COMMITMENT TO EQUITY

Fiscal Policy and Redistribution in Latin America

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OECD

January 15, 2014

Tulane University

CIPR Center for Inter-American Policy & Research

INTER-AMERICAN DIALOGUE

Commitment to Equity (CEQ), joint project of Tulane University and Inter-American Dialogue.

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- *El Salvador:* Margarita Beneke, Nora Lustig and Jose Andres Oliva
- *Guatemala:* Maynor Cabrera, Nora Lustig and Hilcias Estuardo Moran
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Assessment of existing tax and transfers system

- What is the impact of taxes and transfers on inequality and poverty?
- Who bears the burden of taxes and receives the benefits?
- How progressive are taxes and public spending?
- How effective are taxes and transfers?

Types of Incidence Analysis

- Partial or Comprehensive
- Point-in-time or Lifecycle
- Average or Marginal

Types of Incidence Analysis

- Economic incidence:
  - Exogenously assumed
  - Behavioral responses explicitly modeled:
    - Partial equilibrium
    - General equilibrium

CEQ Project

- Point in time
- Average incidence
- Economic incidence
  - uses exogenous assumptions
  - no behavioral responses are modeled

CEQ Project

- Comprehensive:
  - Direct taxes (personal income)
  - Direct transfers
  - Indirect subsidies
  - Public spending on education and health (in-kind transfers)
- Comparable methodology and results across countries
- Results at the national level and by rural/urban and ethnicity and race

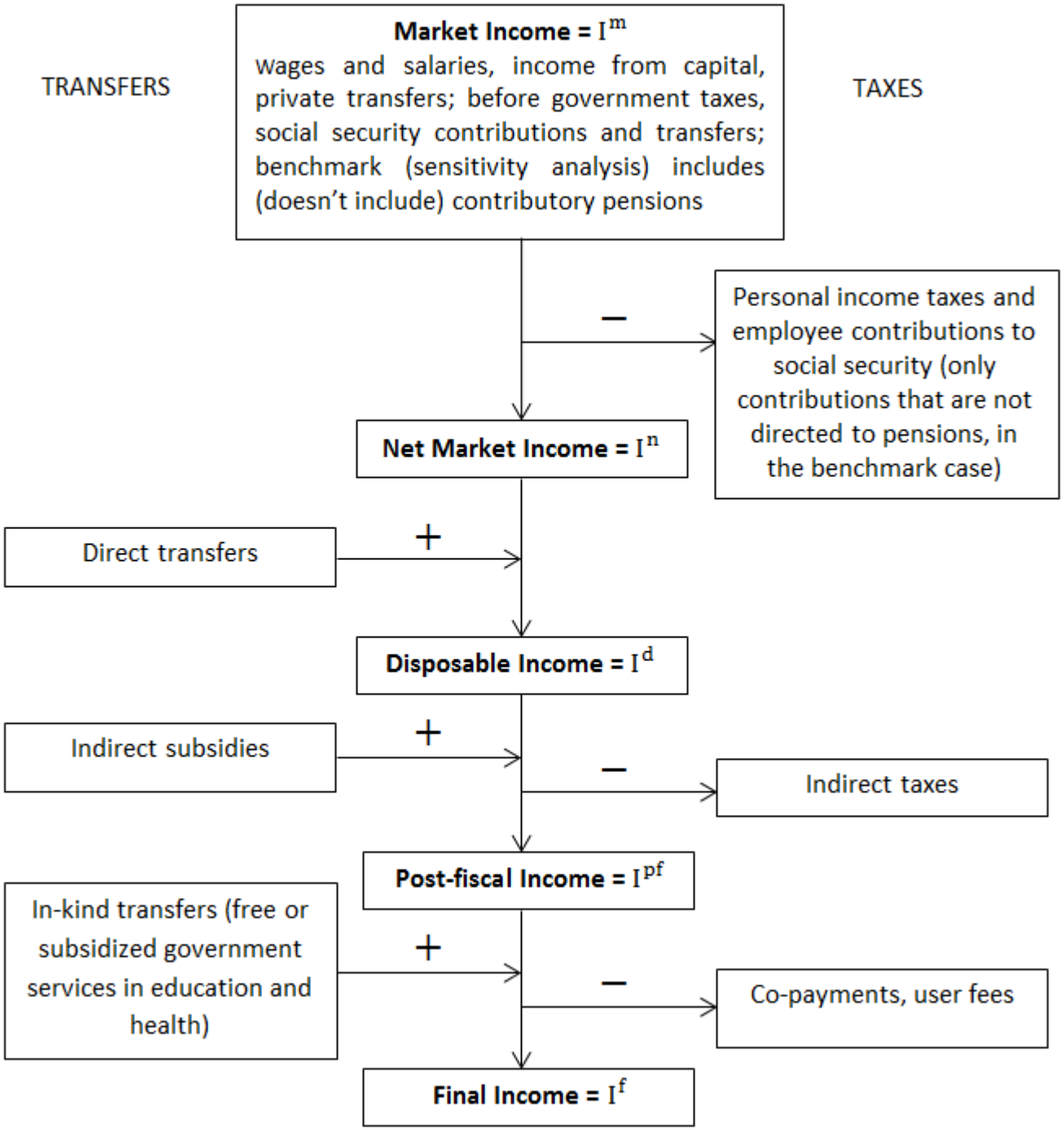
CEQ Project

- Concluded: Argentina, Bolivia, Brazil, Mexico, Peru and Uruguay
- Preliminary results: Chile, Colombia, Costa Rica, El Salvador, Guatemala, Paraguay, and the United States
- Early stage: Ecuador, Honduras, Nicaragua and Venezuela
- Other regions: with WB, Armenia, Ethiopia, Indonesia, Jordan, South Africa and Sri Lanka

