# Fiscal Incidence Analysis in Theory and Practice

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Workshop
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# 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)?

# 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

# 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

**BENEFITS**　　　　　　　　　　　　　　　**TAXES**

**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
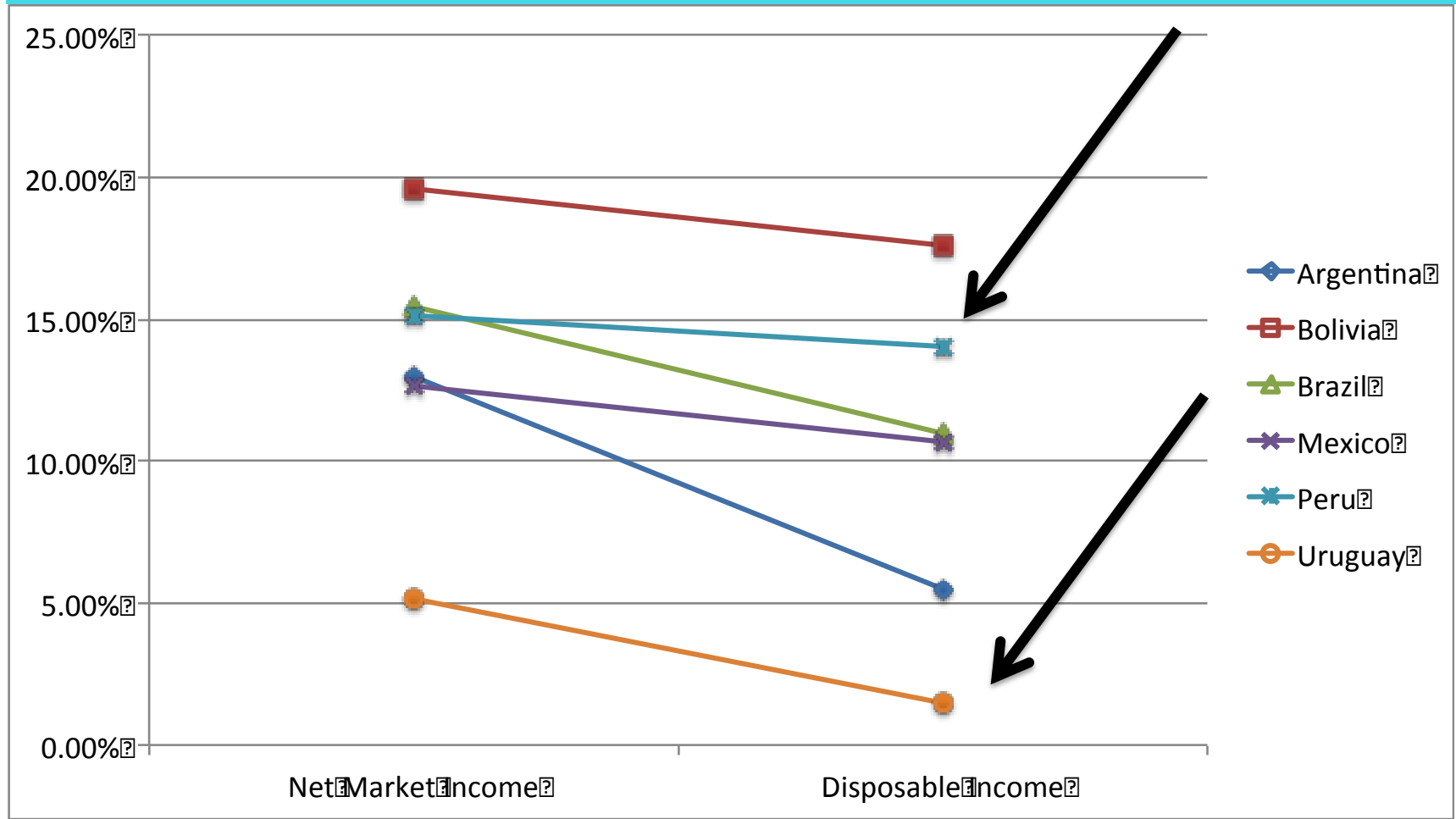
