

# **FISCAL POLICY AND ETHNO-RACIAL INEQUALITY IN BOLIVIA, BRAZIL, GUATEMALA AND URUGUAY**

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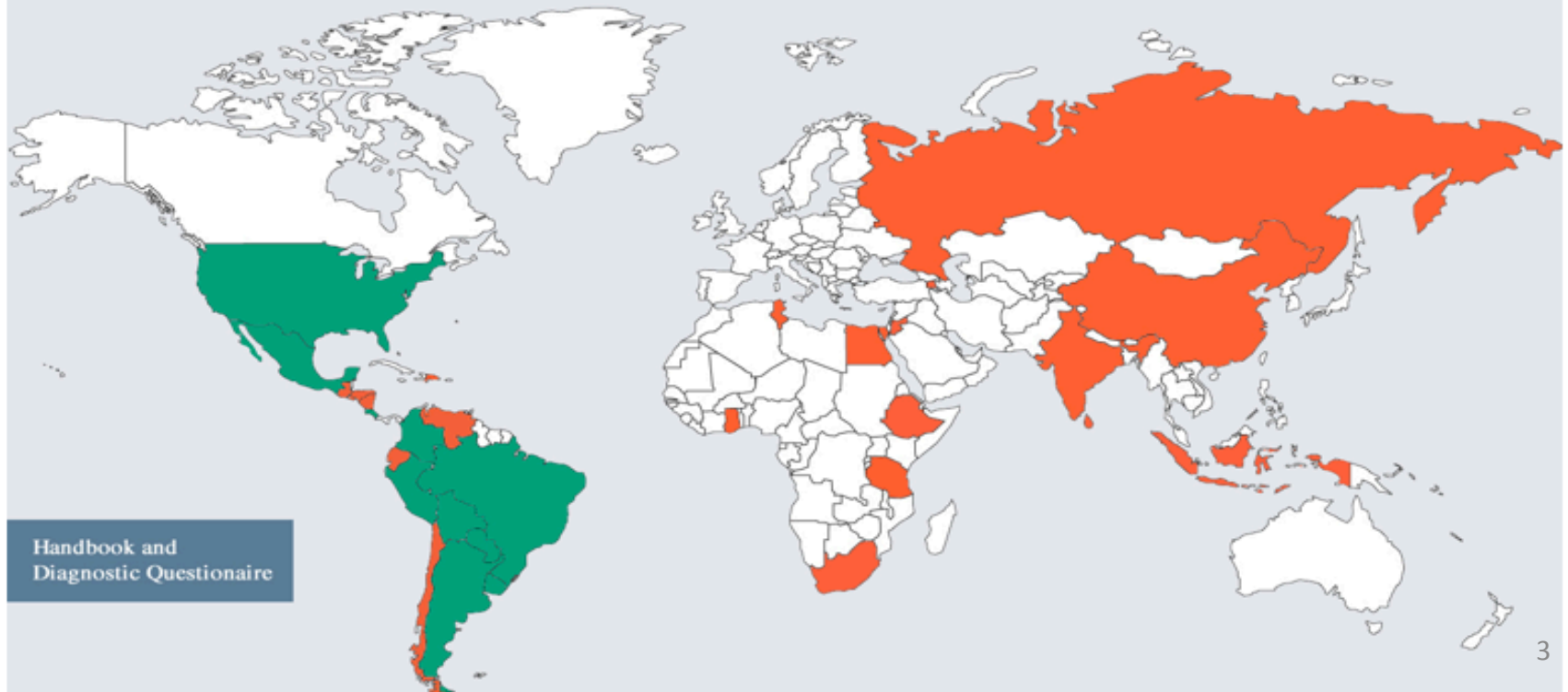


## What is CEQ

The Commitment to Equity (CEQ) was designed to analyze the impact of taxation and social spending on inequality and poverty in individual countries, and provide a roadmap for governments, multilateral institutions, and nongovernmental organizations in their efforts to build more equitable societies. Directed by **Nora Lustig**, the CEQ is a joint project of CIPR and the Department of Economics at Tulane University and the Inter-American Dialogue.

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# Fiscal Incidence Analysis by Ethnicity and Race: Teams

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- **Brazil:** Sean Higgins and Claudiney Pereira
- **Guatemala:** Maynor Cabrera, Nora Lustig and Hilcias E. Moran
- **Uruguay:** Marisa Bucheli, Maximo Rossi and Florencia Amabile
- **Research Assistant:** Adam Ratzlaff

# Summary

- Afrodescendants and indigenous groups in Latin America have higher poverty rates and are disproportionately represented among the poor
- Using comparable fiscal incidence analyses for Bolivia, Brazil, Guatemala and Uruguay, the paper analyzes how much poverty and inequality of opportunity change after direct and indirect taxes, cash transfers, and subsidies
- **Conclusion:** taxes and transfers reduce the ethno-racial divide but very slightly (with the exception of Uruguay) and for some indicators the divide is increased

# Outline

- **The Ethno-Racial Divide**
- **Incidence Analysis: Methodological Highlights**
- **Incidence Analysis by Ethnic and Racial Groups:  
Main Results**
  - Fiscal Policy, Inequality and Poverty in the Ethno-Racial Space
  - Fiscal Policy: Progressivity and Pro-poorness in the Ethno-Racial Space

# **Inequality, Poverty, Education by Ethnicity and Race: Bolivia, Brazil, Guatemala and Uruguay**

- Per capita income of the white population is between sixty percent higher to twice as high as the per capita income of the nonwhite population.
- Inequality between ethnic or racial groups accounts for between 1 percent of total inequality in Uruguay to a maximum of 9.1 percent in Brazil.
- The share of nonwhites in the poor population is higher than in the total population.
- The probability of being poor (measured by the headcount ratio with the international poverty line of \$2.50 in purchasing power parity dollars per day) is between two and three times higher for the nonwhites.
- Schooling is roughly between two and three years lower for the nonwhite population in all four countries.

# INEQUALITY

Indicator	Bolivia (2009)	Brazil (2009)	Guatemala (2009/10)	Uruguay (2009)
White/Nonwhite Average Per Capita Market Income*	1.6	2.1	2.1	1.8
Theil Index (in %)	49.7	67.4	69.2	45.6
Contribution of Between Race ** (in %)	4.9	9.1	8.5	1

