Fiscal Incidence Analysis in Theory and Practice

Nora Lustig
Tulane University
Nonresident Fellow CGD and IAD

Workshop
The Distributional Impact of Fiscal Policy
The World Bank and Tulane University

Washington, DC – June 10, 2013

Suppose you want to know…

Assessment of current fiscal system or parts of it:

- What is the impact of taxes and government transfers on inequality and poverty?

- Who are the net tax payers to the "fisc" (with and without imputing benefits from in-kind transfers)?

- How equitable is access to government education and/or health services? By income, gender, ethnic origin, for example.

- How progressive is taxation and spending (as a whole and by categories)?

2

Suppose you want to know…

Impact of hypothetical or actual reforms:

- How do inequality and poverty change when you eliminate VAT exemptions?
- Who benefits from the elimination of user fees in primary education or the expansion of noncontributory pensions?
- Who loses from the elimination of energy subsidies?

Types of Incidence Analysis

- Standard vs. Behavioral, CGEs, Intertemporal

- Partial vs. Comprehensive

- Average vs. Marginal

4

Welfare Indicator

- Income vs. Consumption

- Current vs. Lifetime

- Per capita vs. equivalized

Basic elements of "applied" standard incidence

Start with:

- Pre-tax/pre-transfer income/consumption of unit *h, or I_h*
- Taxes/transfers programs T_i
- "Allocators" of program *i* to unit *h*, or S_{ih} (or the share of program *i* borne by unit *h*)

Then, post-tax/post-transfer income of unit h (Y_h) is:

$$Y_h = I_h - \sum_i T_i S_{ih}$$

Allocation Methods

Direct Identification in microdata

If not in microdata, then:

- (micro) Simulation: statutory vs. tax shifting or take-up assumptions
- Imputation
- Inference
- Alternate Survey
- Secondary Sources

Allocation Methods

- Tax shifting assumptions

- Tax evasion assumptions

- Take-up of cash transfers programs

- Monetizing in-kind transfers

Commitment to Equity Assessments (CEQ) for Latin America

- Comprehensive standard fiscal incidence analysis of current systems
- No behavior and no general equilibrium effects
- Harmonizes definitions and methodological approaches to facilitate cross-country comparisons
- Uses income per capita as the welfare indicator
- Allocators vary => full transparency in the method used for each category, tax shifting assumptions, etc.
- Mainly average incidence; a few cases with marginal incidence

www.commitmentoequity.org

- Special issue: Lustig, Pessino and Scott. Editors. "Fiscal Policy, Poverty and Redistribution in Latin America,"*Public Finance Review* (forthcoming)

  – Argentina: Nora Lustig and Carola Pessino

  – Bolivia: George Gray Molina, Wilson Jimenez, Veronica Paz and Ernesto Yañez

  – Brazil: Sean Higgins and Claudiney Pereira

  – Mexico: John Scott

  – Peru: Miguel Jaramillo

  – Uruguay: Marisa Bucheli, Nora Lustig, Maximo Rossi and Florencia Amabile

Market Income
Wages and salaries, income from capital, private transfers; contributory pensions