Basic elements of standard fiscal incidence

- Before taxes/transfers income of unit $h = I_h$
- Taxes/transfers = T_i
- "Allocators" of tax/transfer i to unit $h = S_{ih}$
- S_{ih} = share of tax/transfer i borne/received by unit h
- After taxes/transfers income of unit h (Y_h) is:

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


TRANSFERS
Market Income = I^m
wages and salaries, income from capital, private transfers; before government taxes, social security contributions and transfers; benchmark (sensitivity analysis) includes (doesn't include) contributory pensions
TAXES
−
Personal income taxes and employee contributions to social security (only contributions that are not directed to pensions, in the benchmark case)
Net Market Income = I^n
+
Direct transfers
Disposable Income = I^d
+
Indirect subsidies
−
Indirect taxes
Post-fiscal Income = I^{pf}
In-kind transfers (free or subsidized government services in education and health)
+
−
Co-payments, user fees
Final Income = I^f

Allocation Methods

- Direct Identification in microdata
- If not in microdata, then:
  - Simulation
  - Imputation
  - Inference
  - Alternate Survey
  - Secondary Sources

Allocation Methods

- Tax shifting assumptions
- Tax evasion assumptions
- Take-up of cash transfers programs
- Monetizing in-kind transfers

Tax Shifting Assumptions

- Economic burden of direct personal income taxes is borne by the recipient of income
- Burden of payroll and social security taxes is assumed to fall entirely on workers
- Consumption taxes are assumed to be shifted forward to consumers.
- These assumptions are strong because they imply that labor supply is perfectly inelastic and that consumers have perfectly inelastic demand
- In practice, they provide a reasonable approximation (with important exceptions such as when examining effect of VAT reforms), and they are commonly used

Tax Evasion Assumptions

- Income taxes and contributions to SS:
  - Individuals who do not participate in the contributory social security system are assumed not to pay them; Brazil's survey includes a question on tax payments so tax evasion is assumed to be as reported in the survey.
- Consumption taxes:
  - Bolivia, Mexico, and Peru, assumed purchases in informal markets evaded taxes.
  - Mexico and Peru, that assumption was extended to purchases in rural areas and small villages, respectively.
  - Brazil, the indirect tax rate for each type of good or service was obtained from a secondary source that estimated the effective rates taking into account evasion
  - Uruguay, the legal rate of the VAT was applied to every purchase

Monetizing in-kind transfers

- Incidence of public spending on education and health followed so-called “benefit or expenditure incidence” or the “government cost” approach.
- In essence, we use per beneficiary input costs obtained from administrative data as the measure of average benefits.
- This approach amounts to asking the following question:
  - How much would the income of a household have to be increased if it had to pay for the free or subsidized public service at the full cost to the government?

Methodological Definitions

- Progressivity and Regressivity
- Effectiveness Indicators
- Anonymous (inequality and poverty measures) and non-anonymous indicators (incidence, concentration shares, progressivity)
- Some innovations: disaggregating changes into market and redistribution effects; rate of impoverishment

Definitions of Progressive and Regressive

Public Spending Effectiveness Indicators

- Numerator: change in percentage points of indicator for relevant income concepts
- Denominator: ratio of relevant spending category to GDP
- For direct cash transfers, for example:
  - Numerator: Disposable Income Gini (Headcount) – Market Income Gini (Headcount)
  - Denominator: Ratio of spending on direct transfers/GDP

Disaggregating Changes into Market and Redistribution Components

$$G_d^t = G_m^t - R^t \qquad (1)$$

$$G_d^{t'} = G_m^{t'} - R^{t'} \qquad (2)$$

Subtracting (2) from (1) and re-arranging yields:

$$(G_d^{t'} - G_d^t) = (R^{t'} - R^t) + (G_m^{t'} - G_m^t)$$

Change in Disposable Income Inequality (Poverty)	Redistribution	Change in Market Income Inequality (Poverty)

Rate of Impoverishment

- Extent to which poor (nonpoor) people who are made poorer (poor) by fiscal system
- Traditional indicators of poverty, inequality, stochastic dominance, horizontal inequity, progressivity fail to capture impoverishment
- Proposed measures (show example for Brazil later):
  - Fiscal Mobility Matrix
  - Impoverishment Headcount
  - Impoverishment Gap

See Higgins and Lustig (2013)

Main Results

- Six countries publication in progress in Public Finance Review: Argentina, Bolivia, Brazil, Mexico, Peru and Uruguay

- Six countries finished recently: Chile, Colombia, Costa Rica, El Salvador, Guatemala, Paraguay