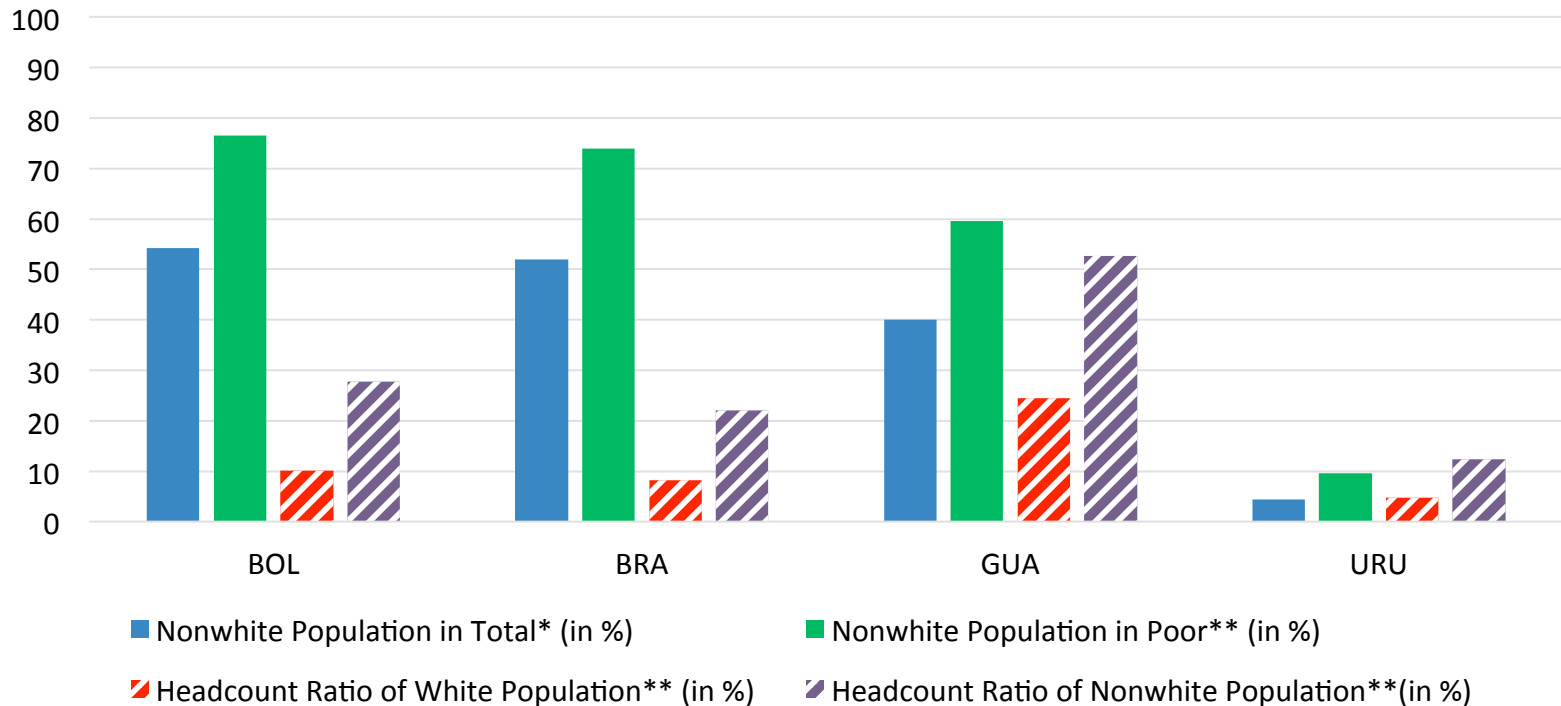
Source: Author's calculation based on Bolivia (2009): Paz-Arauco et al., 2013 CEQ-IDB; Brazil (2009): Higgins and Pereira, 2013 CEQ-IDB; Guatemala (2010/2011): Cabrera and Moran, 2013 CEQ-IDB; Uruguay (2009): Bucheli, Rossi and Amabile, 2013 CEQ-IDB.

Note: All these measures use *pre-fisc* or market income, defined as gross wages and salaries, income from capital, private transfers and contributory pensions; it includes self-consumption (except for Bolivia) and imputed rent for owner's occupied housing. \*The nonwhite population for Bolivia and Guatemala refer to the indigenous population; in the case of Brazil, to the *pardo* population; and, in the case of Uruguay, to the afro-descendants. \*\*This corresponds to the "between" component of a standard decomposition of the Theil index.



# POVERTY

## Share of Total Population; Share of Poor Population; Headcount Ratio White/Nonwhites (in %)



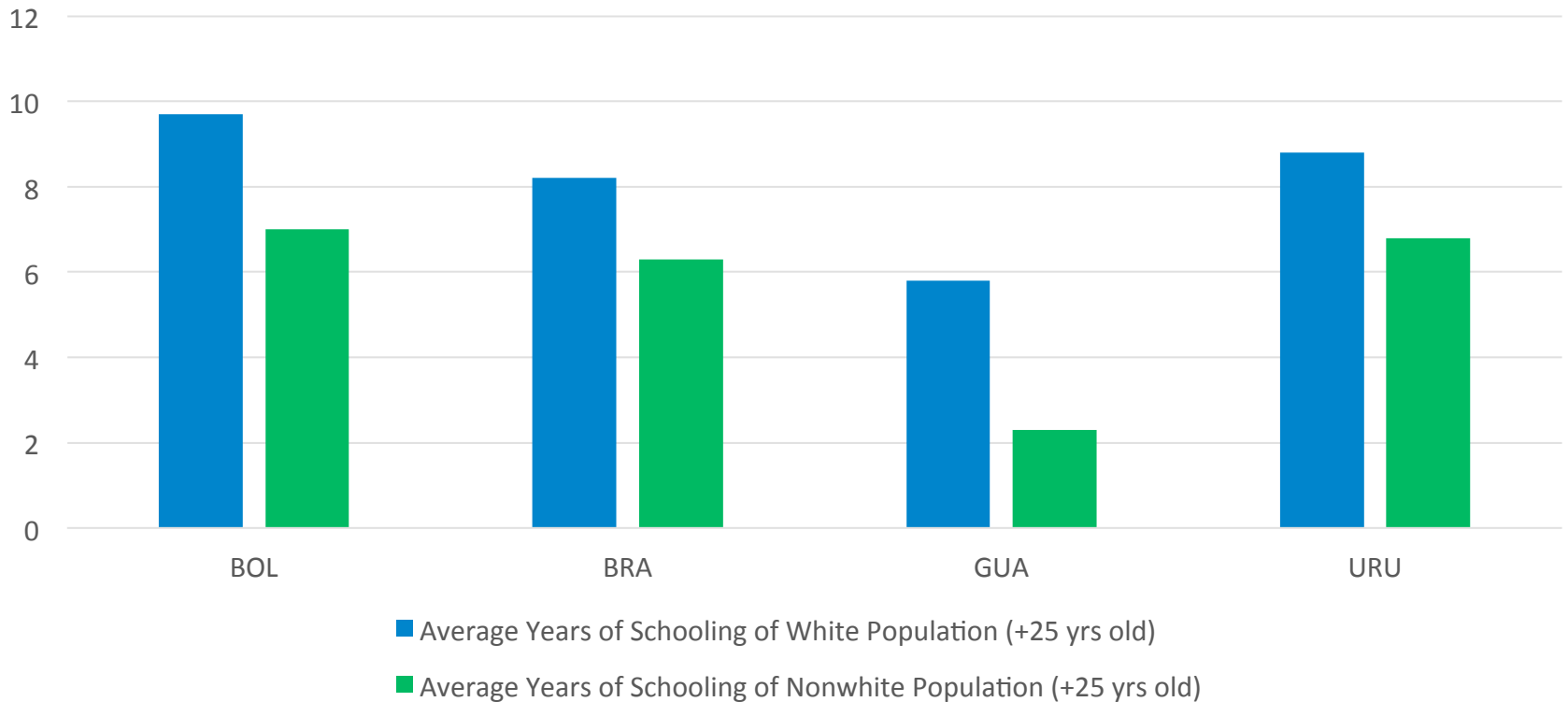
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\*\*Poverty is measured for per capita market income with the international poverty line of US\$2.50 ppp per day.