− → Personal income and payroll taxes

Net Market Income

Direct transfers + →

Disposable Income

Indirect subsidies + → − → Indirect taxes

Post-fiscal Income

In-kind transfers (free government services in education and health) + → − → Co-payments, user fees
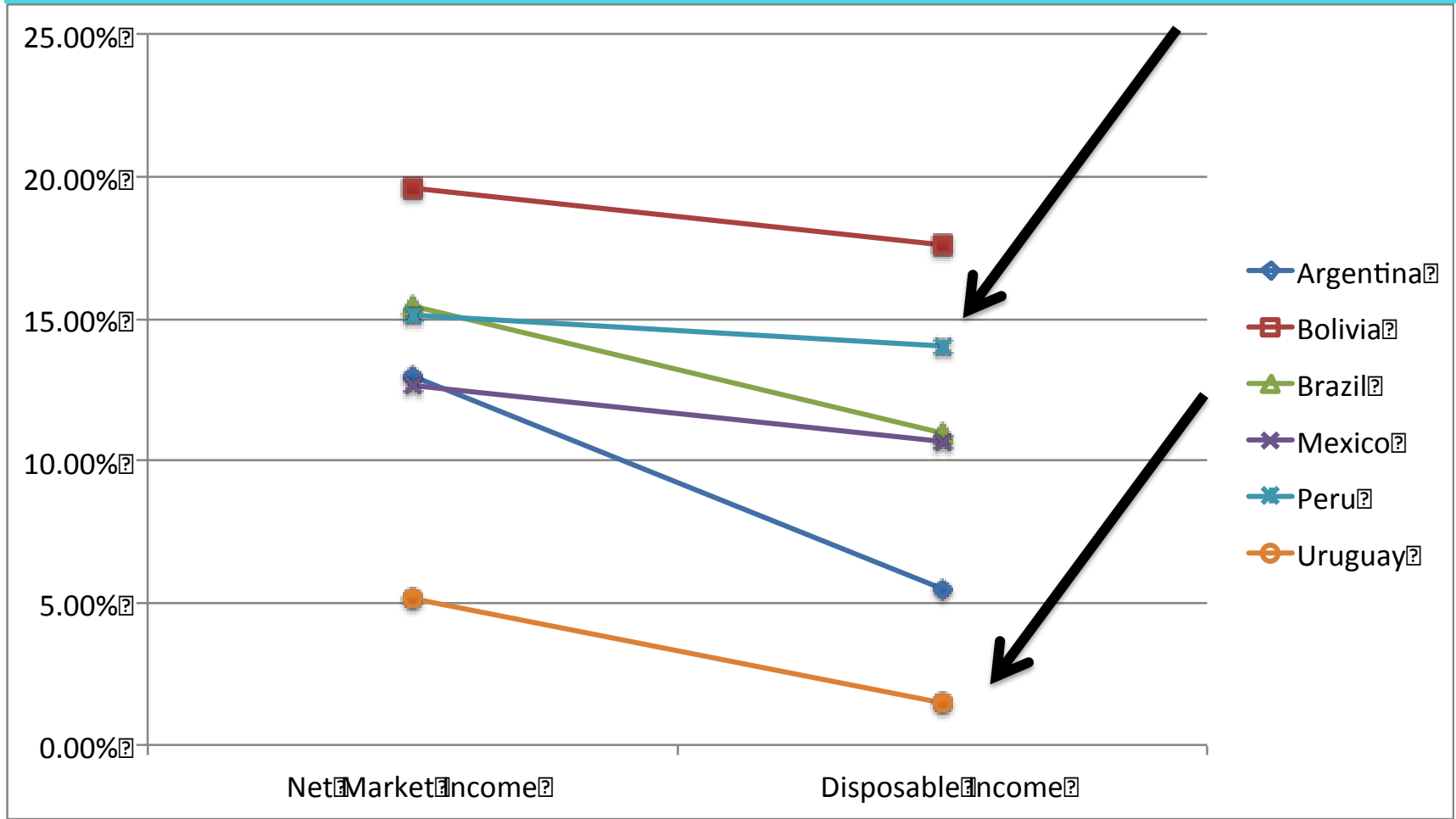
Final Income

