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

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CEQ Assessment: Tools

- **Handbook:** Lustig and Higgins, current version Sept 2013; includes sample Stata code => available on CEQ website
- **Master Workbook**: Excel Spreadsheet to present background information, assumptions and results. Lustig and Higgins, version Feb 2015 (available with permission)
- **Diagnostic Questionnaire: = >** available on website
- **Ado Stata Files**: (available with permission)
- **CEQ Handbook 2016 (forthcoming)**

  Lustig and Higgins, editors. *Commitment to Equity Handbook: Estimating the Redistributive Impact of Fiscal Policy*

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COMMITMENT TO EQUITY

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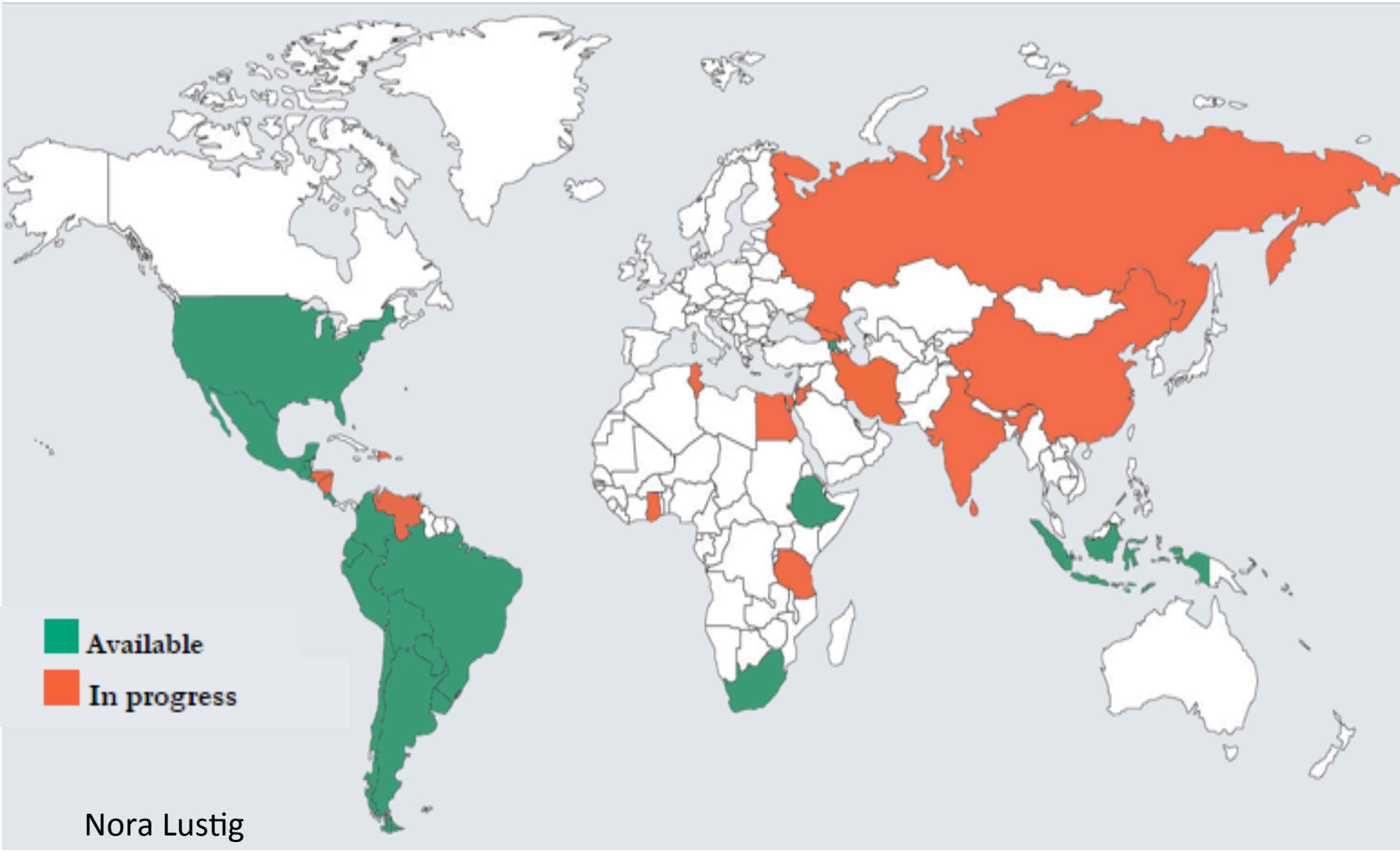