Main Results: the Foreseeable

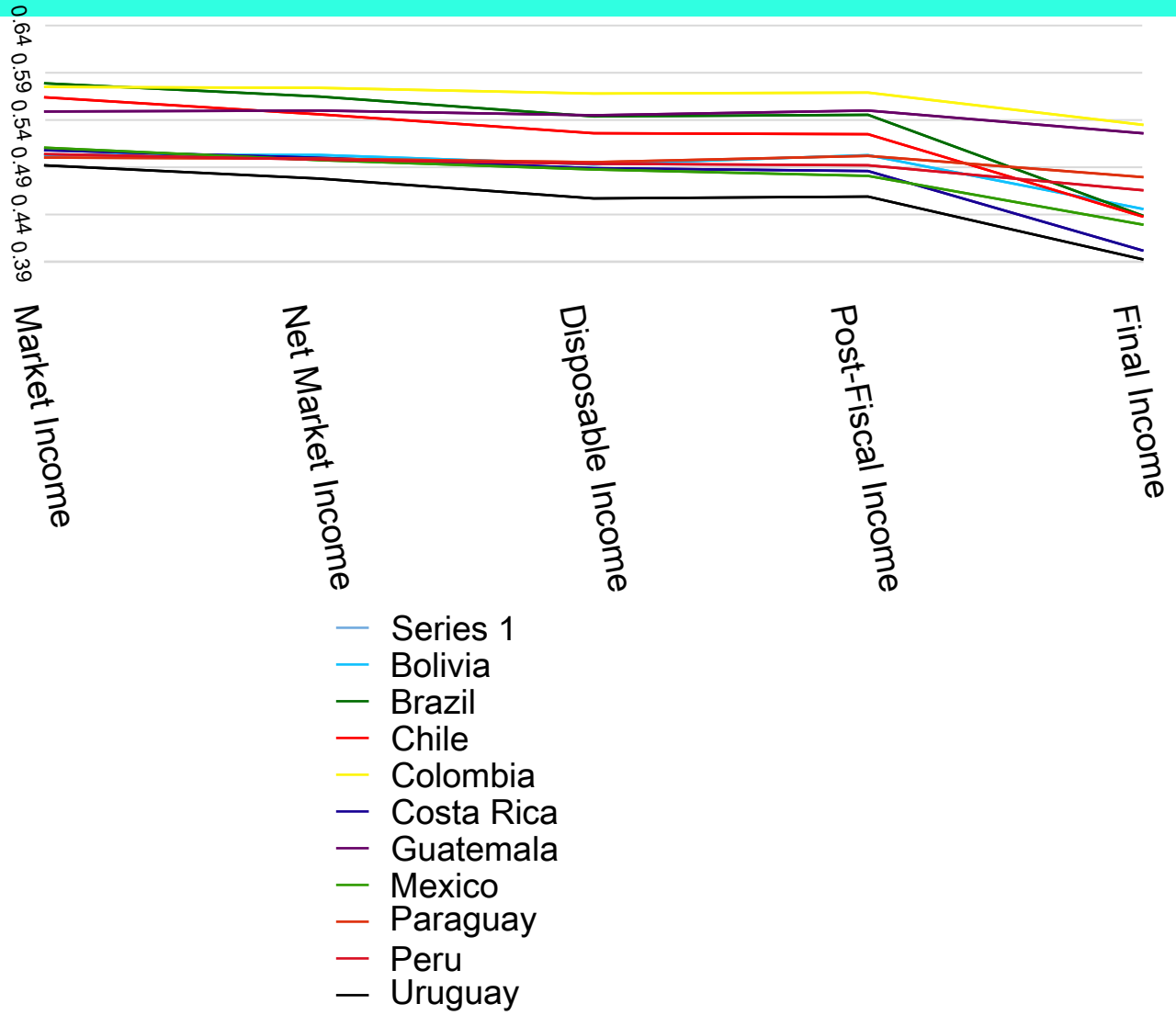
- Direct Taxes progressive but with little impact on inequality
- Indirect taxes regressive or neutral
- CCTs progressive in absolute terms; well targeted in practically all countries
- Redistribution is larger through in-kind benefits in education and health than cash transfers

Progressivity of Taxes & Transfers

		Argentina	Bolivia	Brazil	Mexico	Peru	Uruguay
Gini Market Income		0.49*	0.50	0.58	0.51	0.50	0.49
[illegible]	Direct Taxes	na	ne	0.19	0.30	0.43	0.25
	Indirect Taxes	na	-0.13	-0.06	0.01	0.02	-0.05
	All	na	-0.13	0.02	0.11	0.08	0.07
Concentration Coefficient	Noncontributory Pensions	-0.27	0.01	-0.48	-0.10	ne	-0.53
	Flagship CCTs[a]	-0.50	-0.25	-0.58	-0.54	-0.65	-0.61
	All	-0.31	-0.07	0.03	-0.30	-0.48	-0.47
	Pre-school	na	-0.21	-0.33	-0.24	-0.25	-0.45
	Primary	-0.39	-0.25	-0.31	-0.25	-0.34	-0.43
	Secondary	-0.24	-0.12	-0.21	-0.08	-0.20	-0.12
	Tertiary	0.20	0.30	0.44	0.32	0.31	0.47
	All	-0.20	-0.02	-0.15	-0.09	-0.17	-0.11
	Health Spending	-0.23	-0.04	-0.11	0.04	0.18	-0.10