12
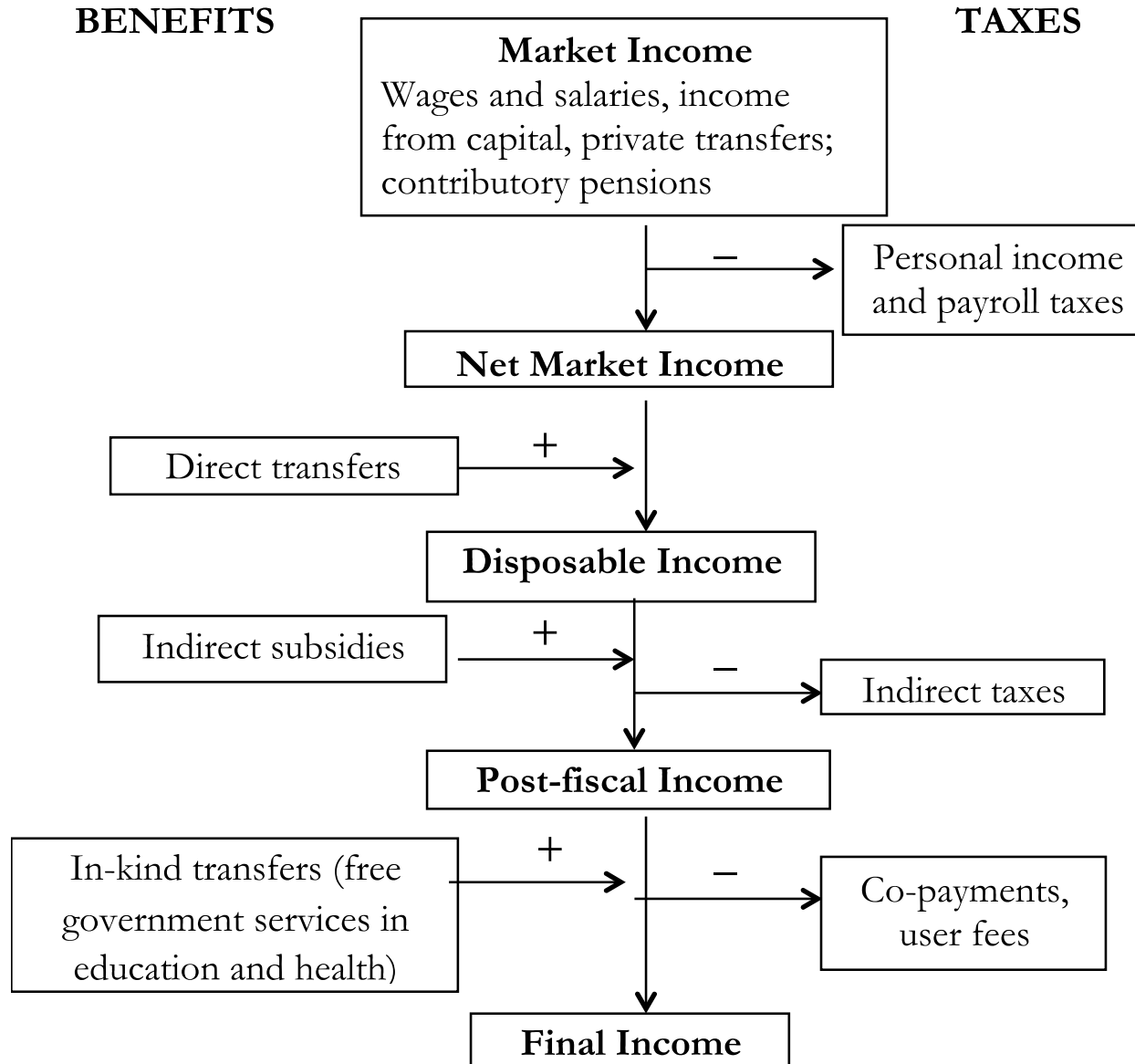
What is the impact of taxes and government transfers on inequality and poverty?