Nora Lustig

COMMITMENT TO EQUITY

Fiscal Incidence Analysis by Ethnicity and Race: Teams

- **CEQ Director:** Nora Lustig
- **Bolivia**: Veronica Paz Arauco, George Gray-Molina, Wilson Jimenez and Ernesto Yañez
- **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

Household Surveys Used in Country Studies

- **Bolivia:** Encuesta de Hogares, 2009 (I)
- **Brazil:** Pesquisa de Orçamentos Familiares, 2009 (I)
- **Guatemala:** Encuesta Nacional de Ingresos y Gastos Familiares, 2010 (I)
- **Uruguay:** Encuesta Continua de Hogares, 2009 (I)

Note: The letters "I" indicate income data.

Outline

- Characterizing 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

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 --with the exception of Uruguay-- very slightly and for some indicators the divide is increased

Proportion of Nonwhite Population (self-reporting)

- Bolivia: 54.2 %
- Brazil: 50.8 %
- Guatemala: 40.7 %
- Uruguay: 4.4 %

The Ethno-racial Divide

- 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.
- Decomposing Theil index: Inequality between ethnic or racial groups accounts for between 1 percent of total inequality in Uruguay to 9.1 percent in Brazil.

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.

**Corresponds to the "between" component of a standard decomposition of the Theil index.

Poverty and Education by Ethnicity and Race

- 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.

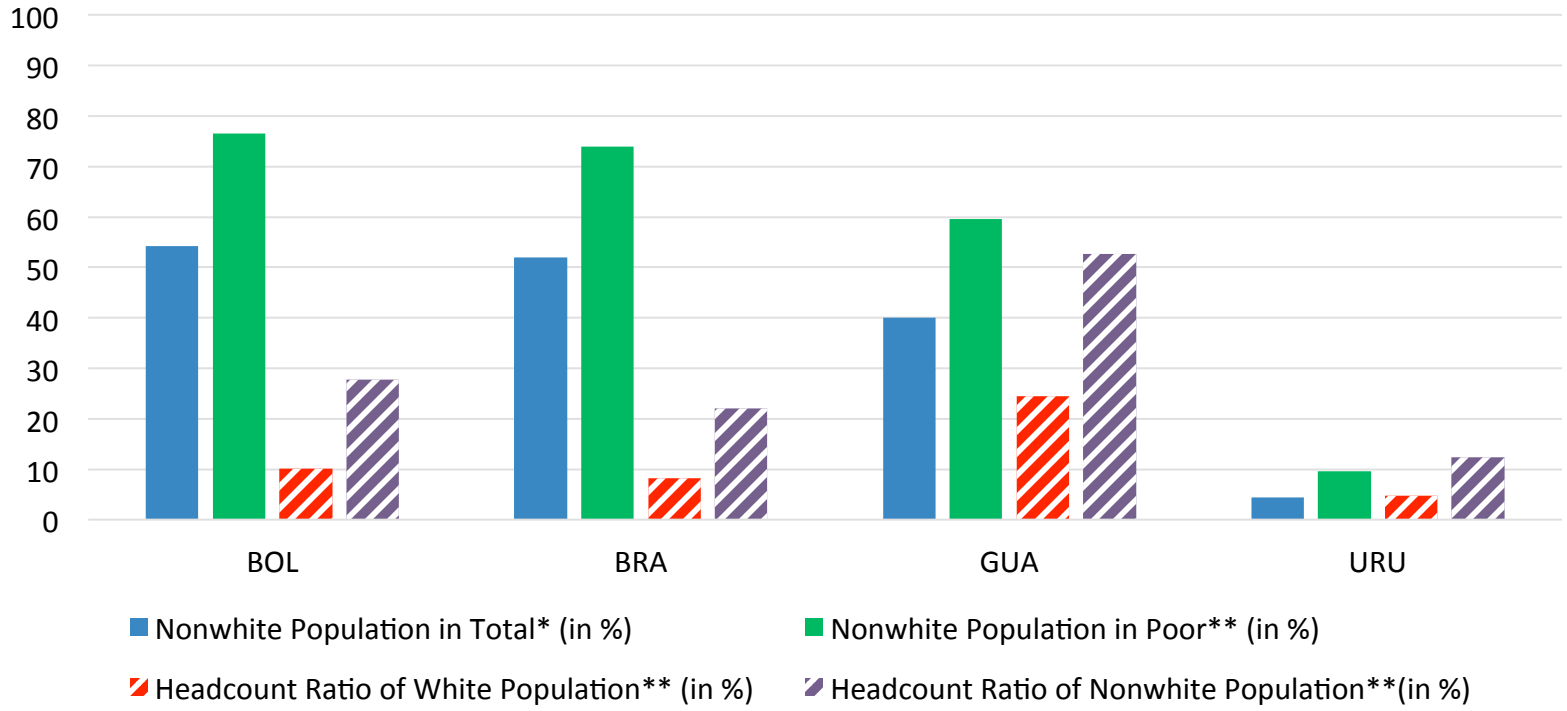
Indicator	Bolivia (2009)	Brazil (2009)	Guatemala (2009/10)	Uruguay (2009)
Nonwhite Population in Total* (in %)	54.2	50.8	40.7	4.4
Nonwhite Population in Poor** (in %)	76.5	72.8	59.5	9.5
Headcount Ratio of White Population** (in %)	10.1	8.2	24.5	4.8
Headcount Ratio of Nonwhite Population**(in %)	27.7	21.7	52.5	12.4
Average Years of Schooling of White Population (+25 yrs old)	9.7	8.2	5.8	8.8
Average Years of Schooling of Nonwhite Population (+25 yrs old)	7	6.3	2.3	6.8

