor were 2.6 times as high as they were for a non-indigenous household.

By 2012, the absolute gap had increased for K'iche' (8 percentage points higher than non-indigenous), Kaqchikel (15 percentage points higher) and other Mayan (11 percentage points higher) and decreased for Mam (6 percentage points lower) (Figure 12). In relative terms, the group with the highest rate (other Mayan) was still 2.4 times as likely to be in poverty as the non-indigenous population. There are also some differences within indigenous groups depending on where they live. The highest chances of being poor are for Q'eqchi' in rural areas (42% and 44% in 2000 and 2011, respectively), other Mayan in rural areas (36% and 29%) and Mam in rural areas (37% in 2000), although for the last group there was a substantial decline by 2011 (19%) (Figure 13). It is important to note these three groups had the highest share of rural population (Table 10).

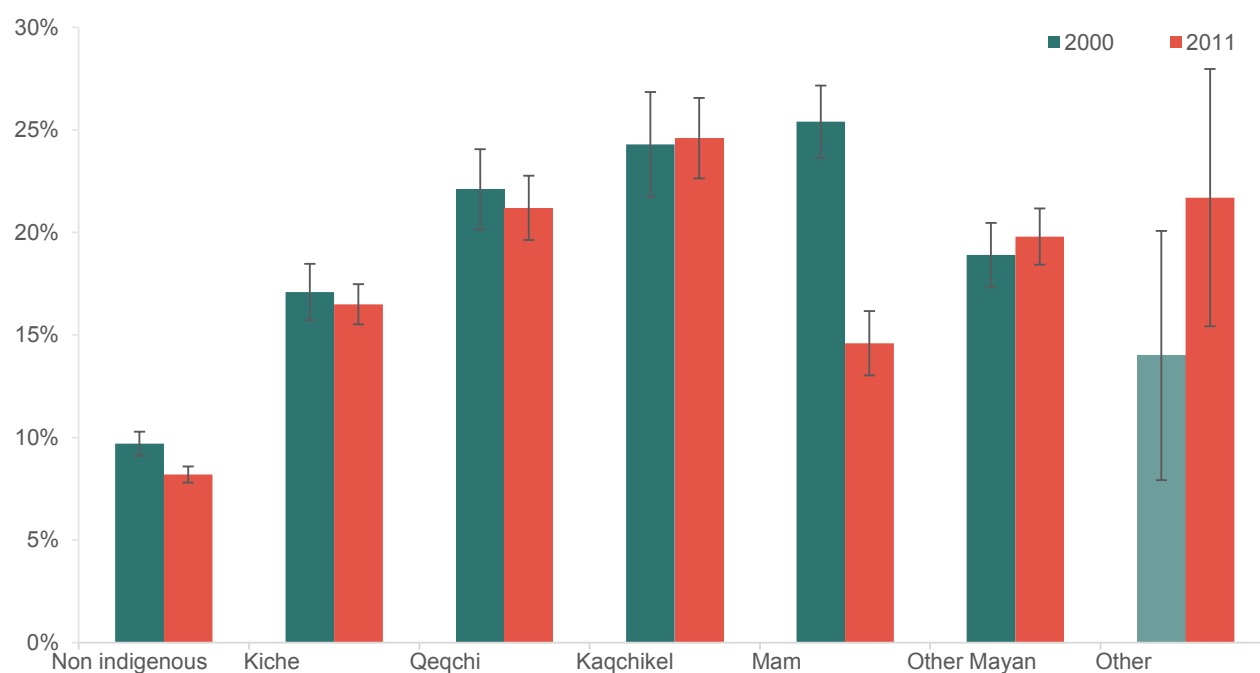
21 In fact, the change is statistically not significant for extreme poverty.

22 The difference with the country average is not statistically significant for the 'Other' group, most likely because of its small size. In this paper, the 'Other' category includes Xinca and Garifuna.

Table 10: Rural/urban distribution by ethnicity, 2000 and 2011 (%)

		Non-indigenous	K'iche'	Q'eqchi'	Kaqchikel	Mam	Other Mayan	Other	Total
2000	Rural	50.3	69.0	84.0	60.7	85.3	79.3	44.9	59.9
	Urban	49.7	31.0	16.0	39.3	14.7	20.7	55.1	40.1
2011	Rural	42.2	60.2	84.0	47.6	71.9	72.3	32.6	51.6
	Urban	57.8	39.8	16.0	52.4	28.1	27.7	67.4	48.4

Figure 11: Likelihood of being poor by ethnicity, 2000 and 2011 (%)



Note: Bars in light colour indicate the effect of the ethnic group is not statistically significant in determining the probability of being in poverty.

Figure 12: Likelihood of being poor by ethnicity and place of residence, 2000 and 2011 (%)