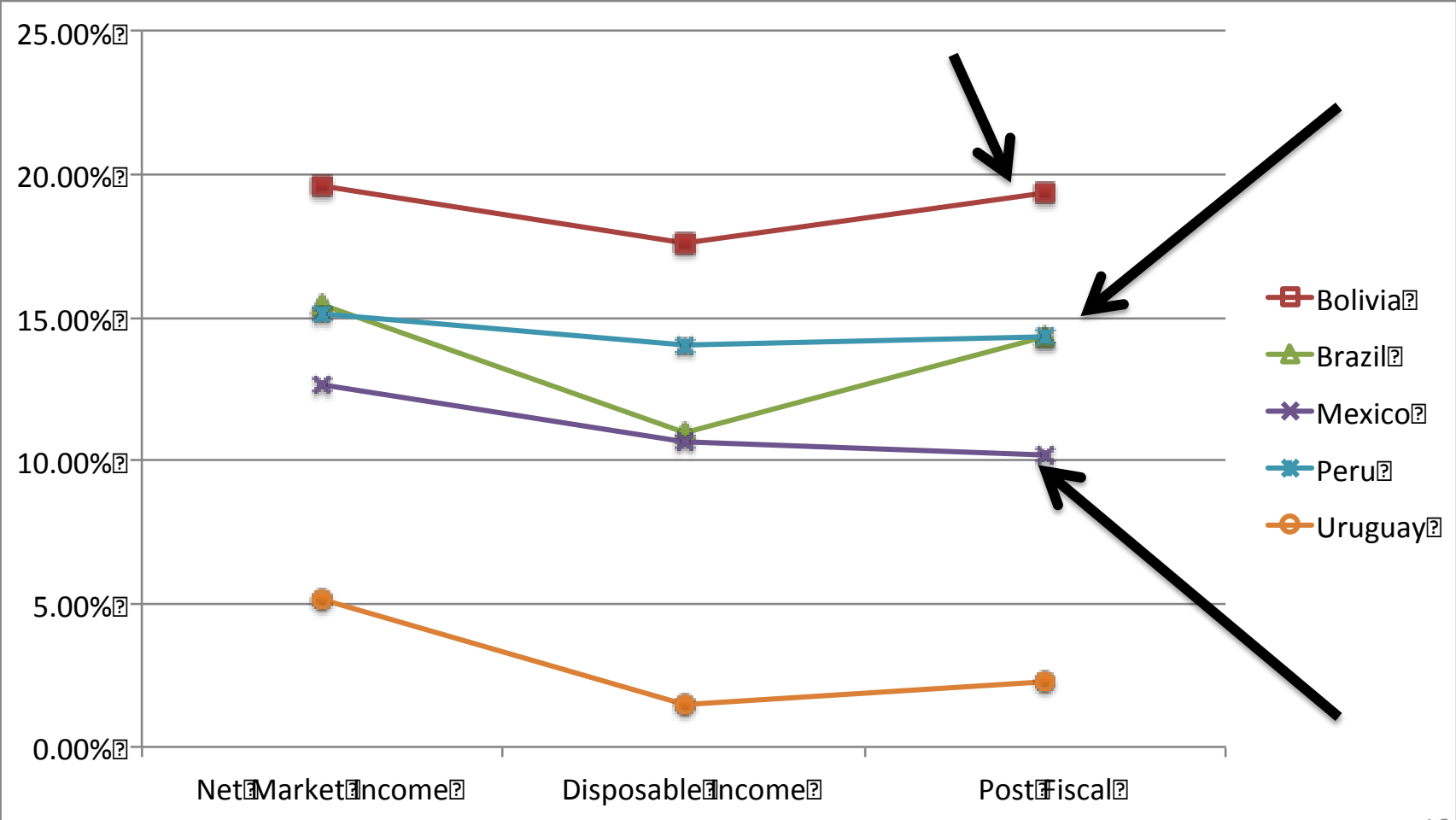
Gini Before and After Taxes, Transfers, Subsidies and