*The nonwhite population for Bolivia and Guatemala refer to the indigenous population; in the case of Brazil, to the Afro-Brazilian (*pardo* and *preto*) population; and, in the case of Uruguay, to Afro-descendants.

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

POVERTY

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



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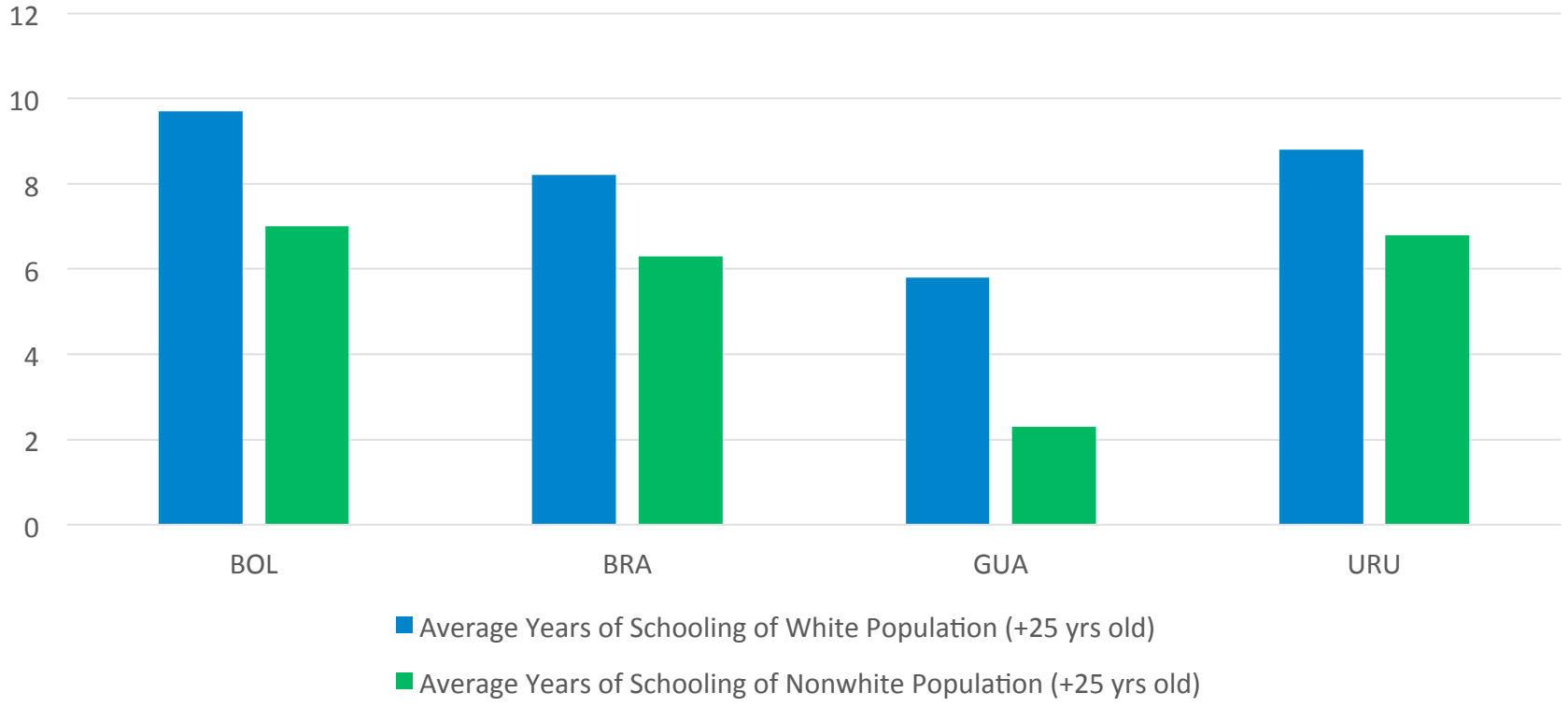
EDUCATION