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**Final Income**
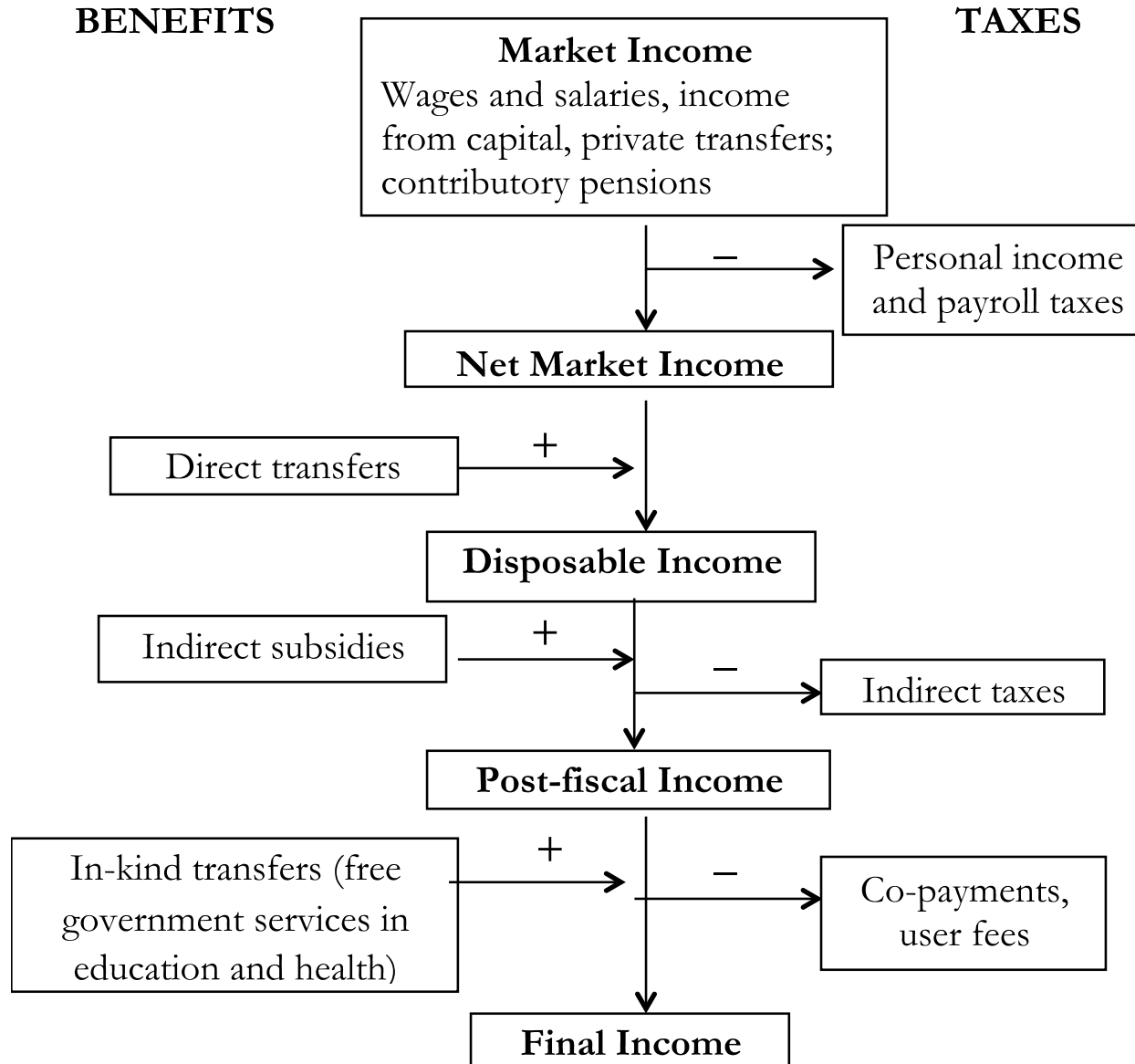
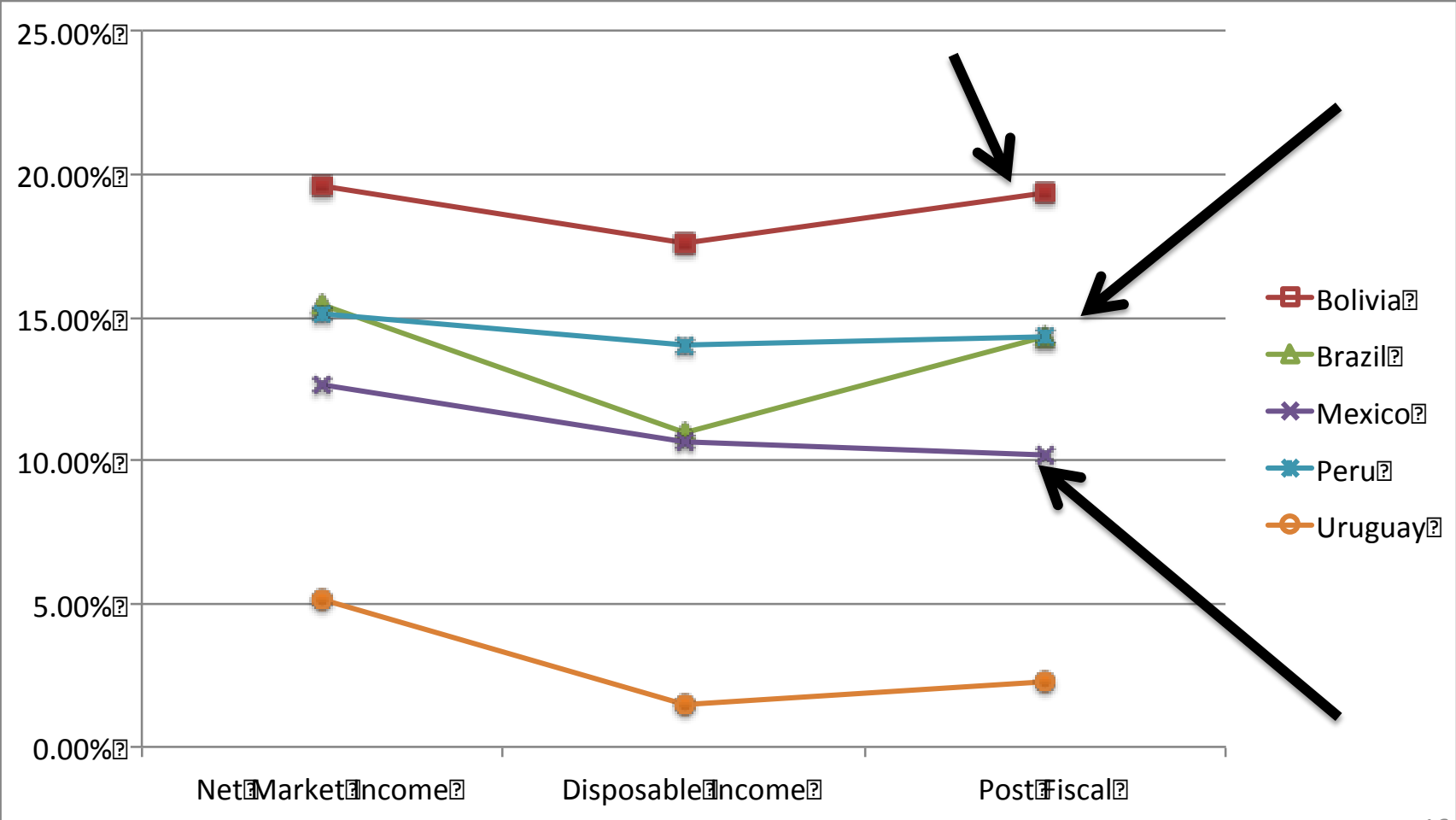# What is the impact of taxes and government transfers on inequality and poverty?