# EDUCATION

## Average Years of Schooling Whites/Nonwhites



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

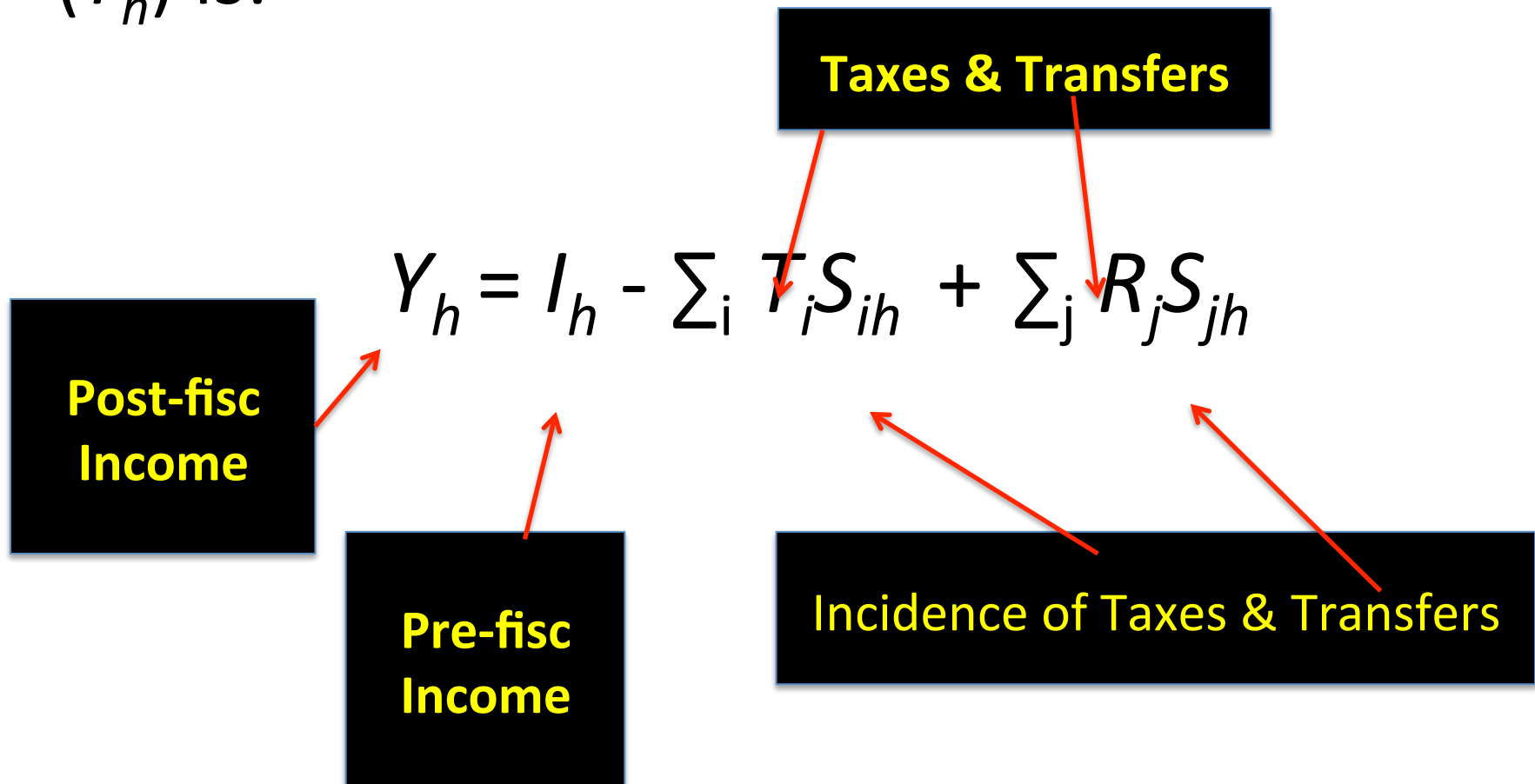
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# Basic elements of standard fiscal incidence

- Before taxes and transfers income of unit  $h$ , or  $I_h$
- Taxes  $T_i$ 
  - personal income taxes; contributions to social security
  - consumption taxes and subsidies
- Transfers  $R_j$ 
  - social spending: cash & near-cash transfers; in-kind transfers (education and health)
  - consumption and production (agriculture) subsidies
- “Allocators” of tax  $i$  and transfer  $j$  to unit  $h$ , or  $S_{ih}, S_{jh}$  (the share of tax  $i$  borne or transfer  $j$  received by unit  $h$ ) => Incidence
- Post-taxes and transfers income of unit  $h$  ( $Y_h$ )

Post-taxes and transfers income of unit  $h$  ( $Y_h$ ) is:



Construction  
of Income  
Concepts

MARKET INCOME



MINUS DIRECT TAXES  
PLUS DIRECT TRANSFERS



DISPOSABLE INCOME



MINUS NET INDIRECT TAXES



POST-FISCAL INCOME

# Methods to Construct Income Concepts

- *Direct Identification Method*
- *Imputation Method*
  - *Direct (Education and Health)*
  - *Simulation (Direct and Indirect Taxes)*
- *Inference Method*
- *Alternate Survey*
- *Secondary Sources Method*

Uses income per capita as the welfare indicator

# Commitment to Equity Assessments (CEQ)

## Caveats:

- Accounting Approach: no behavioral, no general equilibrium effects and no intertemporal effects
- Point-in-time
- Mainly average incidence; a few cases with marginal incidence



# Commitment to Equity Assessments (CEQ)

## Advantages:

- Comprehensive standard fiscal incidence analysis of current systems
- Harmonized definitions and methodological approaches to facilitate cross-country comparisons
- Uses secondary sources to a minimum
- Allocators vary => full transparency in the method used for each category, tax shifting assumptions, etc.