Free Government Services
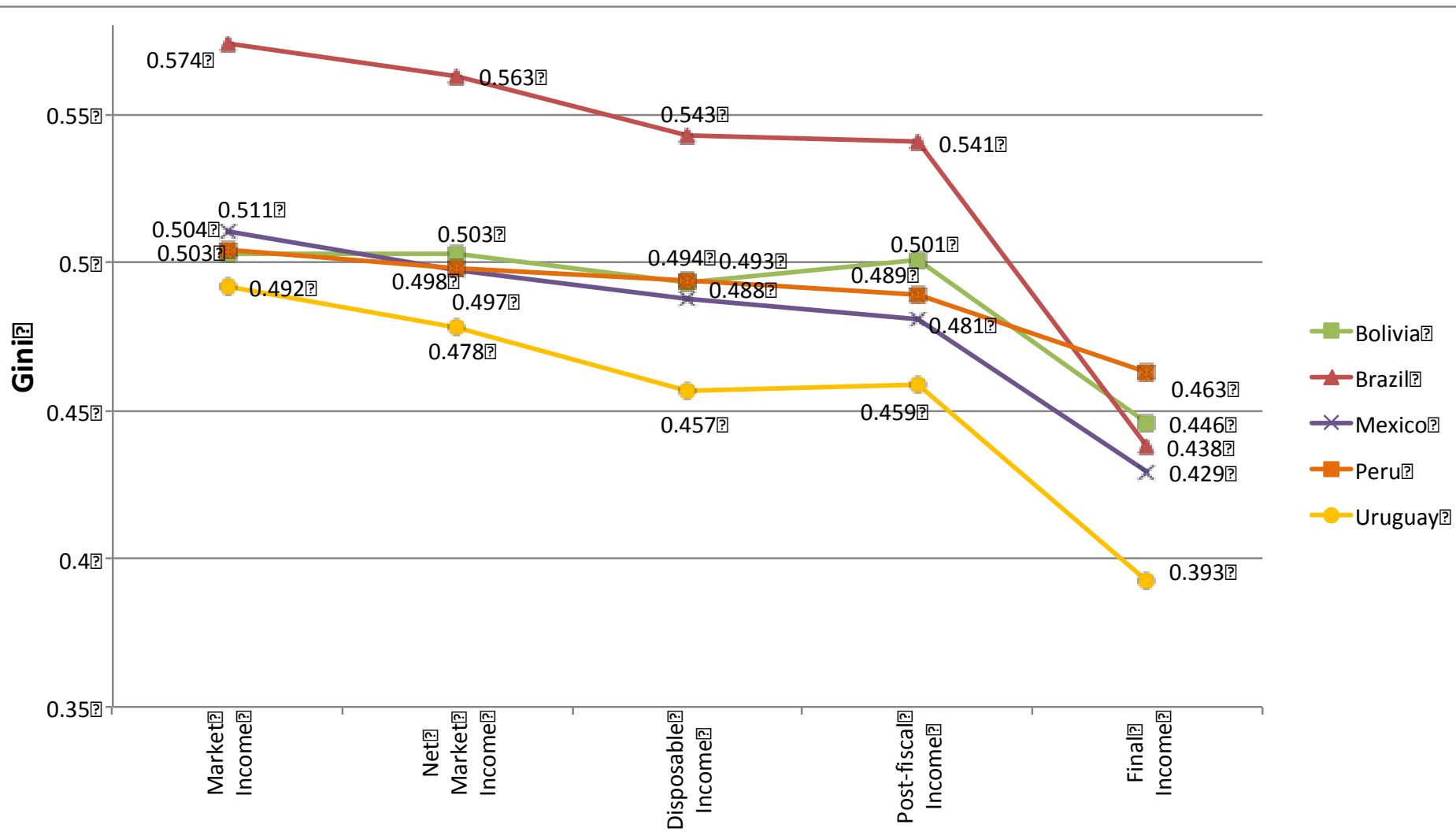
Headcount: Before and After Cash Transfers