Average Years of Schooling Whites/Nonwhites



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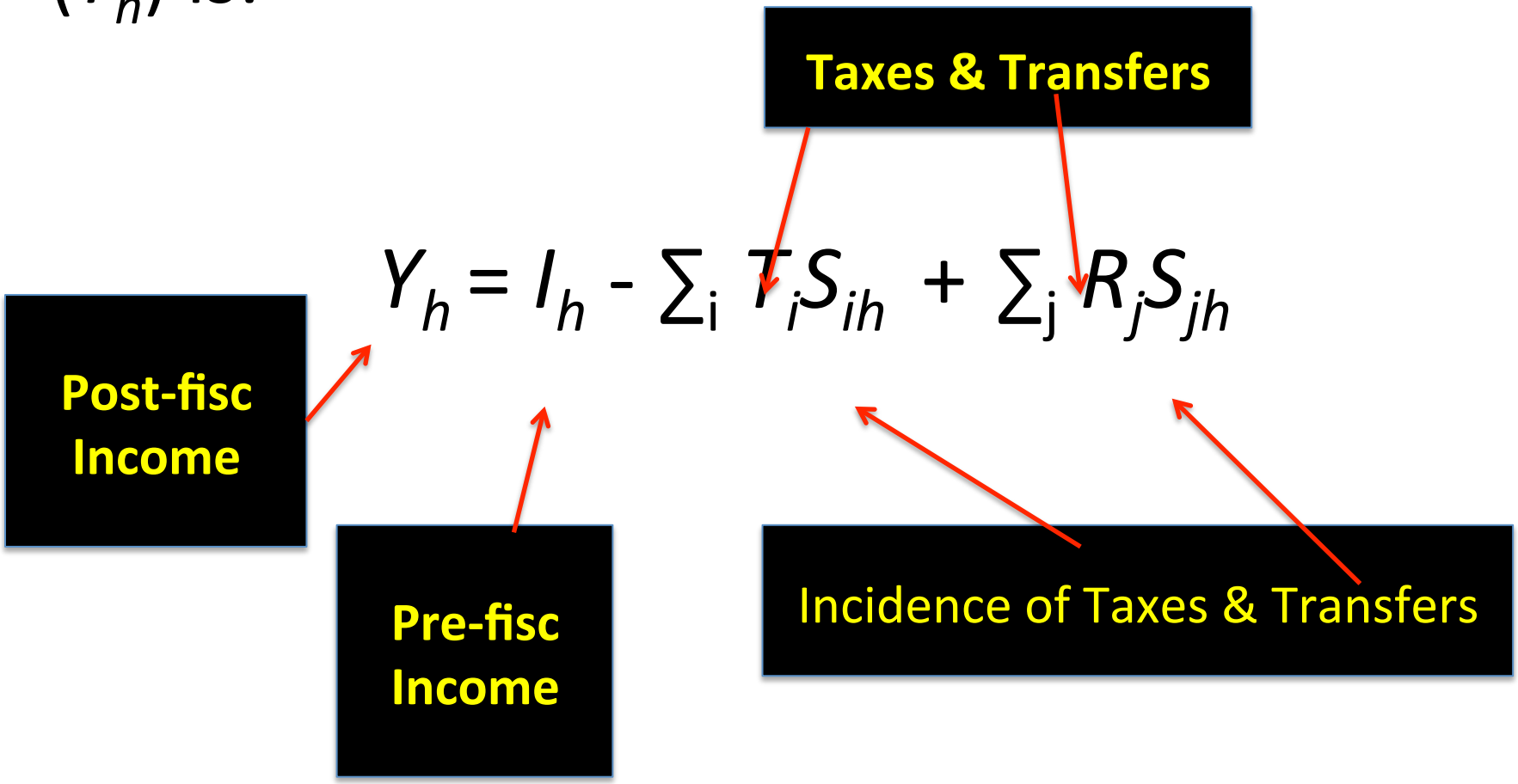
Outline