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# Table 2 – Fiscal Policy Outcome Indicators and the Ethno-Racial Divide

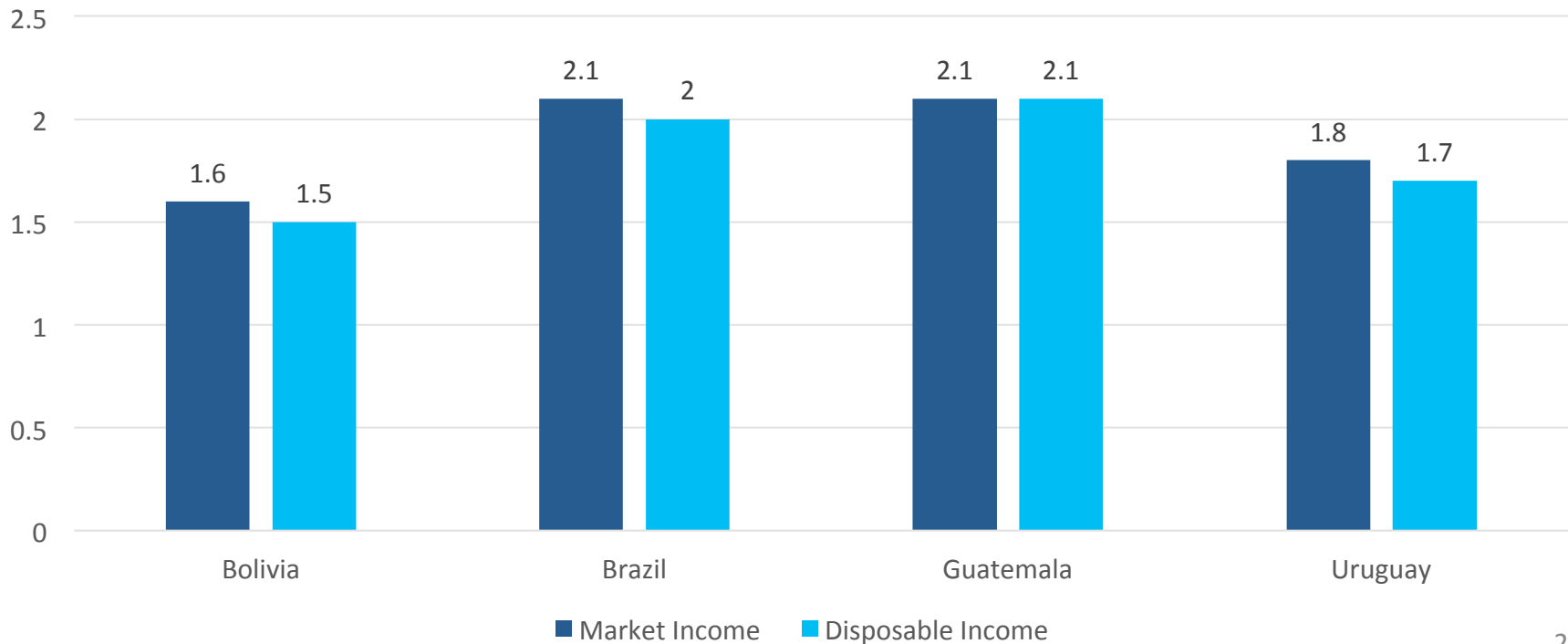
Outcome	Indicator
Inequality	White/nonwhite average per capita market vs. disposable income
	Decomposable inequality measure (e.g., Theil index) for market income vs. disposable income and post-fiscal income
	Contribution of between race inequality to overall inequality for market income vs. disposable income and post-fiscal income
Inequality of Opportunity	Smoothed inequality measure over circumstances, including ethnicity or race as one of them (e.g., Mean Log Deviation) for market income vs. disposable income and post-fiscal income
Poverty	Headcount ratio of white and nonwhite population for market income vs. disposable income and post-fiscal income

# Summary

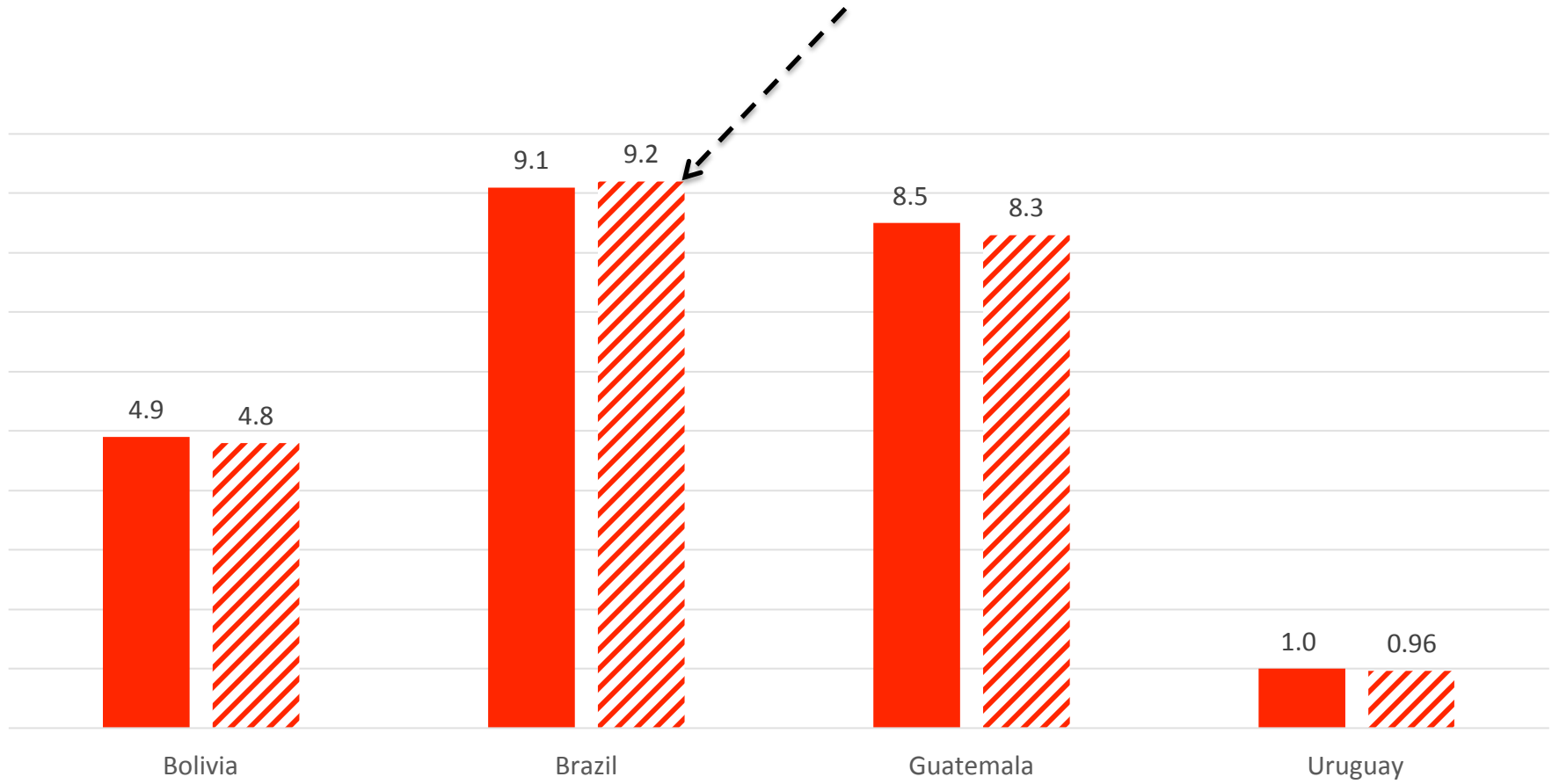
- What is the impact of direct taxes and direct transfers on ethnic and racial inequality?
  - Not much
  - Although all the indicators move in the right direction, with the exception of the headcount ratio in Uruguay, the change is quite small

**The ratio of average per capita incomes by ethnicity or race declines by at most one decimal point (Bolivia, Brazil and Uruguay) to nothing (Guatemala) ...**