15

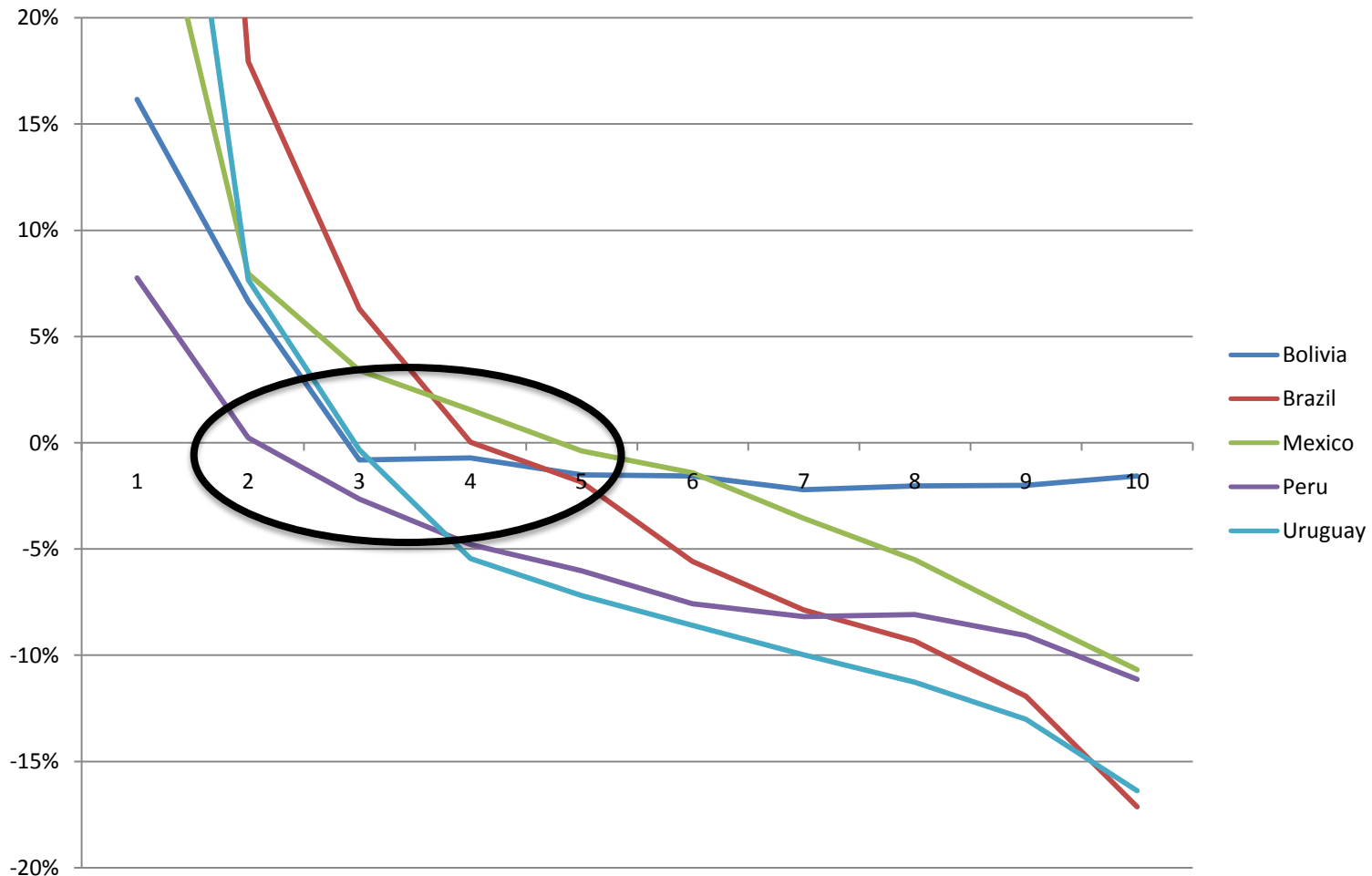# Headcount Ratio Before and After Indirect Taxes

Who are net payers to the "fisc"

Without including in-kind transfers

Incidence of Taxes and Cash Transfers
Net Change in Income after Direct and Indirect Taxes and Transfers by Decile

Fiscal Incidence of Income, Taxes and Transfers, by Socioeconomic Groups

	Market Income Population Shares	Post-Fiscal Income		Market Income Population Shares	Post-Fiscal Income
BOLIVIA (2009)			**MEXICO (2008)**		
Poor (<$4)	29.1%	4.0%	Poor (<$4)	23.8%	12.3%
Vulnerable ($4-$10)	38.8%	-1.5%	Vulnerable ($4-$10)	38.0%	-0.1%
Middle Class ($10-$50)	30.8%	-1.9%	Middle Class ($10-$50)	35.3%	-8.3%
Rich (>$50)	1.3%	-1.2%	Rich (>$50)	2.9%	-9.8%
Total population	100.0%	-1.4%	Total population	100.0%	-6.1%
BRAZIL (2009)			**PERU (2009)**		
Poor (<$4)	26.7%	15.1%	Poor (<$4)	28.6%	3.4%
Vulnerable ($4-$10)	33.5%	-7.1%	Vulnerable ($4-$10)	37.5%	-2.5%
Middle Class ($10-$50)	35.3%	-14.0%	Middle Class ($10-$50)	32.0%	-9.9%
Rich (>$50)	4.5%	-20.7%	Rich (>$50)	2.0%	-17.8%
Total population	100.0%	-13.7%	Total population	100.0%	-8.5%

How equitable is access to in-kind transfers in education?