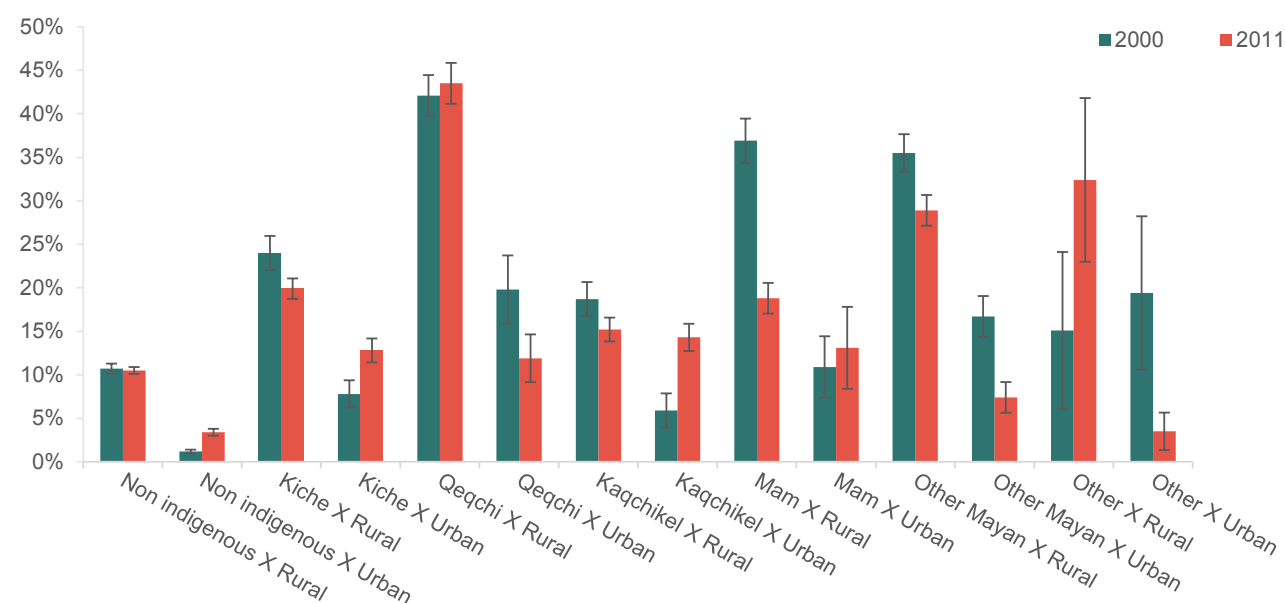


Table 11: Access to improved sanitation by ethnic group, 2000 and 2011 (%)

		2000	2011
Non-indigenous	E	75.5	80.3
	UB	74.6	79.7
	LB	76.4	80.9
K'iche'	E	67.9	82.2
	UB	65.7	81
	LB	70.2	83.4
Q'eqchi'	E	84	83.1
	UB	82	81.7
	LB	86	84.4
Kaqchikel	E	76.7	79.1
	UB	74.5	77.6
	LB	78.9	80.6
Mam	E	81.6	84.8
	UB	79.4	83.2
	LB	83.9	86.4
Other Mayan	E	70.2	81.6
	UB	68	80
	LB	72.3	83.1
Other	E	52.9	83.4
	UB	43.1	78.3
	LB	62.6	88.5
Total	E	75.4	81
	UB	74.7	80.6
	LB	76.1	81.4

Note: Estimates (E) are in the highlighted columns; UB = upper bound and LB = lower bound of the estimate.

Access to basic services

Key message

- The differences between indigenous and non-indigenous households in the likelihood of accessing basic household services such as improved sanitation narrowed between 2000 and 2011. The likelihood of

using clean cooking fuel did not improve for indigenous people during those same years.

Coverage of basic household services such as electricity, water, sanitation and clean cooking fuel in Guatemala is mostly high. Nonetheless, these results need to be interpreted with caution, as quality issues are widespread: 80% of the country has intermittent water service, only 15% of the water supplied is disinfected and the water and sanitation sectors have considerably under investments (Government of Guatemala, n.d.). On average, 78% of households have access to electricity, 87% to clean water and 81% to improved sanitation facilities but only 22% use clean fuel to cook. This section describes the results for the latter two as illustrative of household services.²³ Access to improved sanitation was lower than the national average for K'iche', other Mayan and other in 2000. By 2011, the share of people with access to improved sanitation had risen for these three groups and the country as a whole (Table 11).

In terms of the likelihood of accessing improved sanitation, the absolute gaps by ethnicity existing in 2000 had considerably narrowed by 2011. For instance, in 2000 households in the K'iche' group had a lower chance of accessing improved sanitation; the absolute gap with the non-indigenous group was over 10 percentage points. By 2011, even though the 'effect' of being K'iche' was still there, it was very small: the gap between this group and the non-indigenous group was less than 1 percentage point. Only for Q'eqchi' the reverse was true: by 2011 they had a lower chance of having sanitation than they had in 2000 and than the non-indigenous group.²⁴

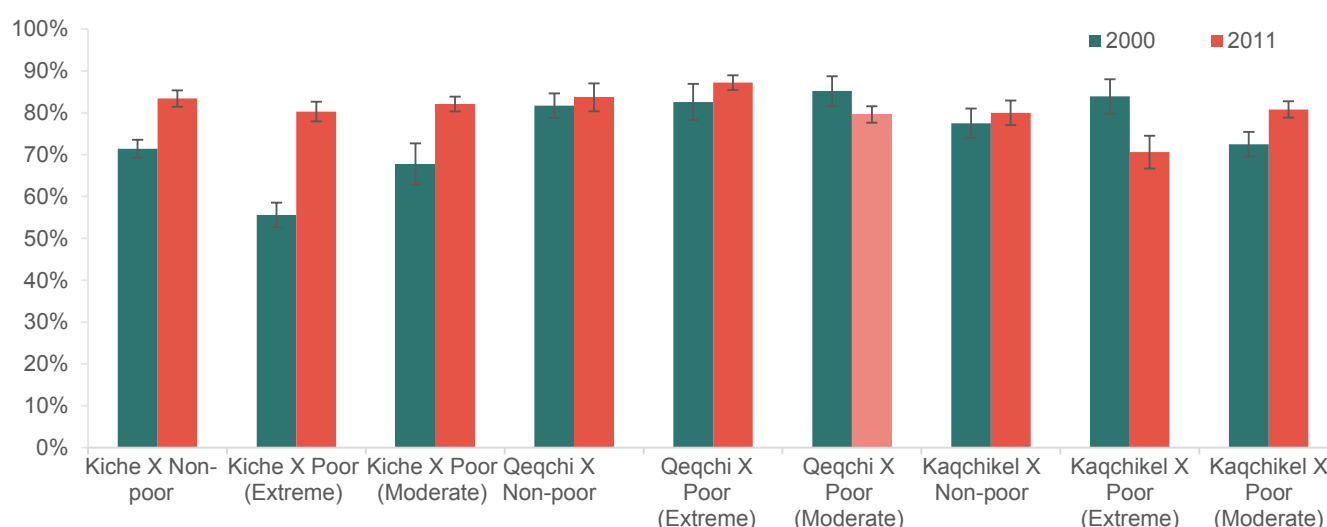
The chance of having basic household services is also affected by the level of household income for some of the indigenous groups. Three poverty categories (extreme, moderate and not in poverty) are used to classify the population in three income groups.²⁵ For K'iche', the gaps between those in poverty and out of it narrowed down (Figure 14). For instance, in 2000, K'iche' households in extreme poverty had only a 55% chance of having access to sanitation, compared with 68% for those in moderate poverty, 71% for those not in poverty and 80% for a non-poor, non-indigenous household. By 2011, K'iche' households in extreme income poverty had an 80% chance of having an improved sanitation facility in their house. On the contrary, for Kaqchikel households in extreme poverty, this chance deteriorated, from 84% to 79% in the same years.