### White/Nonwhite Average Per Capita Income

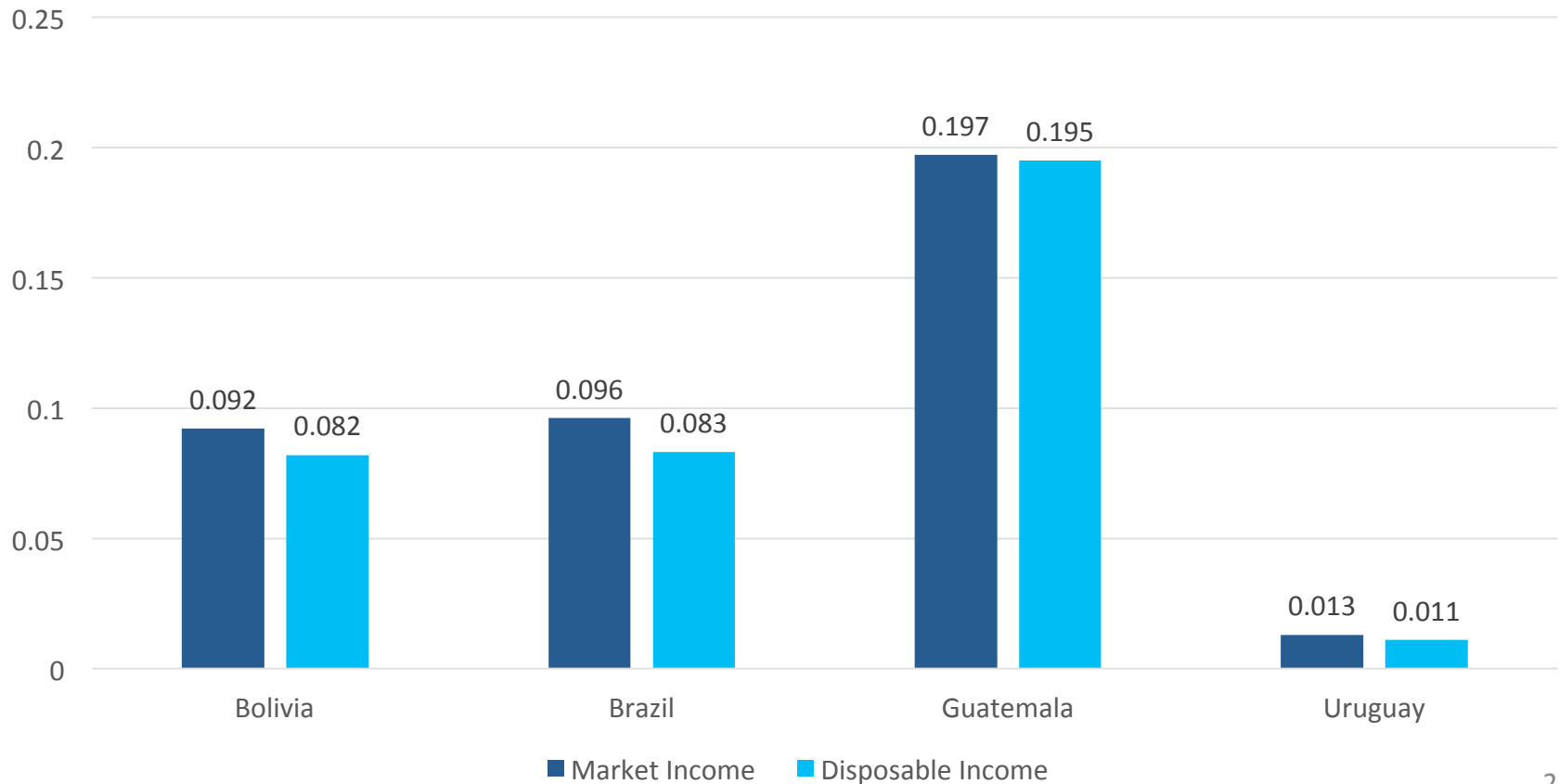


# The contribution of the between-race component changes by a very small and it actually increases for Brazil ...

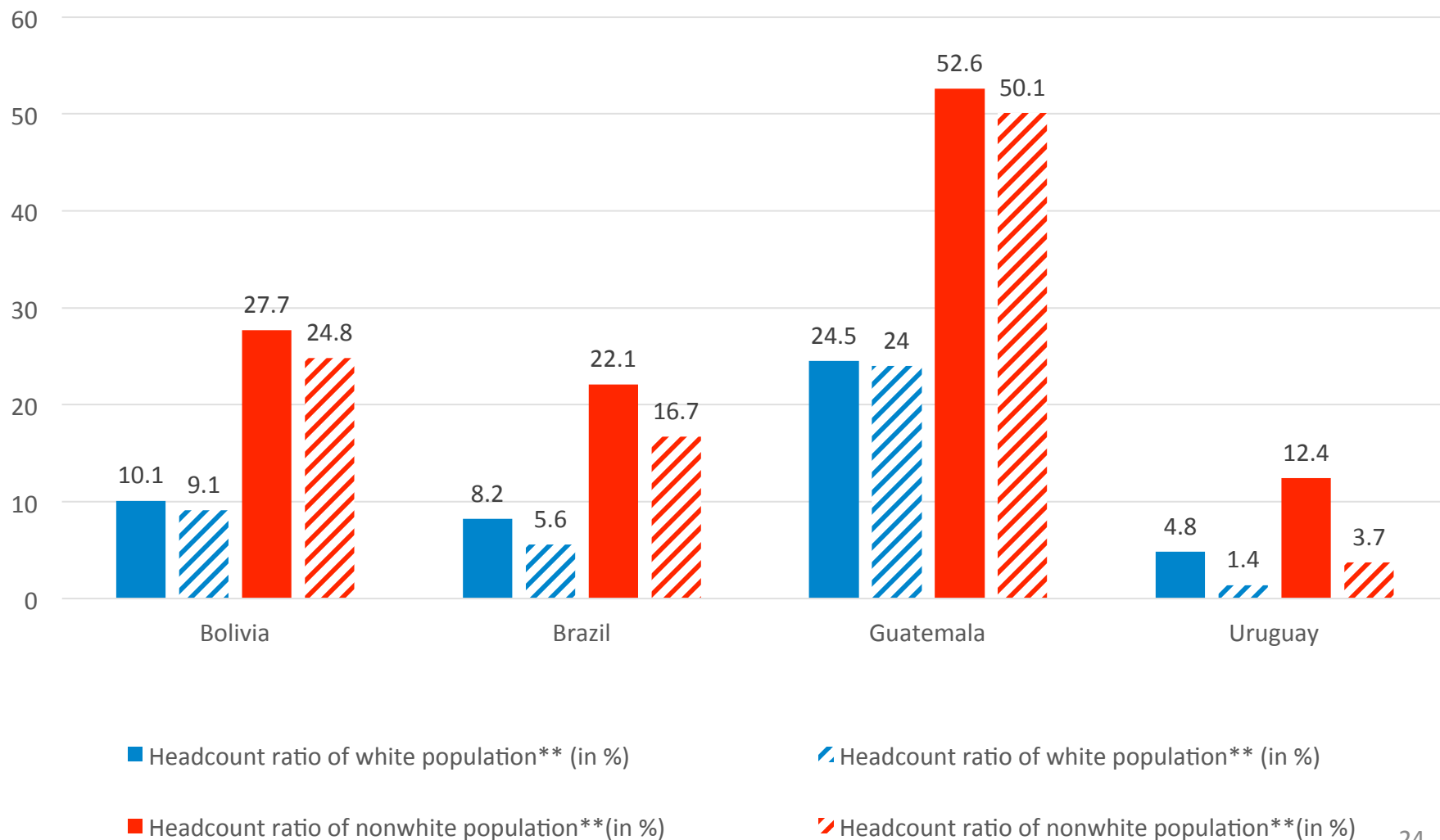


# Inequality of opportunity also declines by a relatively small amount...

Smoothed Distribution of Log Mean Deviation




# The difference in headcount ratios by ethnic group and race after taxes and transfers is still very large, with the exception of Uruguay...