Fiscal Policy and Inequality

Gini Coefficient by Income Concept

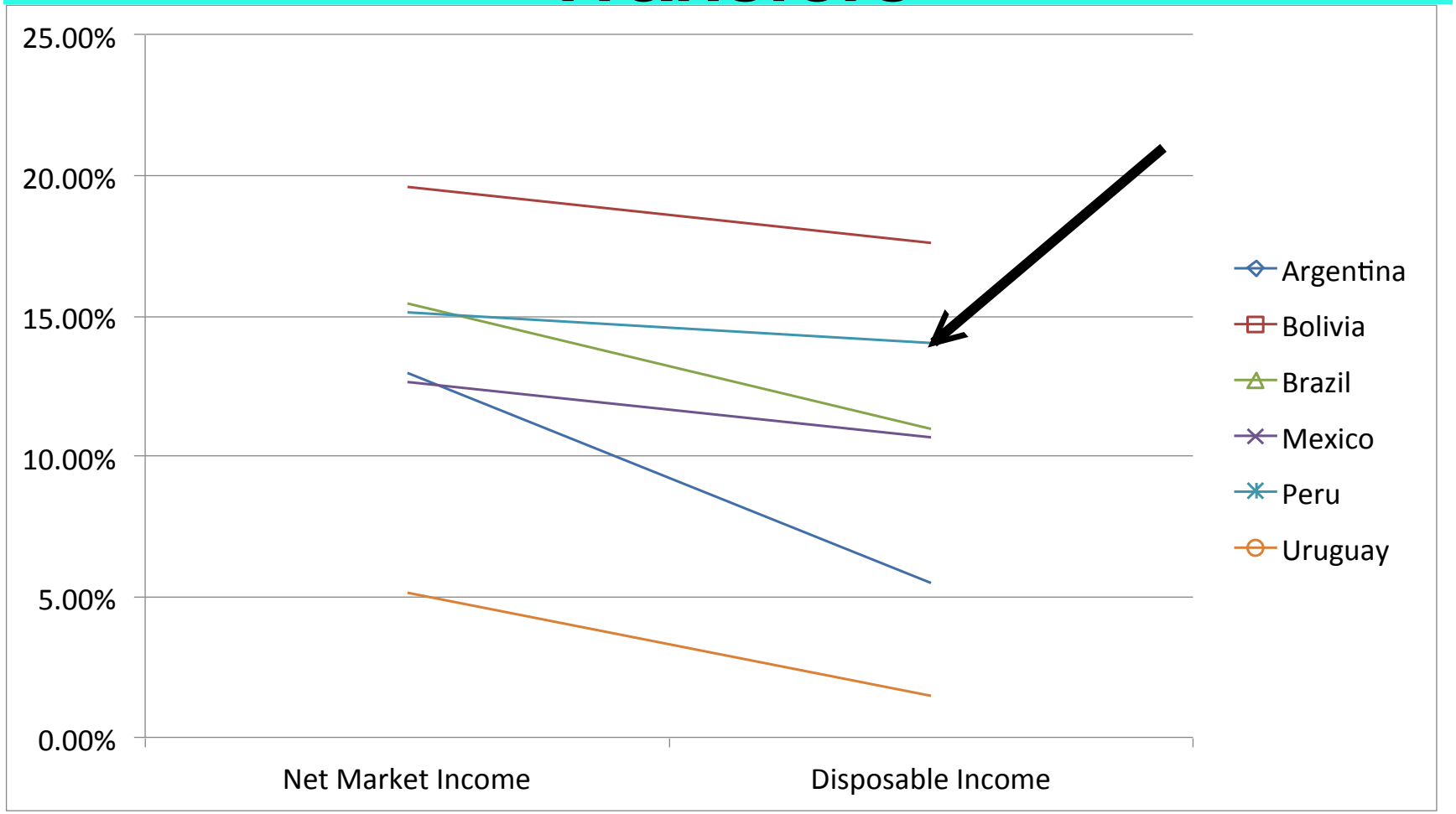


Cash Transfers reduce poverty notably only when targeted and of significant magnitude

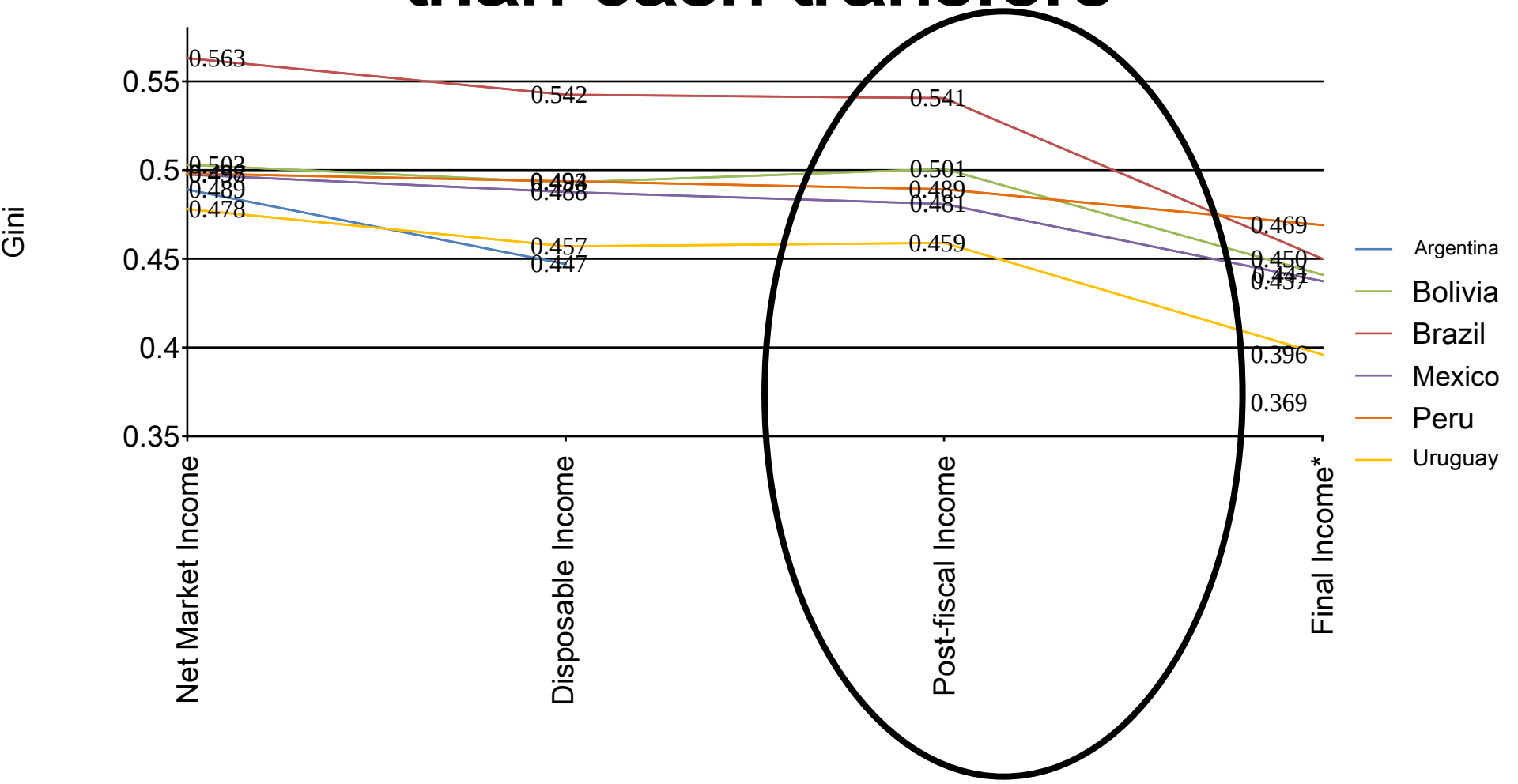
- Cash transfers reduce extreme poverty by more than 60 percent in Uruguay and Argentina…