²³ The group patterns of access to water, electricity and sanitation are similar to each other and for brevity, only the latter is discussed in the paper.

²⁴ This group also had a worsening situation in terms of the likelihood of having access to clean water and electricity in 2011 compared with 2000 and compared with the other groups.

²⁵ ENCOVI microdata obtained through the National Institute of Statistics (INE) did not report the complete information to estimate income or expenditure quintiles.

Figure 13: Likelihood of having access to sanitation by selected ethnic groups and poverty categories, 2000 and 2011 (%)



Note: Bars in light colour indicate the effect of poverty categories within ethnic groups is not statistically significant in determining the probability of being in poverty.

The use of clean cooking fuel is much less widespread in Guatemala than rates of access to basic services.²⁶ Even among non-indigenous people, only a third use it. The lowest use of clean cooking fuel is found among Q'eqchi' (less than 1% in 2011) and Mam; other Mayan groups also had very low rates (Table 12).

In 2000, belonging to any of the indigenous groups had a very small impact on the likelihood of using clean cooking fuel compared with the non-indigenous group. By 2011, there had not been any improvement in chances to use clean cooking fuel for any of the indigenous groups, although the chances of the non-indigenous had doubled from 4% to 8%, thus widening the absolute gap with indigenous groups. Since lack of use of clean cooking fuel was such a widespread phenomenon, there was overall no difference when disaggregating further and looking within ethnic groups.²⁷

Child health

Key message

- The likelihood of children under-five receiving treatment for diarrhoea was not highly affected by ethnicity, except for the Q'eqchi' and K'iche' groups. Differences according to the level of household income were pronounced in 2000 but less so in 2011.

Diarrhoea and respiratory infections are the two most frequent diseases affecting children in the developing world and a leading cause of child deaths (Greenwood et al., 2007). ENCOVI contains information on episodes of diarrhoea and pneumonia symptoms (i.e. cold, cough, bronchitis, respiratory infection) for children under five years of age in the month previous to the survey, including whether and how the child received treatment. On average, fewer children receive medicines for suspected pneumonia (16% in 2000 and 10% in 2011) than those receiving treatment for diarrhoea, although this could be caused by ENCOVI asking more detailed information about diarrhoea treatment methods. Only the results for diarrhoea treatment are presented next, given the higher possibility of misreporting for the pneumonia treatment indicator.

On average, about a third of under-five children had an episode of diarrhoea in the month before the survey in 2000 and in 2011 (31% and 30%, respectively). There was not a significant difference in the proportion of children with a diarrhoea episode by ethnic group in 2000, except for the Q'eqchi', with 51% of children having one in 2000. In 2011, non-indigenous (26%) and Kaqchikel (24%) had lower rates of prevalence of diarrhoea and Q'eqchi' (44%), Mam (38%) and other Mayan (37%) had higher than average rates.

The negative impacts of diarrhoea can be avoided with treatment. In Guatemala, 20% of children with diarrhoea went untreated in 2000; in 2011, this had risen to 25%, even though the proportion of children under-five having diarrhoea did not change. K'iche' children fare particularly

²⁶ This is not exclusive of the country as high energy prices and tightening of household budgets have contributed to the rise of non-clean fuels such as wood (ECLAC et al. 2010).

²⁷ The effect was statistically significant only for Mam in moderate poverty in 2000, and in 2011 for K'iche' in extreme poverty and Q'eqchi' and Kaqchikel in moderate poverty.

poorly, with a quarter of children with diarrhoea not receiving treatment in 2000 and 35% not receiving treatment in 2011 (Table 13).

The likelihood of receiving treatment for diarrhoea does not seem to be highly affected by ethnicity, except for Q'eqchi' in 2000 and K'iche' in 2011, the former having a 10 percentage point higher absolute gap in receiving treatment compared with the non-indigenous group (although they also had much higher rates of diarrhoea episodes), and the latter having a 10 percentage point lower absolute gap. Rural-urban residency did not have a significant effect either.

There were some differences according to level of household income. In 2000, children of families in extreme poverty were less likely to receive diarrhoea treatment than children of non-poor families, but that difference had

disappeared by 2011 (Figure 15). When looking at income differences within ethnic groups, only for Q'eqchi' children was there a significant effect of belonging to an extremely poor family compared with a non-poor one. The first had a 98% chance of receiving treatment compared with 79% for the first group in 2000 and 79% and 50%, respectively, in 2011.

Education

Key message

The likelihood of having less than two years of education was higher for the indigenous Q'eqchi' group than for the non-indigenous population in 2000 but not in 2011. Gender differences were important for almost all indigenous groups in both years.

Table 12: Use of clean cooking fuel by ethnic group, 2000 and 2011 (%)

		2000	2011
Non-indigenous	E	31	33.3
	UB	30	32.5
	LB	32.1	34.1
K'iche'	E	6.4	6.9
	UB	5.2	5.8
	LB	7.6	8
Q'eqchi'	E	1.9	0.9
	UB	1.2	0.5
	LB	2.6	1.2
Kaqchikel	E	8.7	8.9
	UB	5.8	7.6
	LB	11.6	10.2
Mam	E	1.2	3.7
	UB	0.5	2.7
	LB	1.8	4.8
Other Mayan	E	2.2	2.6
	UB	1.4	1.9
	LB	3	3.2
Other	E	23.6	30.1
	UB	15.6	21.8
	LB	31.7	38.4
Total	E	20.5	22.2
	UB	19.8	21.6
	LB	21.3	22.7