# Gini Before and After Taxes, Transfers, Subsidies and Free Government Services
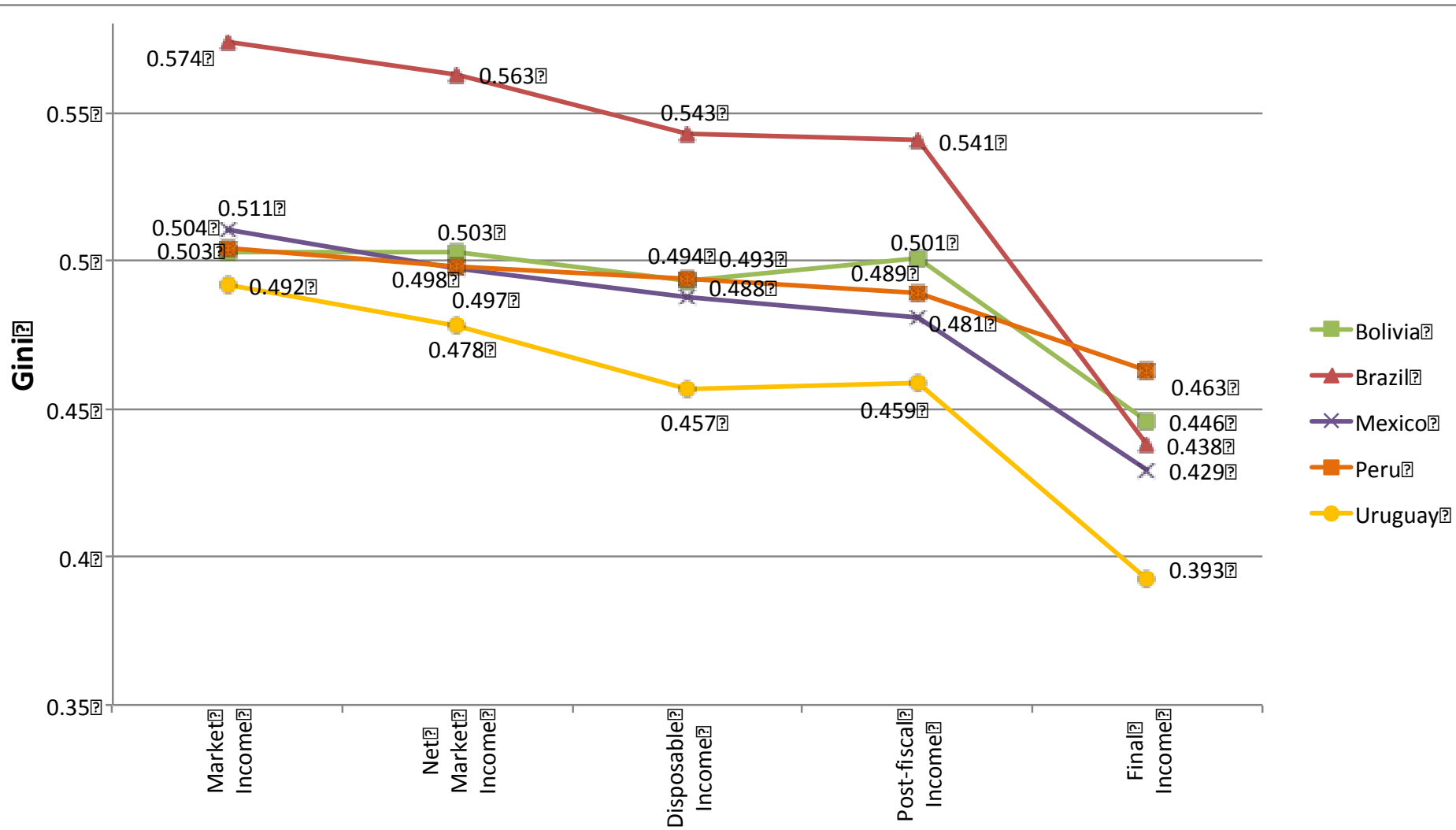
# Headcount: Before and After Cash