….but only by 7 percent in Peru, which spends too little on cash transfers to achieve much poverty reduction

Headcount: Before and After Cash Transfers



Public spending on education and health has a stronger equalizing effect than cash transfers



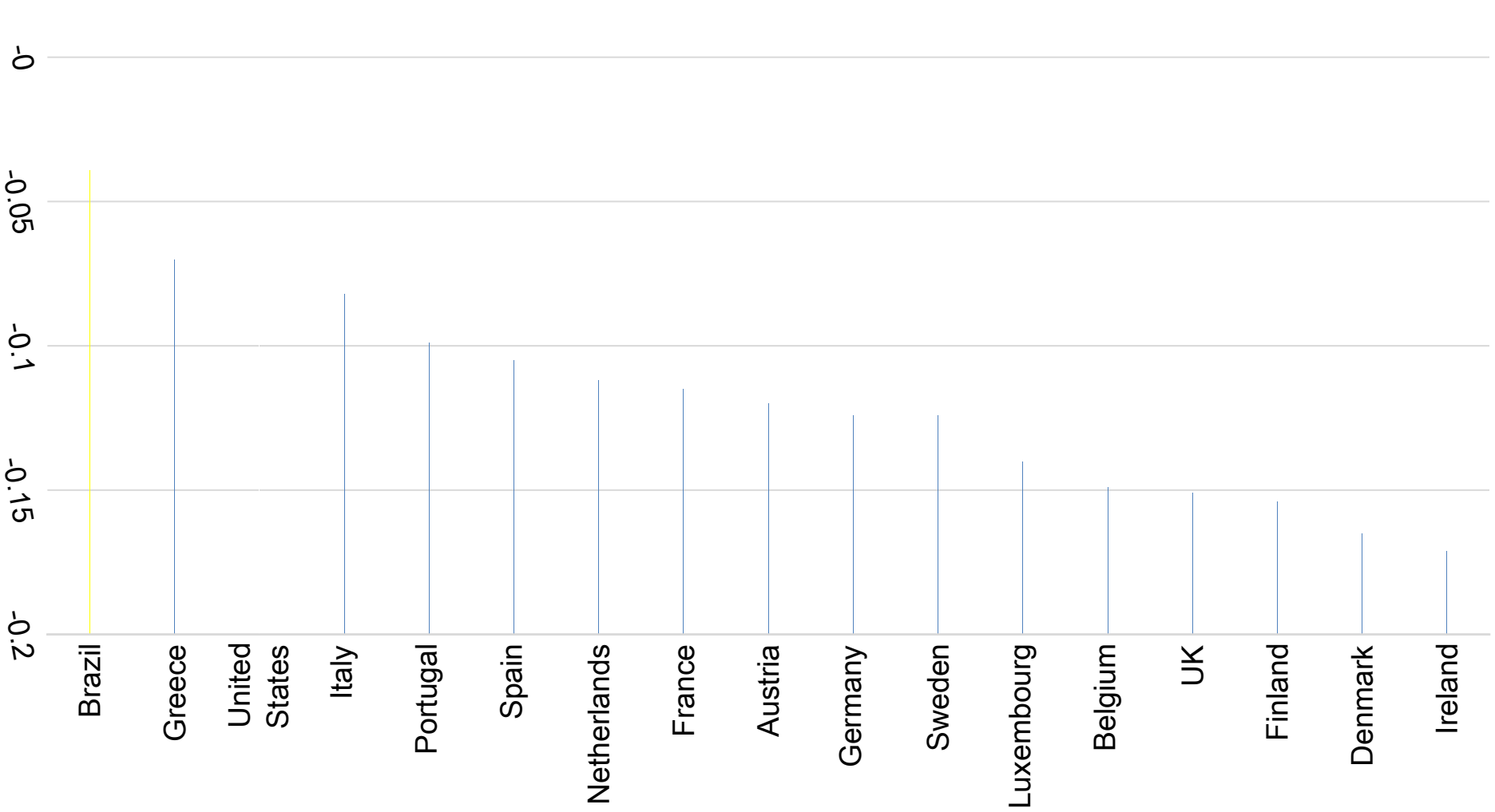
Main Results: the Foreseeable

- Redistribution through cash transfers higher than shown in past studies: from 1-2 to 2-4 ppt reduction in Gini

- Still considerable less than in Europe and the US

- Leftist governments tend to be more redistributive; or is it more state capacity?