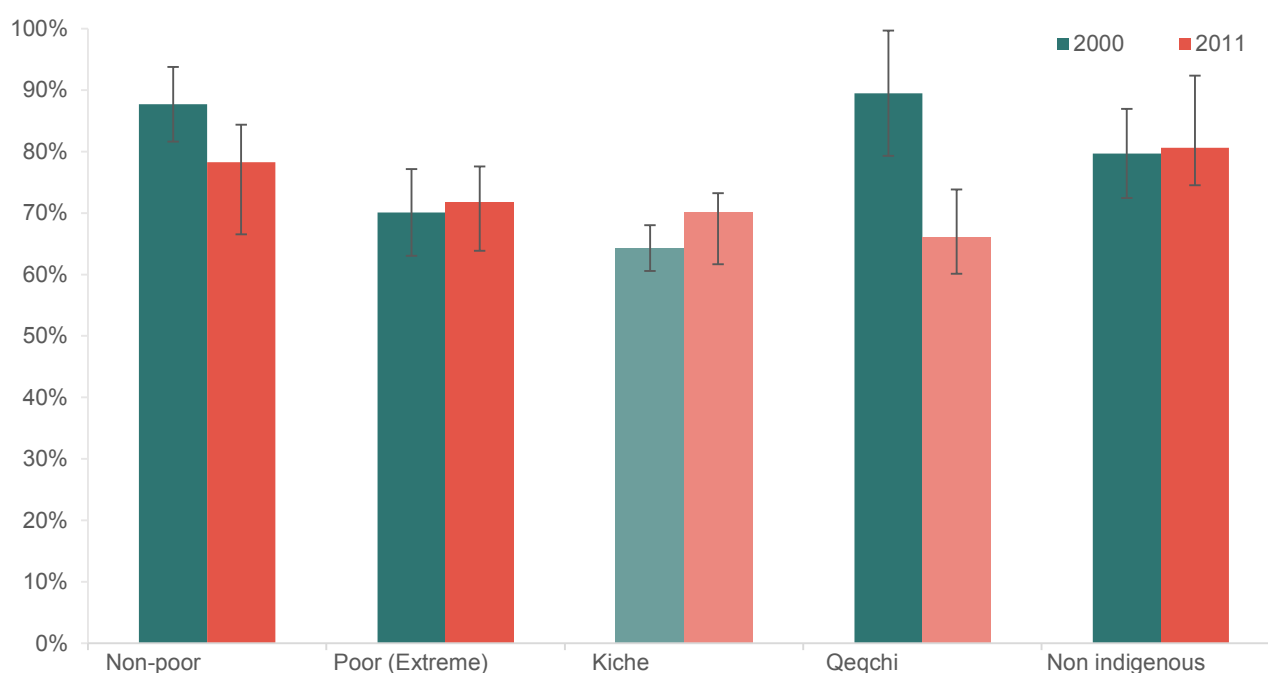
Note: Estimates (E) are in the highlighted columns; UP = upper bound and LB = lower bound of the estimate.

Table 13: Under-five children not receiving diarrhoea treatment by ethnic group, 2000 and 2011 (%)

		2000	2011
Non-indigenous	E	16.4	22.1
	UB	13.6	19.1
	LB	19.2	25.1
K'iche'	E	31.7	25.2
	UB	24	19.7
	LB	39.5	30.8
Q'eqchi'	E	24.5	35.6
	UB	18.5	27.1
	LB	30.5	44.1
Kaqchikel	E	16	21.4
	UB	9.8	15
	LB	22.2	27.9
Mam	E	20	26.1
	UB	11.5	17.9
	LB	28.5	34.3
Other Mayan	E	28.4	23.2
	UB	20.4	16.5
	LB	36.4	30
Other	E	63.8	46.9
	UB	31.6	-4.7
	LB	96	98.5
Total	E	20.6	25.2
	UB	18.3	22.8
	LB	22.8	27.6

Note: Estimates (E) are in the highlighted columns; UP = upper bound and LB = lower bound of the estimate.

Figure 14: Likelihood of receiving diarrhoea treatment by selected group, 2000 and 2011 (%)



Note: Bars in light colour indicate the effect of the ethnic group is not statistically significant in determining the probability of receiving diarrhoea treatment.

In 2000, just about half of the Guatemalan population (20-24 years old) had more than four years of education. This had risen to 72% in 2011, but 17% of young people still had less than two years of education and thus were in what is called extreme education poverty. There are important differences in education attainment by ethnicity (Table 14). In 2011, more than a third of other Mayan, 28% of Mam and Q'eqchi' and close to a quarter of young K'iche' and Kaqchikel were in extreme education poverty.

In contrast, only 11% of non-indigenous were in this situation.

Gender differences in education were also important. Overall, 35% of women in 2000 and 21% in 2011 had less than two years of education. This compared with 20% and 12% of men for the same years. These differences are also evident within the different ethnic groups. For almost all groups, rates of extreme education poverty for women were at least double the rates for men in 2000; the smallest gaps were for the non-indigenous group, where males had

Box 5: Do conditional cash transfer programmes work for indigenous communities? Lessons from elsewhere in Latin America

Conditional cash transfer (CCT) programmes, such as Bolsa Família in Brazil, Progresa-Oportunidades in Mexico and Bono de Desarrollo Humano in Ecuador, are one of the driving forces behind Latin America's success in reducing poverty and income inequality. There is, however, limited evidence of their performance in reducing group/horizontal inequalities and, more generally, addressing the structural disadvantages facing indigenous people on the continent. While careful targeting of beneficiaries below the poverty line should ensure the inclusion of (poor) indigenous people, the specific impact of these programmes on these groups is not known because studies rarely disaggregate effects by ethnicity.

Moreover, they may be less able to participate in cash transfer programmes. Barriers to the participation of marginalised groups in CCT programmes, particularly indigenous communities, may be the result of both design and implementation features, such as (Aste and Roopnaraine, 2013):

Identification of the beneficiary population may be excluding some groups of people. The localidades confidenciales in Mexico (remote and marginalised areas) housing around half a million people, are not included in Progresa-Oportunidades because they are not included in the national Census, which provides the socioeconomic data used for the first stage of the targeting process of the CCT (Ulrichs and Roelen, 2012).