**More importantly, when one adds the effect of consumption taxes, the gap in the headcount ratio increases above that for market income in Brazil (!) and remains unchanged in Bolivia....**

<b>Difference in Headcount Ratio in Percentage Points</b>	<b>Market Income</b>	<b>Disposable Income</b>	<b>Post-fiscal Income</b>
<b>Bolivia</b>	17.6	15.7	16.9
<b>Brazil</b>	13.5	10.8	14
<b>Guatemala</b>	28.1	26.1	27.1
<b>Uruguay</b>	7.6	2.3	3.1



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## Table 3 – Indicators of Progressivity, Pro-poorness and Horizontal Equity in the Ethno-Racial Divide

Dimension of Fiscal System	Indicator
Progressivity	Share of taxes (transfers) paid (received) by each ethnic or racial group compared to the respective shares of market income and population
Pro-disadvantage group	Probability of escaping poverty (impoverishment) by ethnic or racial group
Horizontal equity	The share of taxes and transfers is equal to the population shares by racial or ethnic group within the poor

# Probability of Escaping Poverty Through Direct Transfers (in percent)

	Bolivia	Brazil	Guatemala	Uruguay
National	10.4	27.2	4.3	71.5
White	10.1	33.4	2.9	71.6
Non-White	10.4	25.0	5.2	73.5

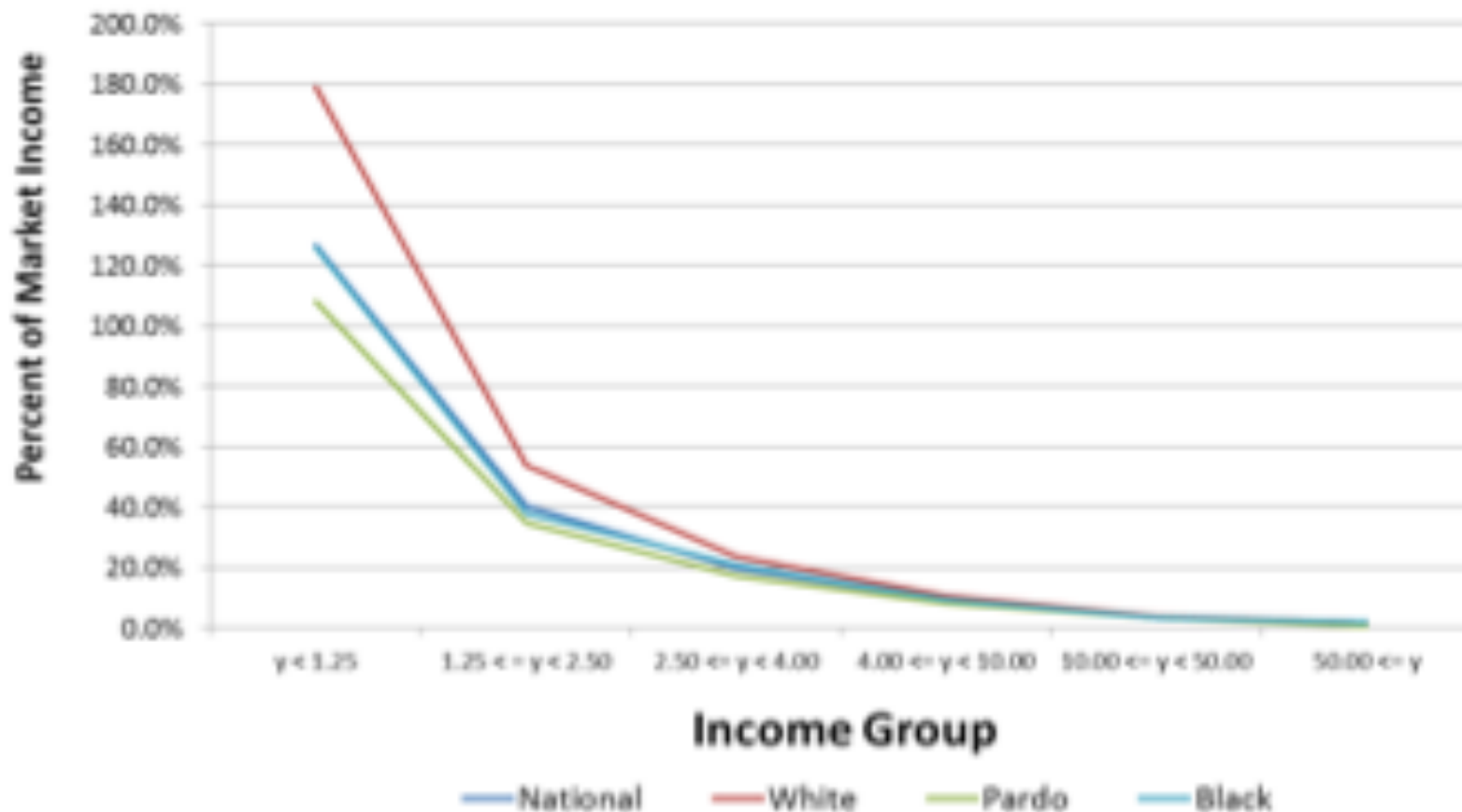
If the goal were to equalize the disposable income poverty of the disadvantaged group to the market income poverty of the non-disadvantaged group, the probability of escaping poverty for the nonwhite population would have to be 63 percent in Bolivia and Brazil, 53 percent in Guatemala and 61.4 percent in Uruguay