Transfers
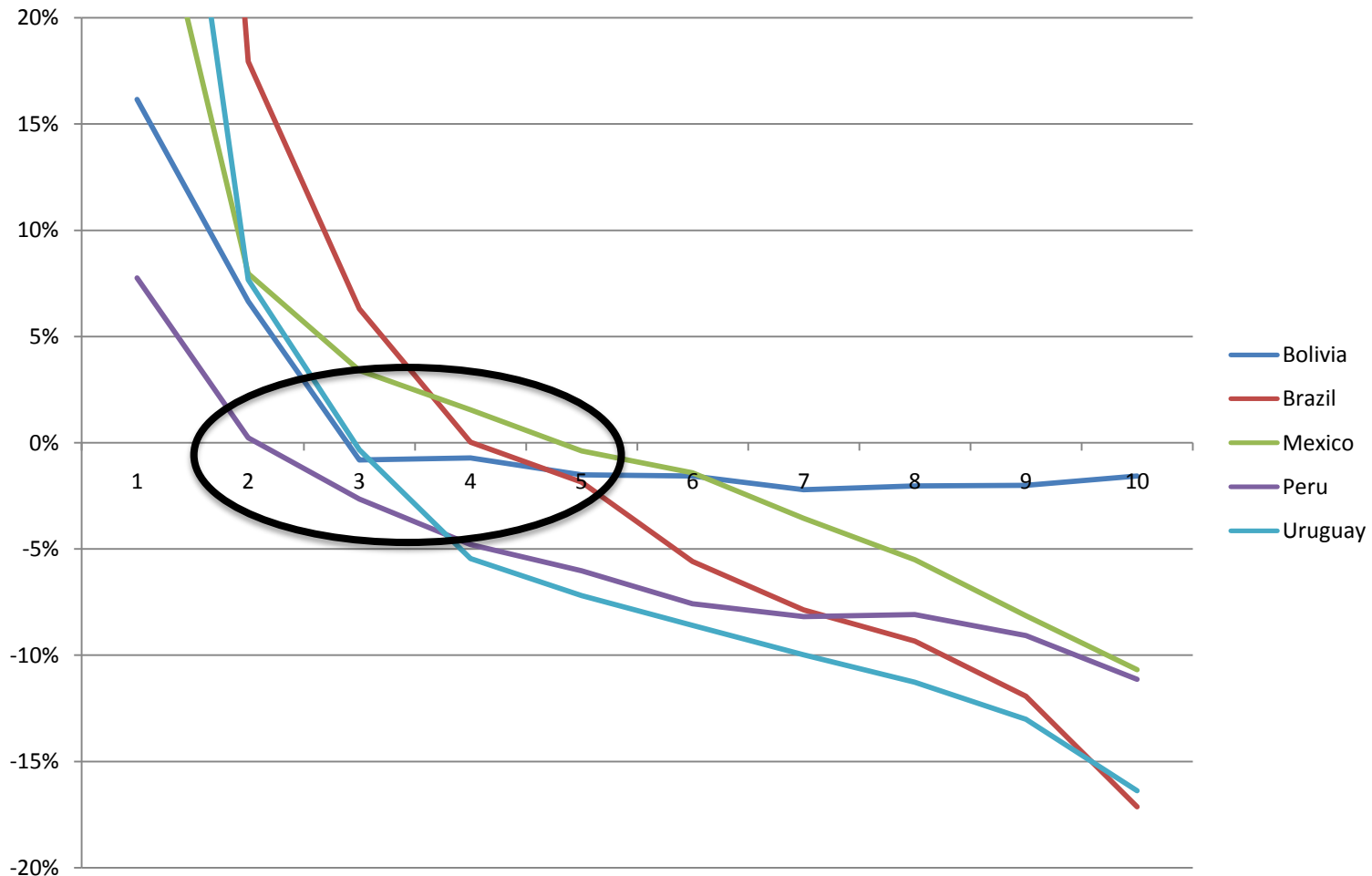
# Headcount Ratio Before and After Indirect Taxes

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