Table 14: Education poverty by ethnic group (15-24 years), 2000 and 2011 (%)

		2000			2011		
		Extreme	Moderate	>4 years	Extreme	Moderate	>4 years
Non-indigenous	E	19	13.9	67.1	11.2	9	79.8
	UB	16.7	11.7	64.1	9.9	7.8	78.1
	LB	21.4	16.1	70	12.5	10.2	81.5
K'iche'	E	36.1	23.5	40.4	25.9	16.6	57.6
	UB	29.2	16.7	33.1	22	13.2	53.1
	LB	43.1	30.2	47.7	29.8	19.9	62
Q'eqchi'	E	57	16	27.1	28.3	17.3	54.4
	UB	49.5	10.7	20.4	21.6	11.3	46.9
	LB	64.4	21.2	33.7	35	23.3	62
Kaqchikel	E	29.3	25.3	45.4	23.8	10.5	65.7
	UB	22	18.5	37.6	18.4	7.4	59.8
	LB	36.7	32	53.2	29.2	13.6	71.5
Mam	E	54.7	17	28.3	28.2	14.1	57.7
	UB	43.4	9.4	17.9	21	8.8	49.7
	LB	66	24.7	38.6	35.4	19.4	65.8
Other Mayan	E	56.7	15.3	28	35.6	15.9	48.6
	UB	49.8	10.9	21.9	28.5	10.3	41.4
	LB	63.6	19.8	34.1	42.6	21.4	55.8
Other	E	24.4	21.2	54.4	18.3	11.5	70.2
	UB	-0.6	-1.3	24.6	2.9	-9	47.6
	LB	49.3	43.7	84.3	33.6	32.1	92.7
Total	E	28.5	16.1	55.4	17.2	11.2	71.7
	UB	26.4	14.4	53	15.9	10.1	70
	LB	30.6	17.8	57.8	18.5	12.3	73.3

Note: Estimates (E) are in the highlighted columns; UP = upper bound and LB = lower bound of the estimate.

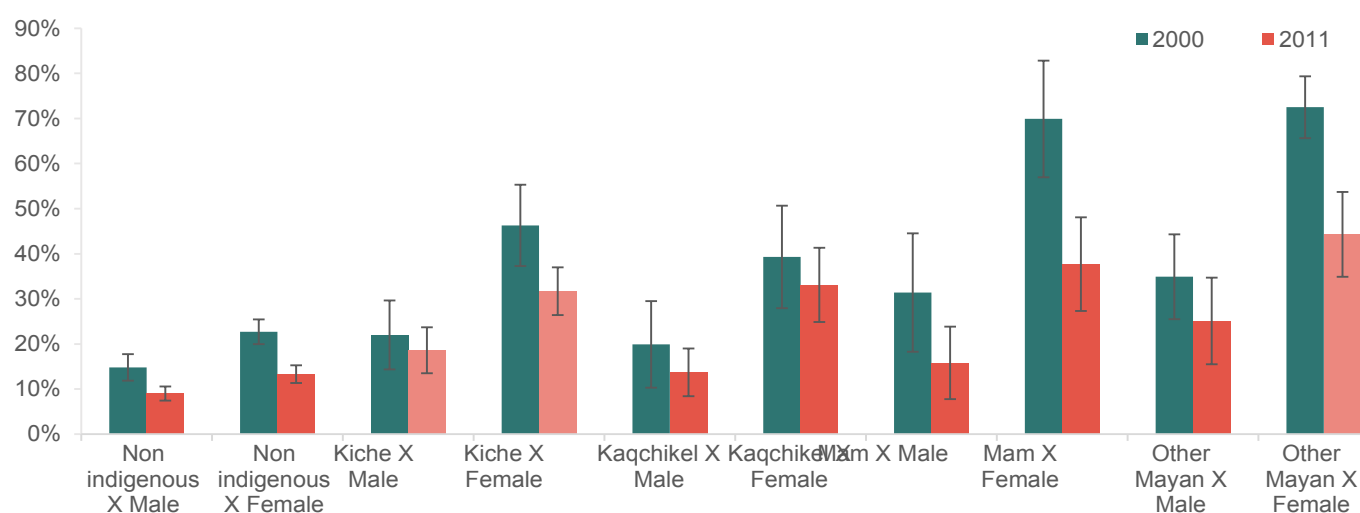
an extreme education poverty rate of 15% and women of 22%.

Ethnic differences were important in explaining the chances of being in education poverty only for the Q'eqchi' group in 2000: the likelihood of having less than two years of schooling for this group was 43%, compared with 24% for the non-indigenous group. By 2011, this difference had become insignificant. By gender, though, the differences were important in both years. In 2000, women were 15 percentage points more likely to be in education poverty than men. The improvement was faster for men; the gap

remained in 2011 when women were still three times as likely to be in extreme education poverty as men.

Looking at men and women separately within each ethnic group, gender differences were important in determining the likelihood of being in education poverty in 2000 for all but the Q'eqchi' group. For the Man group, for instance, women were more than twice as likely to be in education poverty as men (31% vs. 70% in 2000 and 16% vs. 38% in 2011). For some of the groups – namely, the non-indigenous, K'iche' and other Mayan – the importance of gender in explaining education poverty disappeared by 2011 (Figure 15).

Figure 15: Likelihood of being in education poverty for selected intersections of gender and ethnicity, 2000 and 2011 (%)



Note: Bars in light colour indicate the effect of gender within ethnic groups is not statistically significant in determining the probability of being in education poverty.

Table 15: Evolution of gaps, 2000-2011

Indicator	Absolute gap (percentage points)			Relative gap (ratio)		
	Direction of change	2000	2011	Direction of change	2000	2011
Income poverty	↓	15	11	↓	2.6	2.4
Sanitation	↓	10	1	↓	0.8	0.9
Clean cooking fuel	↑	3	7	↑	0.3	0.2
Education poverty	↓	19	-	↓	1.8	-
Child health	?	10	?	?	1.1	?