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

Basic elements of standard fiscal incidence

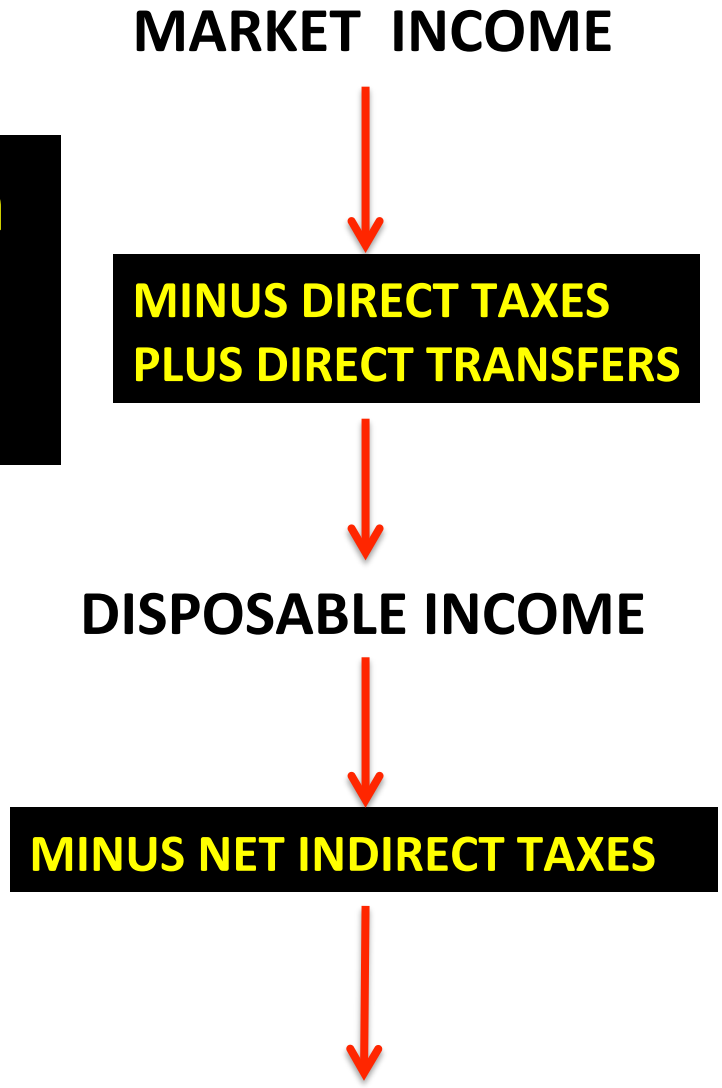
- Before taxes and transfers income of unit *h, or* I_h
- Taxes T_i
  - personal income taxes; contributions to social security
  - consumption taxes and subsidies
- Transfers R_i
  - social spending: cash & near-cash transfers; in-kind transfers (education and health)
  - consumption and production (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:



COMMITMENT TO EQUITY

Construction of Income Concepts



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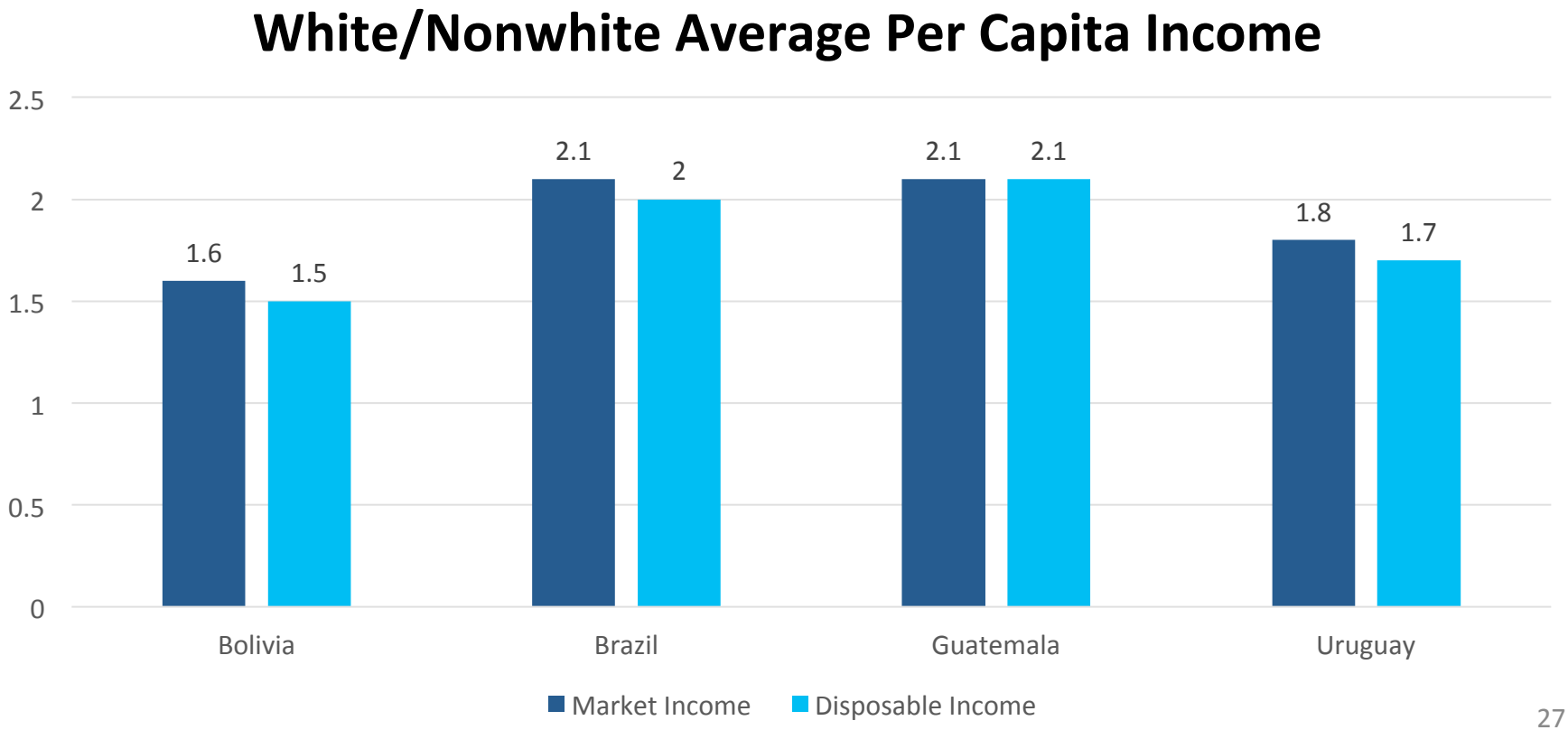
Table 2 – Fiscal Policy Outcome Indicators and the Ethno-Racial Divide

Outcome	Indicator
Inequality	White/nonwhite average per capita market vs. disposable income
	Decomposable inequality measure (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
Poverty	Headcount ratio of white and nonwhite population for market income vs. disposable income and post-fiscal income