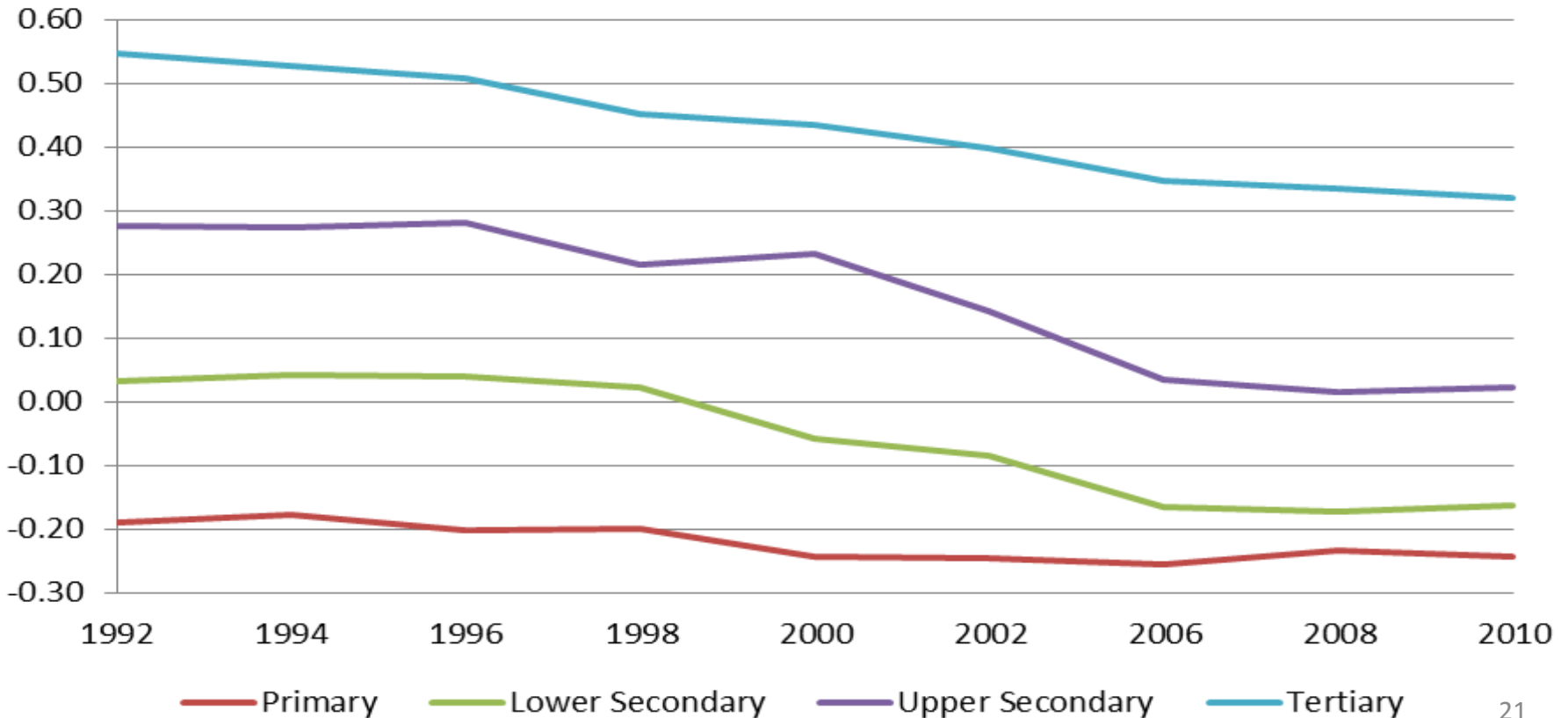
# How progressive is taxation and spending (as a whole and by categories)?

# 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**