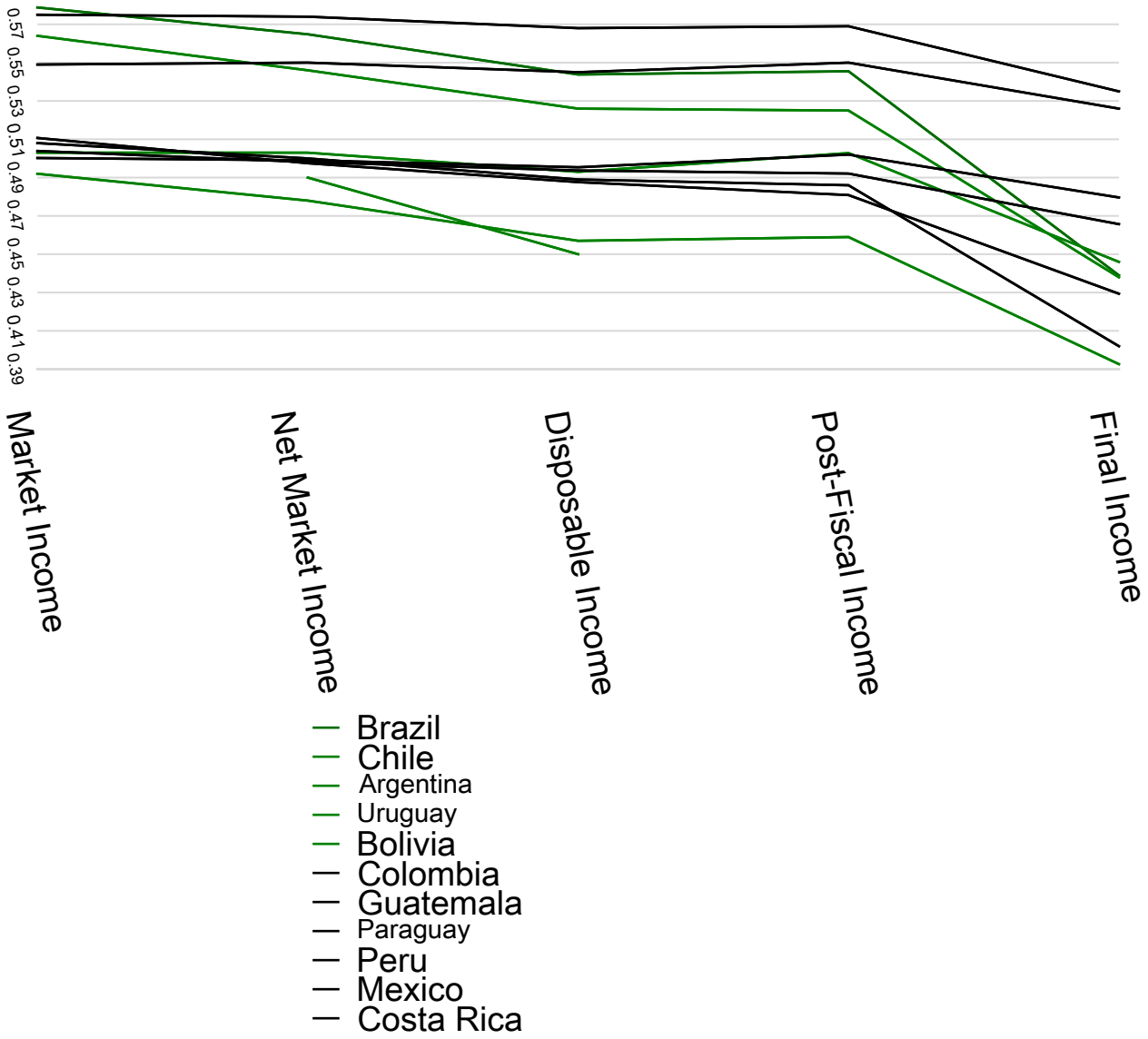
Inequality Reduction by Direct Taxes and Transfers: Brazil, Europe and US



Source: Higgins et al. (2013) for Brazil and US; Immervoll et al. (2009) for Europe

Fiscal Policy and Political Regime

Gini: Left (Green) Nonleft (Black)