Example of Assessing Equity in Access Concentration Coefficients Public Education in Mexico 1992-2010

Concentration Coefficients: Mexican Education Spending
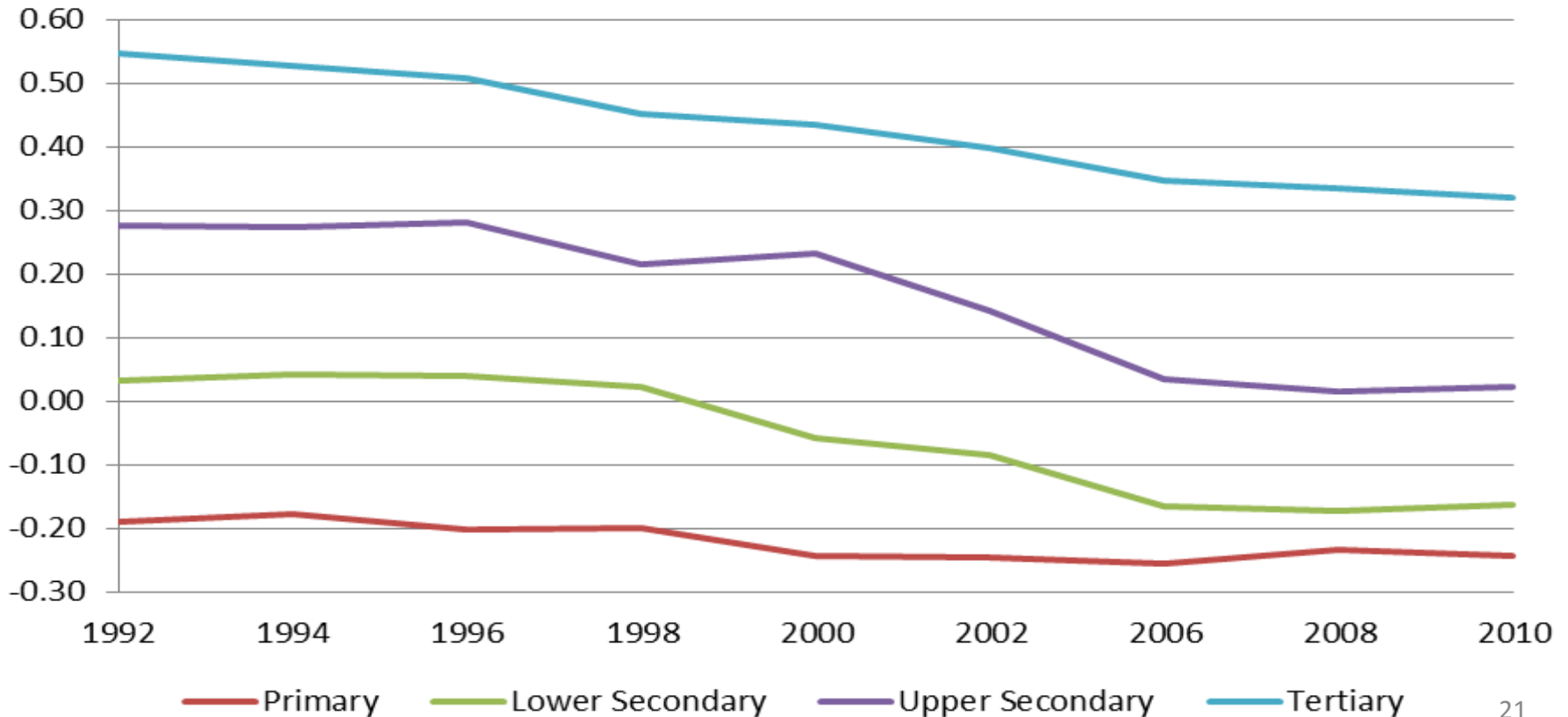
How progressive is taxation and spending (as a whole and by categories)?

Progressivity
Kakwani Index for Taxes: Red= regressive

	Taxes		
	Direct Taxes	**Indirect Taxes**	**All**
Argentina	na	na	na
Bolivia	ne	**-0.20**	**-0.20**
Brazil	**0.27**	**-0.03**	**0.04**
Mexico	**0.25**	**0.02**	**0.12**
Peru	**0.43**	**0.05**	**0.11**
Uruguay	**0.25**	**-0.05**	**0.07**

Progressivity
Concentration Coefficients for Transfers
Green= progressive in abs terms

	Direct Transfers	Education	Health	Social Spending
Argentina	-0.31	-0.20	-0.23	-0.15
Bolivia	-0.08	-0.02	-0.04	-0.04
Brazil	0.03	-0.16	-0.12	-0.08
Mexico	-0.30	-0.09	0.04	-0.06
Peru	-0.48	-0.17	0.18	-0.02
Uruguay	-0.47	-0.11	-0.10	-0.16

THANK YOU