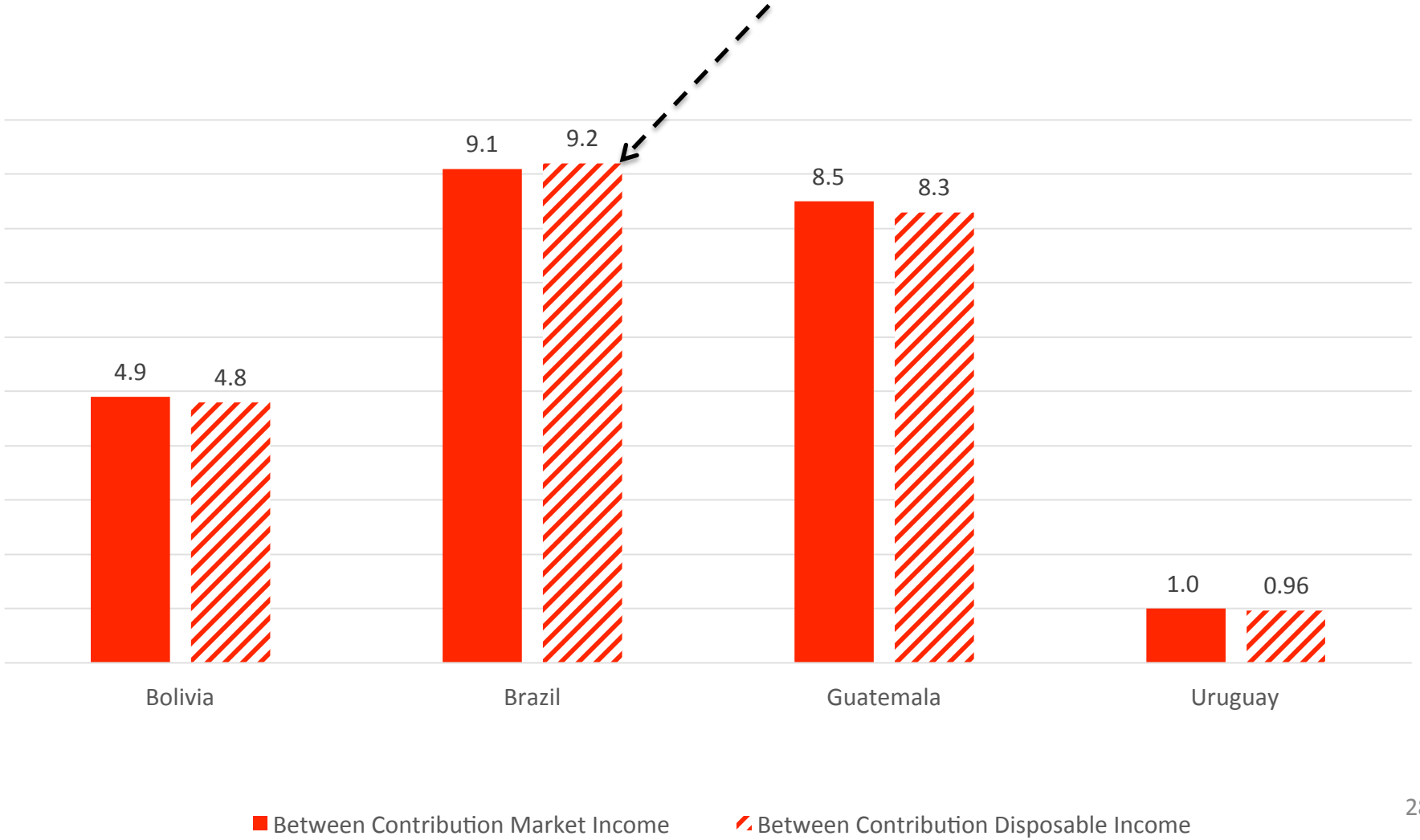
Summary

- What is the impact of direct taxes and direct transfers on ethnic and racial inequality?
  - Although all the indicators move in the right direction, with the exception of the headcount ratio in Uruguay, the change is quite small