Note: - indicates the gap is statistically insignificant. The gaps reported in this table correspond with that between the indigenous group with the worst outcome on each indicator and the non-indigenous population. A relative gap closer to or above one indicates a better situation in the case of sanitation, clean cooking fuel and child health but a worse situation in income and education poverty.

Persisting gaps: discussion of ethnic inequalities in Guatemala

The previous section reveals a degree of persistent socioeconomic exclusion of indigenous groups in Guatemala. They consistently fare below non-indigenous people in the country, except in cases where the situation is too rare (i.e. use of clean cooking fuel) for significant differences to emerge. Despite data limitations and given the ethnic diversity in the country, it is interesting to assess whether the situation for the different indigenous groups is homogeneous. In fact, a more varied pattern emerges, with some groups falling further behind.

The Q'eqchi' group in particular was consistently near the bottom on all the indicators, which is consistent with a national study by Escobar (2011). The K'iche' were also near the bottom in terms of access to sanitation and treatment for diarrhoea, but they did not fare as poorly in terms of income poverty or education. For the Mam group, there was an improvement between 2000 and 2011 on income poverty and education indicators and the Kaqchikel group did not have a distinctive pattern, although Escobar (2011) found they were better off than other indigenous groups. It is difficult from a nationally representative survey such as ENCOVI to understand the situation of the small Mayan groups, as well as that of the Garifuna and Xinca, for which it is difficult to establish a clear pattern in the data.

Despite some improvements, the poverty and inequality situation in Guatemala appears to have changed relatively little, especially compared with Brazil, where we found large improvements in a shorter time period (2004-2012). As seen in Brazil, fast progress for the worst-off groups is a precondition for a reduction in the absolute gaps with the better-off groups.

Table 15 (previous page) shows the evolution of the absolute and relative gaps in Guatemala, comparing the non-indigenous population with the indigenous group with the worst outcome in each indicator. The absolute and relative gaps in income poverty have closed, but only by a small amount. Absolute gaps in sanitation access have reduced, although this does not account for possible quality issues in service provision, and the relative gap has changed only marginally. There has been an increase

in gaps in the use of clean fuel. In education, there seems to have been an improvement, perhaps because of the introduction of bilingual education – although evidence elsewhere indicates coverage of bilingual education is not universal and quality gaps persist (e.g. McEwan and Trowbridge, 2007). In health, the evidence is inconclusive.

Household characteristics: extended families, common in indigenous communities, may follow different intra-household mechanisms of transfer allocation and distribution than nuclear families.

Linguistic barriers and cultural norms can influence the understanding of objectives and requirements of the programme. For example, indigenous mothers sometimes have difficulties in adjusting to the cultural norms implicit in the programme requirements of Progres-Oportunidades concerning health nutrition, and education, and are often told off by the programmes' clinical attendants for having too many children or for 'backward' ways of raising them (Smith-Oka, 2013).

There have nonetheless been some efforts in the region to tailor the design and implementation of cash transfer programmes to the specific necessities of indigenous people, in some cases with recorded success. In Ecuador, education conditionality of the Bono de Desarrollo Humano was modified for children attending bilingual schools (i.e. they need an attendance rate of 70% rather than the standard 80%) to take into account the patterns of seasonal migration of indigenous families and the habit of children helping their parents during the harvest season (Villatoro, 2007). In Colombia, the targeting process of Familias en Acción was modified to include indigenous people better, for example introducing different criteria for selecting indigenous municipalities and involving the local assemblies to select beneficiary households (Gutiérrez et al., 2012). In Panama, the selection of beneficiaries and conditionality requirements of Red de Oportunidades is done in consultation with local authorities and organisations (Aste and Roopnaraine, 2013). Juntos in Peru adopts a similar system, whereby the identification of beneficiaries is validated by public local assemblies. Beneficiaries report perceiving this mechanism as effective and transparent and that the presence of local indigenous authorities during the assemblies plays an important role in improving communication with the programme's representatives

(ibid.). In Mexico, the localidades confidenciales excluded from Progres-Oportunidades are being reached through a food support programme that provides alleviates food poverty on a short-term basis. The programme has recently been extended to 87,000 families living in highly remote indigenous areas (Ulrichs and Roelen, 2012).

This evidence is echoed in the very little progress on poverty reduction and income inequality in Guatemala in the 2000s compared with in other countries in the region. This may be attributed to a lack of substantial change in social policy, especially a lack of investment and scaling-up of the social and poverty reduction programmes, a low rate of economic growth that would allow the expansion of fiscal space for social investment and the low employment intensity of the few growing sectors of the economy, and thus a low rate of transmission of growth to the poorest people through employment.

While these can be thought of as general causes for the lack of poverty reduction, Cabrera et al. (2015) show this also had implications for group inequalities, as fiscal policy did almost nothing to reduce the gaps along ethnic lines. Even 'pro-indigenous' programmes such as the CCT *Mi Familia Progres* were too small to make any significant impact on the ethnic divide and were more than offset by larger 'anti-indigenous' parts of the fiscal policy, such as regressive consumption taxes (ibid.). Moreover, the precarious labour market engagement of indigenous groups (e.g. informality rates are 86% for indigenous people and almost 90% for indigenous women (Escobar, 2011)) and the loss of access to land for farming have not contributed to a reduction in inequalities. Finally, national development priorities are influenced by the large-scale agro industrial private sector, as exemplified in the design of the tax system (Zapil Ajxu and Fausto, 2012) rather than by the needs of the rural, most marginalised, population. The economic strategy of the country did not favour regions and economic sectors where the indigenous population is concentrated (Caumartin and Sánchez-Ancochea, 2011).

Civil society demands, including those from indigenous groups, tend to be disperse and to go unheard by policymakers. Elites in Guatemala have for years had a disproportionate influence in the legislative arena and the courts and have blocked pro-poor tax reforms (Corbacho et al., 2012). Moreover, a degree of state repression, fear and opposition from the private sector have resulted in a delicate social balance where, according to various interviewees, indigenous groups are large (population-wise) but their demands have little weight in national politics or policy. Indigenous and/or peasant organisations have no voice in the legislative arena, the media or the judicial system; political participation by indigenous groups in the political parties is marginal. In 2008-2012, out of 158 parliamentarians, 9.5% were indigenous (UNDP, 2010, in Escobar, 2011). This, however, needs to be understood in a more general context of exclusionary politics in Guatemala,

which excludes not just indigenous groups but the vast majority of the population (Caumartin et al., 2008).