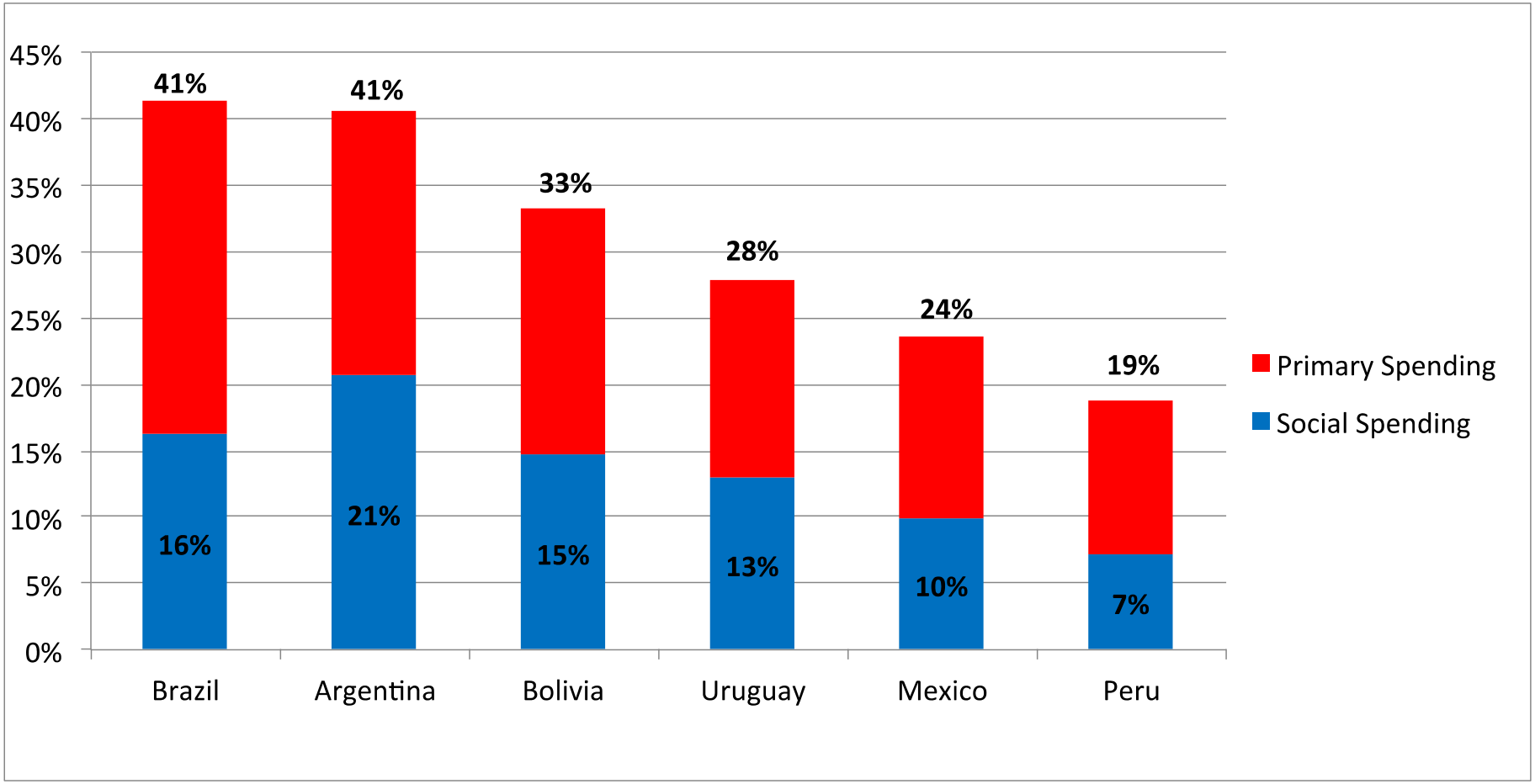


Main Results: the Unexpected

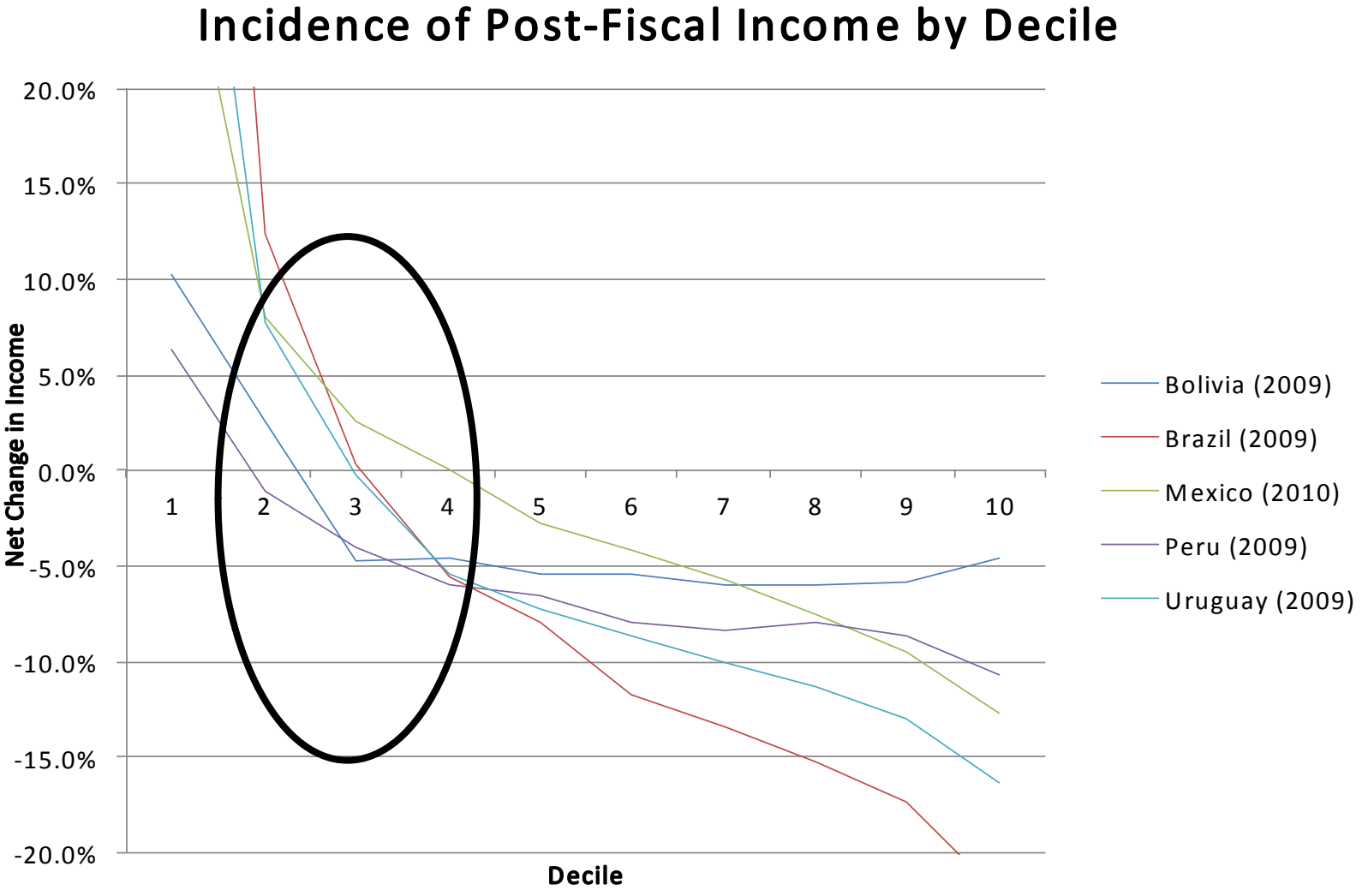
- Diversity:
  - government size: primary spending from 40 in Brazil to 14 percent of GDP in Guatemala
  - extent of redistribution: 3.8 pts in Chile to 0.4 in Gua
- Net payers to the fisc (in terms of cash) start at relatively low deciles