## Horizontal Equity of Taxes and Transfers (Bolivia)

Bolivia		NON INDIGENOUS	INDIGENOUS
		% nat'l	% nat'l
POPULATION	$y \leq 1.25$	15.43%	84.57%
	$1.25 < y \leq 2.50$	31.91%	68.09%
	$2.50 < y \leq 4$	40.08%	59.92%
MARKET INCOME	$y \leq 1.25$	15.95%	84.05%
	$1.25 < y \leq 2.50$	32.51%	67.49%
	$2.50 < y \leq 4$	40.05%	59.95%
All Direct Transfers	$y \leq 1.25$	15.87%	84.13%
	$1.25 < y \leq 2.50$	20.88%	79.12%
	$2.50 < y \leq 4$	33.70%	66.30%
Non-contributory Pensions	$y \leq 1.25$	14.25%	85.75%
	$1.25 < y \leq 2.50$	18.16%	81.84%
	$2.50 < y \leq 4$	29.69%	70.31%
Flagship CCT	$y \leq 1.25$	9.89%	90.09%
	$1.25 < y \leq 2.50$	31.95%	68.05%
	$2.50 < y \leq 4$	39.36%	60.64%
Other Direct Transfers	$y \leq 1.25$	33.74%	66.26%
	$1.25 < y \leq 2.50$	22.77%	77.23%
	$2.50 < y \leq 4$	40.05%	59.95%
Indirect Subsidies	$y \leq 1.25$	54.81%	45.19%
	$1.25 < y \leq 2.50$	50.69%	49.31%
	$2.50 < y \leq 4$	45.11%	54.87%
Indirect Taxes	$y \leq 1.25$	25.17%	74.83%
	$1.25 < y \leq 2.50$	37.28%	62.72%
	$2.50 < y \leq 4$	41.41%	58.59%
Net Indirect Taxes	$y \leq 1.25$	23.23%	76.77%
	$1.25 < y \leq 2.50$	35.91%	64.09%
	$2.50 < y \leq 4$	40.98%	59.02%

**Brazil: the poorest white population receives almost twice as much in direct transfers than the equally poor nonwhites ...**

**Incidence of Direct Transfers: Brazil**

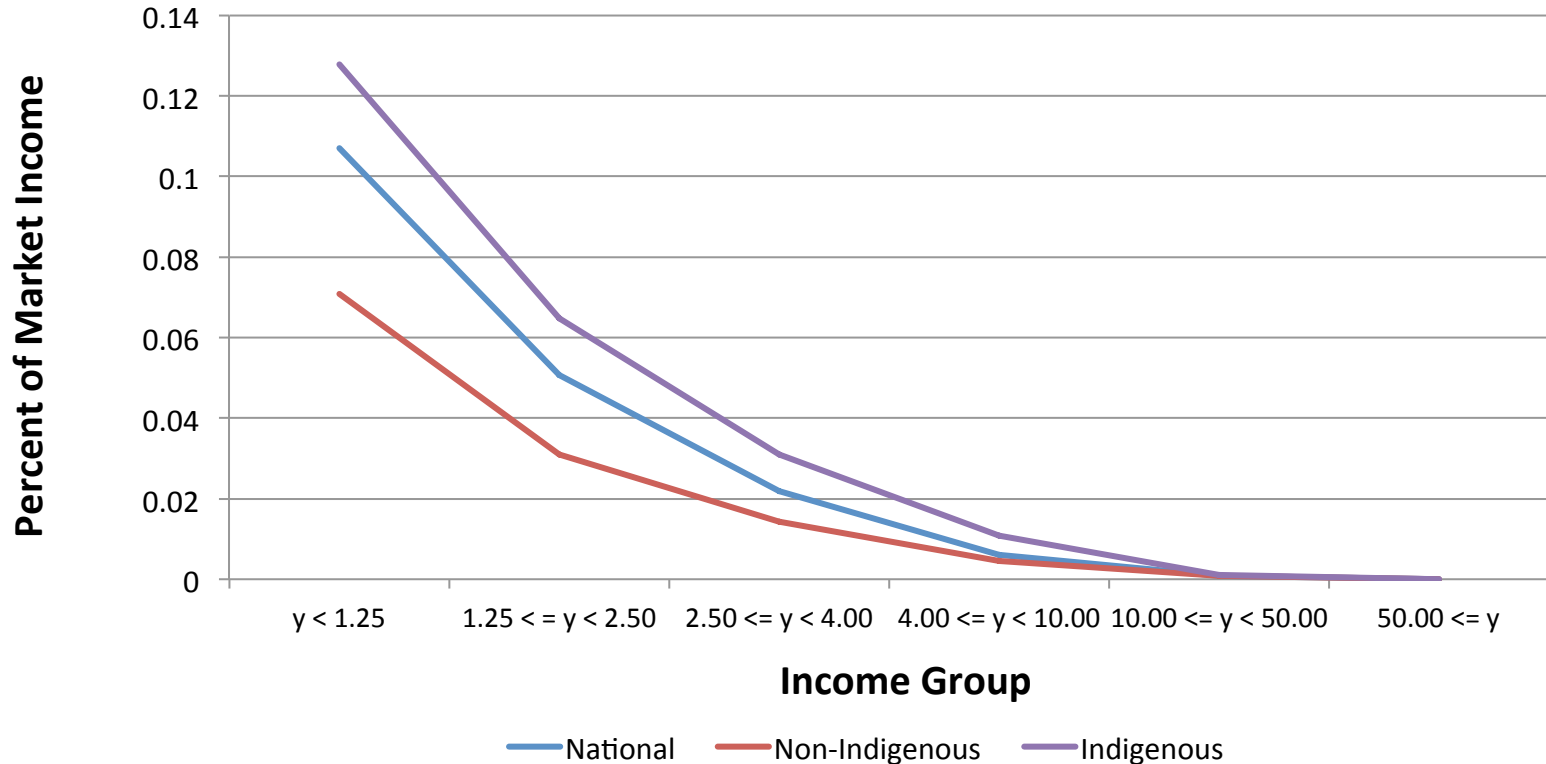


# Progressivity: Guatemala

- Overall, taxes and cash transfers in Guatemala are “pro-indigenous”
  - But the amount that is redistributed in cash to either ethnic group is very small and some of the individual transfers are more “pro-nonindigenous”
  - The progressive CCT is partially offset by the regressivity of indirect subsidies; noncontributory pensions and other transfers are progressive only in relative terms