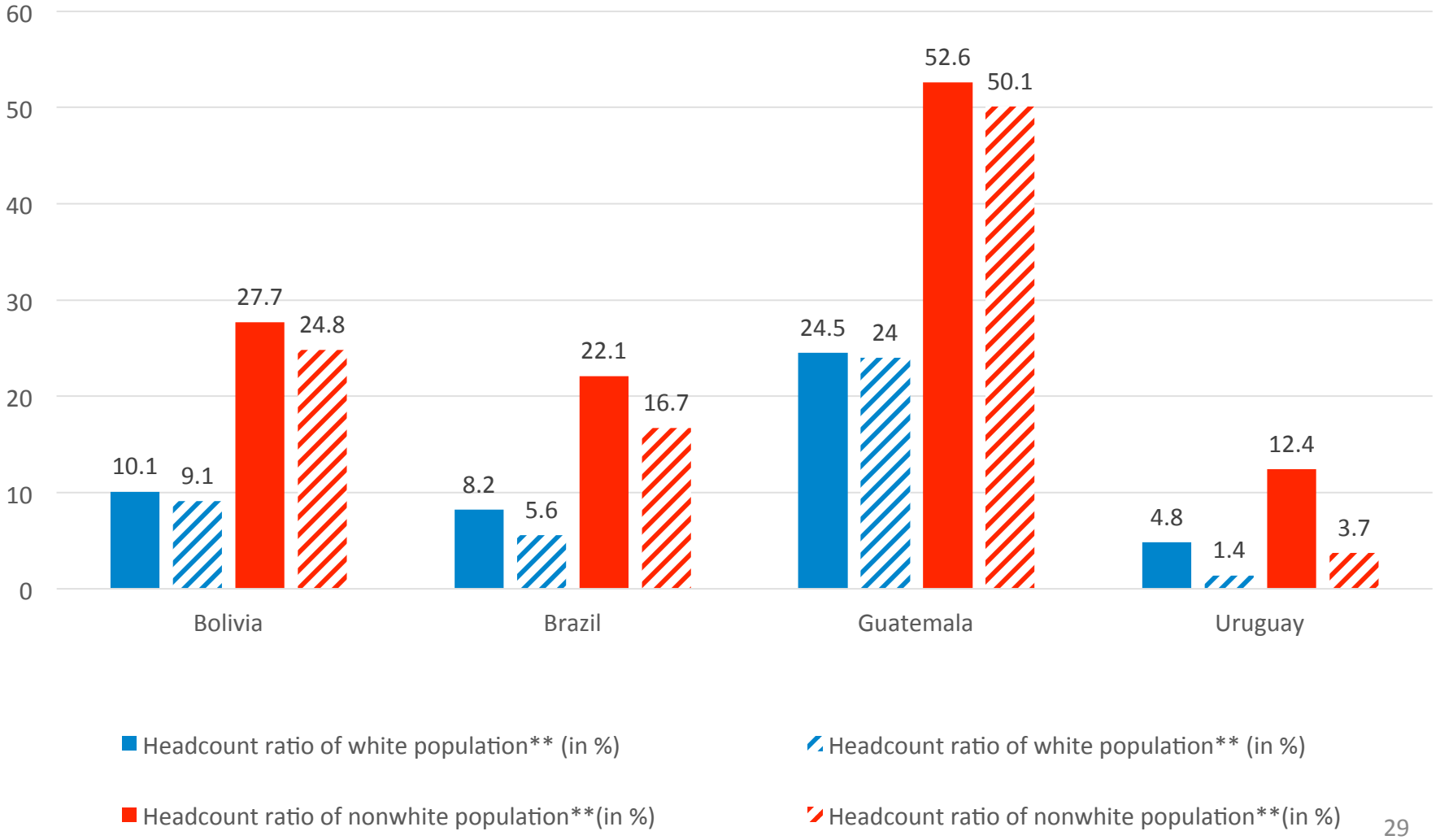
The ratio of average per capita incomes by ethnicity or race declines by at most one decimal point (Bolivia, Brazil and Uruguay) to nothing (Guatemala) …



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



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….

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

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Indicators of Pro-poorness and Horizontal Equity in the Ethno-Racial Divide

Dimension of Fiscal System	Indicator
Pro-disadvantaged group	Probability of escaping poverty 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

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

Guatemala: Horizontal Equity of Taxes and Transfers

Guatemala		NON INDIGENOUS	INDIGENOUS
		% nat'l	% nat'l
POPULATION	y<=1.25	36.32%	63.68%
	1.25<y<=2.50	42.03%	57.97%
	2.50<y<=4	52.64%	47.36%
MARKET INCOME	y<=1.25	35.46%	64.54%
	1.25<y<=2.50	42.30%	57.70%
	2.50<y<=4	53.36%	46.64%
All Direct Transfers	y<=1.25	23.80%	76.20%
	1.25<y<=2.50	26.03%	73.97%
	2.50<y<=4	35.04%	64.96%
	1.25<y<=2.50	49.93%	50.07%
	2.50<y<=4	58.73%	41.27%
Indirect Subsidies	y<=1.25	51.13%	48.87%
	1.25<y<=2.50	53.64%	46.36%
	2.50<y<=4	63.17%	36.83%
Indirect Taxes	y<=1.25	43.44%	56.56%
	1.25<y<=2.50	44.53%	55.47%
	2.50<y<=4	56.35%	43.65%
Net Indirect Taxes	y<=1.25	41.92%	58.08%
	1.25<y<=2.50	42.55%	57.45%
	2.50<y<=4	54.69%	45.31%

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

Thank you