There is, in sum, no institutional structure to support the inclusion of voices of civil society. Many groups resort to popular mobilisations and road blockades to voice their demands, but even these were banned²⁸ after pressures from the private sector. Many sectors within Guatemala fear the wounds of the civil war have not closed and making the situation of indigenous groups visible will bring about new confrontations and greater social tension.

While differences across the various indigenous groups and with the non-indigenous population have been discussed, it is also important to highlight some differences within them. Two are evident in this study, echoing findings elsewhere: inequalities by place of residence and by gender.

Poverty is more a rural phenomenon in Guatemala, and most indigenous people reside in rural areas. The incorporation of indigenous people in politics has been carried out through movements and organisations and centred on class and *campesino* (peasant) identities rather than ethnic ones (Caumartin et al., 2008). While this study has not analysed inequalities in access to land and productive assets, which are heavily unequally distributed and have important implications in rural areas,²⁹ it has shown that, for many indicators, residing in a rural area is an additional marker of exclusion on top of ethnicity.

Gender and ethnicity are also categories that intersect, often creating a double pattern of exclusion for indigenous women. In Latin America, Jaspers Faijer and Montaña (2012) show important gaps in education and labour market participation, as well as deficits in sexual and reproductive rights and gender violence across the region. In Guatemala, employment participation rates are low for women in general, but there are also distinct patterns across ethnic groups. Indigenous women are more likely to enter the labour market as non-remunerated family workers and Q'eqchi women, for example, stand out for their low participation in labour markets (only one in four is economically active) (Escobar, 2011). This can help in understanding the differences in education attainment by gender and ethnicity found in the present study: the lower educational attainment of indigenous women may be related to lower opportunities in the labour market.

Finally, if political representation is limited for indigenous people in general, indigenous women are in a worse situation. Out of the 15 indigenous parliamentarians, only four were women, and overall women accounted for only 12% of representatives in the Guatemalan parliament in 2012 (UNDP, 2010, in Escobar, 2011); in the 2012-2016 parliament there are three more indigenous representatives but one less indigenous woman (Cabrero, n.d., in Jaspers with Faijer and Montaña, 2012).

28 In 2014 a law was introduced to guarantee 'free circulation' through public roads, but many human rights campaigners have denounced it as a de facto ban on protests and mobilisations.

29 Guatemala has one of the highest levels of land inequality in Latin America: in the mid-2000s, 1.9% of farms owned more than half of the agricultural land (FAO, 2004)

Conclusion

The SDG agreement emphasises reaching the most marginalised groups, to leave no one behind. Governments around the world need to think about how to apply this principle in their country.

While much of the inequality analysis of the region has highlighted vertical income inequality patterns (e.g. Gasparini and Lustig, 2011; Lopez-Calva et al., 2012), this paper has looked at group-based inequalities, with an emphasis on racial and ethnic differences, which are important markers of exclusion in the region.

Afro-Brazilians and indigenous people are overrepresented among the poor in Brazil and Guatemala, respectively; in Brazil, they make up half of the population but 75% of those in (moderate) poverty, and in Guatemala they comprise two-fifths of the total population but two-thirds of the extreme poor. At the beginning of the 2000s, their conditions in terms of access to household services, health and education were clearly lagging behind in comparison with the least disadvantaged groups in their countries.

High inequality and this overrepresentation of Afro-Brazilian and indigenous people among the poor in Brazil and Guatemala results from historic marginalisation, which can be traced back to colonial times. Moreover, the political and economic institutions that were set up in many Latin American countries after independence perpetuated the skewed distribution of wealth, human capital and political influence (de Ferranti et al. 2004). Consequently, eliminating these inequalities is a difficult

task that requires economic as well as socio-political action to promote mobility.

The two countries in this study followed different patterns in terms of their overall and group-based gaps over the past decade. In Brazil, social programmes have reached poor Afro-Brazilians, who have showed impressive gains on various poverty indicators. While relative gaps still exist and inequality must remain high on the agenda, the progress made is undeniable.

In the coming years, Brazil faces new challenges, primarily to reach pockets of marginalisation that broad social programmes have had difficulties addressing while sustaining the gains made so far. Recognition that racial inequalities intersect with other categories (e.g. area of residence or gender) and addressing these overlaps is important to fully close the gaps.

In contrast, in Guatemala there has been little overall progress as well as only marginal advances in reducing group-based inequalities. The challenge for the country is to kick off a process of equitable poverty reduction, incorporating marginalised indigenous communities in the decision-making process on development progress in the country.

In Latin America, it is encouraging that some countries have realised important improvements in living conditions for marginalised groups, but deep inequalities persist. Going forward, analysing group-based inequalities can help governments find more effective ways of dealing with different aspects of poverty, to ensure no one is left behind.

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Appendices

Appendix 1: Methodological notes

The quantitative approach is based on logit or multinomial logit regressions.³⁰ Outcomes are presented in categories, often binary (yes/no). A base model regresses the outcome of interest (e.g. access to electricity) on the race/ethnicity group categories and other three important household characteristics: place of residence (rural-urban), subnational region and income quintile.³¹ In addition, for some outcomes measured at the individual level (as in the case of years of education), the regression also controls for the gender and age of the individual. The results for each group are discussed only if the variable is statistically significant in the regression model. Group characteristics often ‘intersect’: they overlap with other markers of exclusion. An interaction model is where the intersection of a group and other individual or household characteristic is added to the regression to see whether there are important differences within the groups. We test a few possible interactions (e.g. raceXplace of residence, raceXregion and raceXgender) deemed important based on the descriptive statistics or as pointed in previous studies in the country.³² The results are reported only if the interaction variable is statistically significant in the regression model.