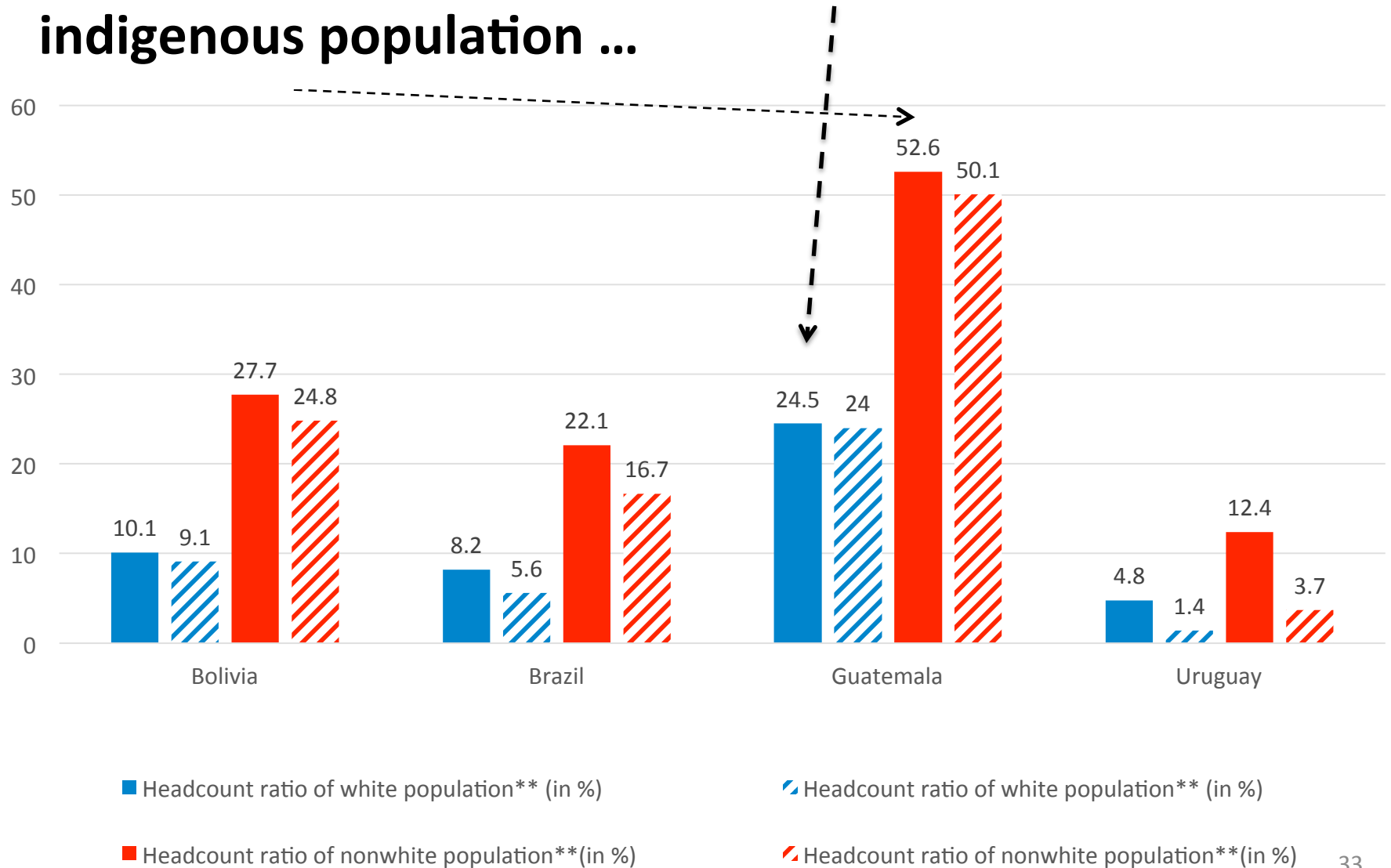
**In contrast to Brazil, however, in GUA the incidence of transfers is higher for the indigenous population ...**

**Incidence of Direct Transfers: Guatemala**





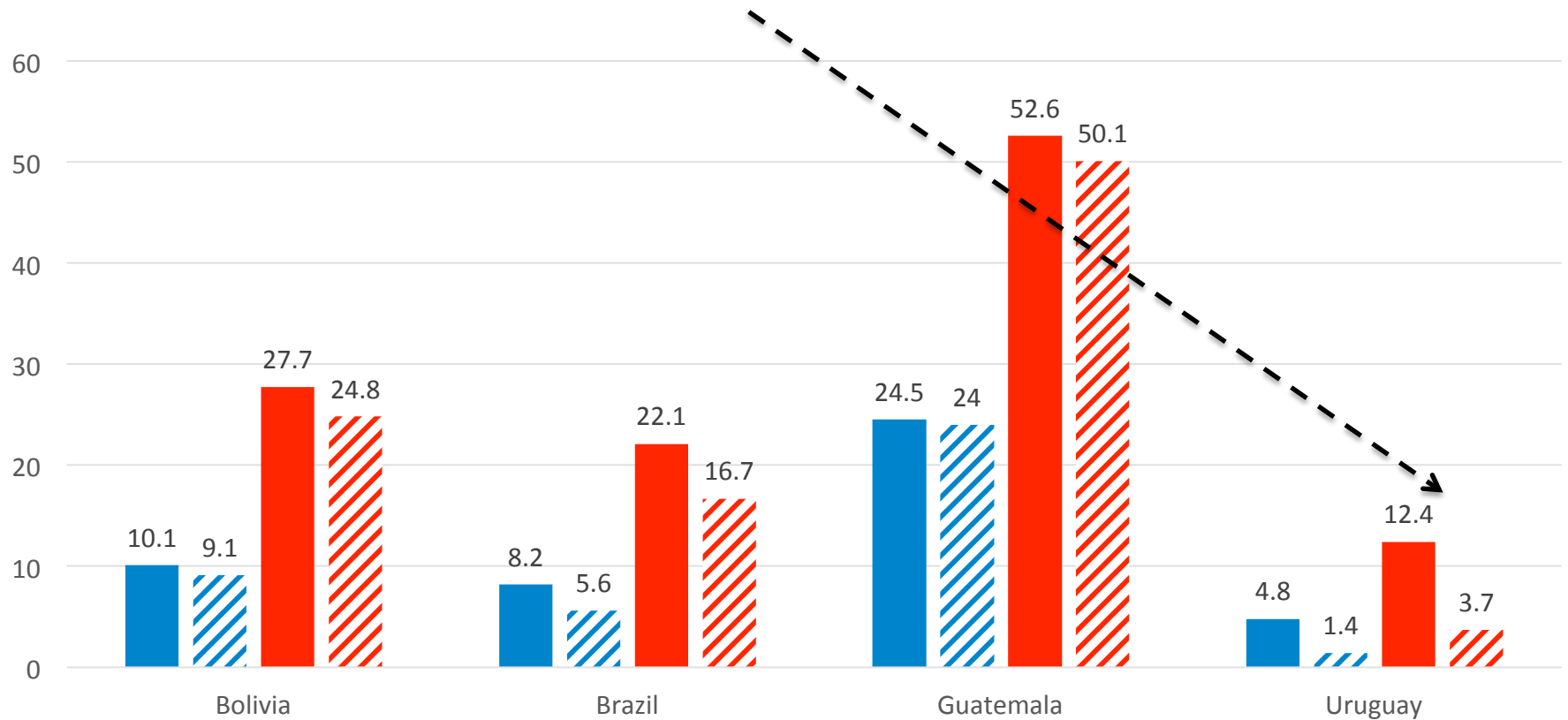
# In Guatemala, poverty reduction due to government transfers is small for both the nonindigenous and indigenous population ...



# Progressivity: Uruguay

- Narrows the difference in the headcount ratio of the white and nonwhite population the most
- The ex-post disposable income headcount ratios are quite low and quite similar
- This is no coincidence: higher per capita income, lower overall inequality and considerably lower poverty rates than the other three
- Also, nonwhites are a smaller share of the total and the poor population than in other countries

# Uruguay: Headcount Ratio by Race (in %)



■ Headcount ratio of white population\*\* (in %)

▨ Headcount ratio of white population\*\* (in %)

■ Headcount ratio of nonwhite population\*\* (in %)

▨ Headcount ratio of nonwhite population\*\* (in %)

# Progressivity: Uruguay

- Its fiscal policy is significantly more progressive in the ethno-racial space
- Direct taxes are progressive
- Direct transfers as a whole and item by item are progressive in absolute terms in the ethno-racial space

Thank you