The results are reported in terms of predicted probabilities (marginal effects) for the different group categories and selected group intersections. These probabilities are computed as Average Adjusted Predictions for the groups and as Adjusted Predictions at

Representative values for the intersections (as opposed to Adjusted Predictions at the Means), because the categories in the model rarely have a straightforward interpretation as means (e.g. an ‘average person’ 50% Afro-Brazilian, 30% female or 40% urban). For example, to estimate the average adjusted prediction of race, the person is for a moment treated as though they were Afro-Brazilian, for instance, regardless of what the person’s race actually is and leaving all other variable values at their actual values. The probability of, say, having access to electricity is calculated for the person (if he or she were Afro-Brazilian) and then averaged across all individuals. The same is repeated for all the categories and groups and the difference between a base category and each of the others is presented for comparison (e.g., in the case of race, the base category is white, thus the results are presented as the difference in probability between white and the other categories – Afro-Brazilian, indigenous, Asian); we refer to this as the absolute difference in the likelihood of having a certain outcome.³³ In addition to the statistical significance of the regression coefficients, a confidence interval of the predicted probability is also used to analyse the differences between each group and the base category. Relative gaps are measured by the ratio of the predicted likelihood of the group to the predicted likelihood of the base category. Relative gaps are considered to be statistically significant if the regression coefficient is. In all cases, the precision of the estimates may decrease for smaller groups and intersections.

30 In practice, there is little difference in the estimated marginal effects when using a logit or a probit model.

31 Income quintile is not used for the probability of being poor as there is high overlap with this outcome.

31 In Guatemala, the microdata available from INE lacked the income and consumption variables to be able to construct quintiles. Thus as a proxy for quintile, three income groups are used as a proxy for quintile: households below the extreme poverty line, between the extreme and the moderate poverty line and above the moderate poverty line.

32 Only one of these models was selected for the presentation of results but the predicted probabilities and pseudo R2 do not differ considerably.

Appendix 2: List of indicators and definitions

Indicators were selected to reflect a wide range of outcomes included in the MDG or likely to feature in the SDG targets. Data availability in the household surveys (PNAD and ENCOVI) also guided indicator selection. The tables below show the measurement details in Brazil and Guatemala, following international standards where possible.

Brazil

Indicator	Measurement
Access to electricity	Households using electric energy for lighting.
Access to clean water	Households with connection to piped water supply from the general distribution network or obtaining their water from the general distribution network.
Access to sanitation	Households with exclusive sanitation facility and connected to the sewage disposal system or rainwater disposal system or with septic tank.
Use of clean cooking fuel	Households with kitchen stove running on gas or electricity.
Income poverty (extreme and moderate)	Households below the national poverty line. The values used in this paper are those updated by the government and used in the years corresponding to PNAD: R\$50 and R\$100 in 2004 for the extreme and moderate poverty lines, respectively, and R\$70 and R\$140, in turn, for 2011.
Minimum wage	Households with earnings below half of the minimum wage per capita per month
Education poverty	Individuals between 20 and 24 years old with less than two (extreme) or four (moderate) completed years of education.
Food security scale	Households classified as food secure and mild, moderate and severely food insecure according to their experience of food insecurity (determined by their perceptions of economic instability and their concerns about the lack of food in the near future). For details on the methodology see IBGE (2004b).
Stillbirths	Women having had at least one stillborn pregnancy. A stillborn is defined as a child born dead (after seven or more months of pregnancy) – that is, who did not show any sign of life at the moment of birth (breathing, crying, voluntary muscle activity or heartbeat). The number of pregnancies is taken as the number of stillbirths plus the number of children born alive.

Guatemala

Indicator	Measurement	Notes
Access to electricity	Households with electricity connection.	
Access to clean water	Households with clean water supply as defined by the JMP categories.	This differs from the Guatemalan Basic Unsatisfied Needs approach, which specifies different categories for rural and urban households. In particular, for urban households, the categories tubería de un chorro público (pipe from a public stream) and pozo público o privado (public or private well) are considered in the unmet category under the basic needs approach but are taken here as clean water regardless of the household location. Rainwater was coded as clean water.
Access to sanitation	Households with exclusive and adequate sanitation facility as defined by the Joint Monitoring Programme (JMP) categories.	This differs from the Guatemalan Basic Unsatisfied Needs approach, which specifies different categories for rural and urban households. In particular, we used the categories excusado lavable (washable toilet) and letrina o pozo ciego (pit latrine) as improved sanitation facility if they are of exclusive use of the household. The JMP categories classify those depending on whether they do/do not have a slab but that information is not available in ENCOVI. The unmet needs approach classifies these as improved sanitation facilities for rural but not for urban households.
Use of clean cooking fuel	Households not using wood or sticks for cooking or other uses.	The 2000 survey does not distinguish between cooking and other uses.
Consumption poverty (extreme and moderate)	Households with annual per capita consumption below the national poverty line (extreme and moderate).	In the 2000 survey, INE computed a poverty variable and included it in the survey; the expenditure aggregate was not available to corroborate the information. For 2011, the poverty variable was constructed on the basis of the household's annual per capita expenditure and the poverty lines detailed in INE (2011).
Education poverty	Individuals between 20 and 24 years old with less than two (extreme) or four (moderate) completed years of education.	
Diarrhoea treatment	Children under five years of age with diarrhoea in the previous month and receiving oral rehydration solution or medicines.	It is not clear from the survey what the category 'medicines' means; it was coded as an appropriate treatment for diarrhoea. 'Homemade rehydration solution' was also coded as an appropriate treatment.
Pneumonia treatment	Children under five years of age with suspected pneumonia in the previous month and receiving medicines.	ENCOVI does not disaggregate the category 'medicines' and thus it is not possible to assess whether the child has received antibiotics as per the international measure of this indicator.

Appendix 3: Regression results and predicted probabilities for selected groups and interactions, Brazil

Regression results (see attached excel)

Predicted probabilities for selected groups and interactions (see attached excel)

Appendix 4: Regression results and predicted probabilities for selected groups and interactions, Guatemala

Regression results (see attached excel)

Predicted probabilities for selected groups and interactions (see attached excel)



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ISSN: 2052-7209

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