Budget Size and Composition

Primary and Social Spending as % of GDP



Net Payers to the Fisc

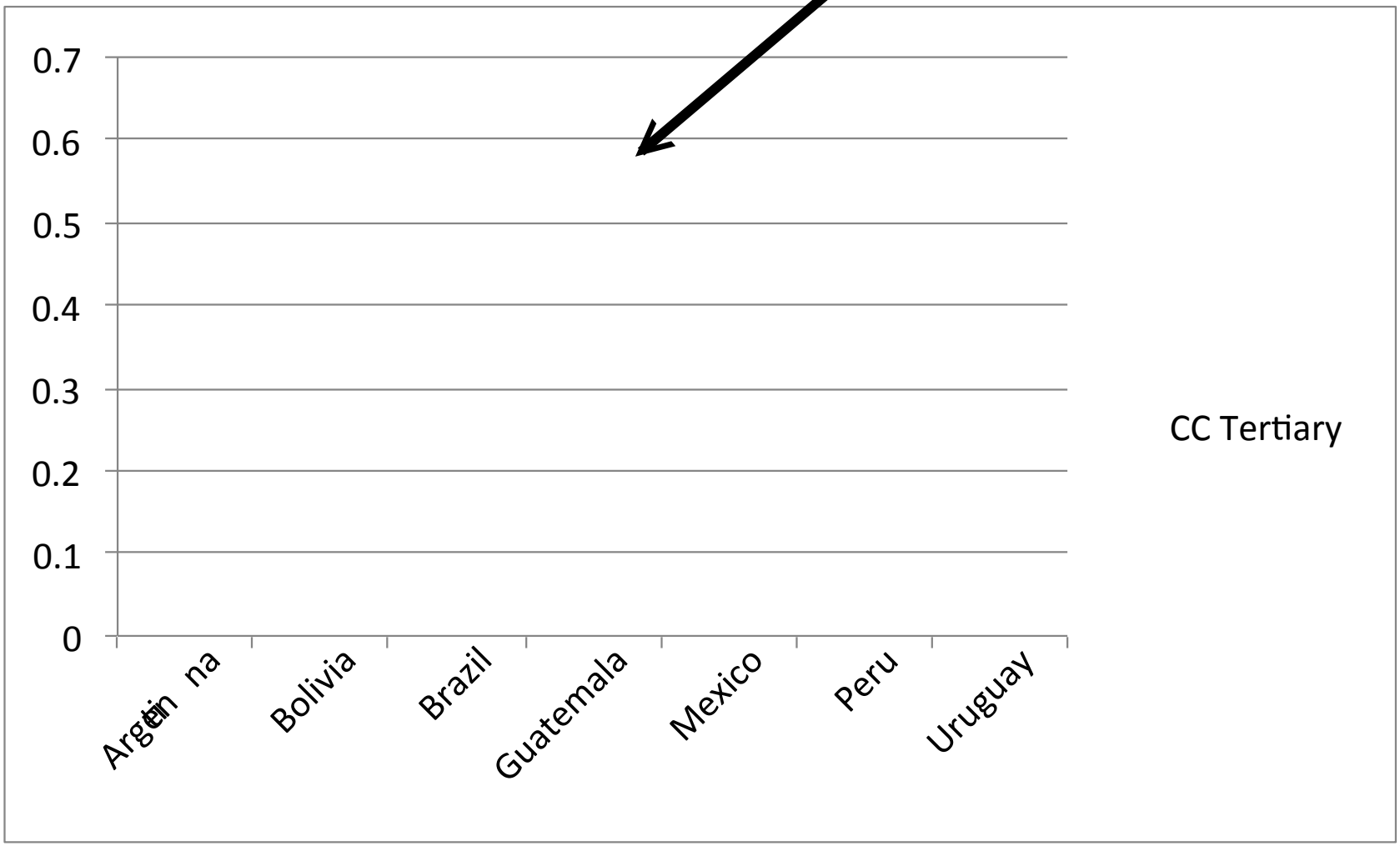


Main Results: the Unexpected

- Tertiary Education is progressive in relative terms or neutral, except for Guatemala where it is regressive

- Contributory Pensions are progressive (in relative terms) or regressive depending on the country

Concentration Coefficient of Tertiary



Contributory Pensions and Inequality

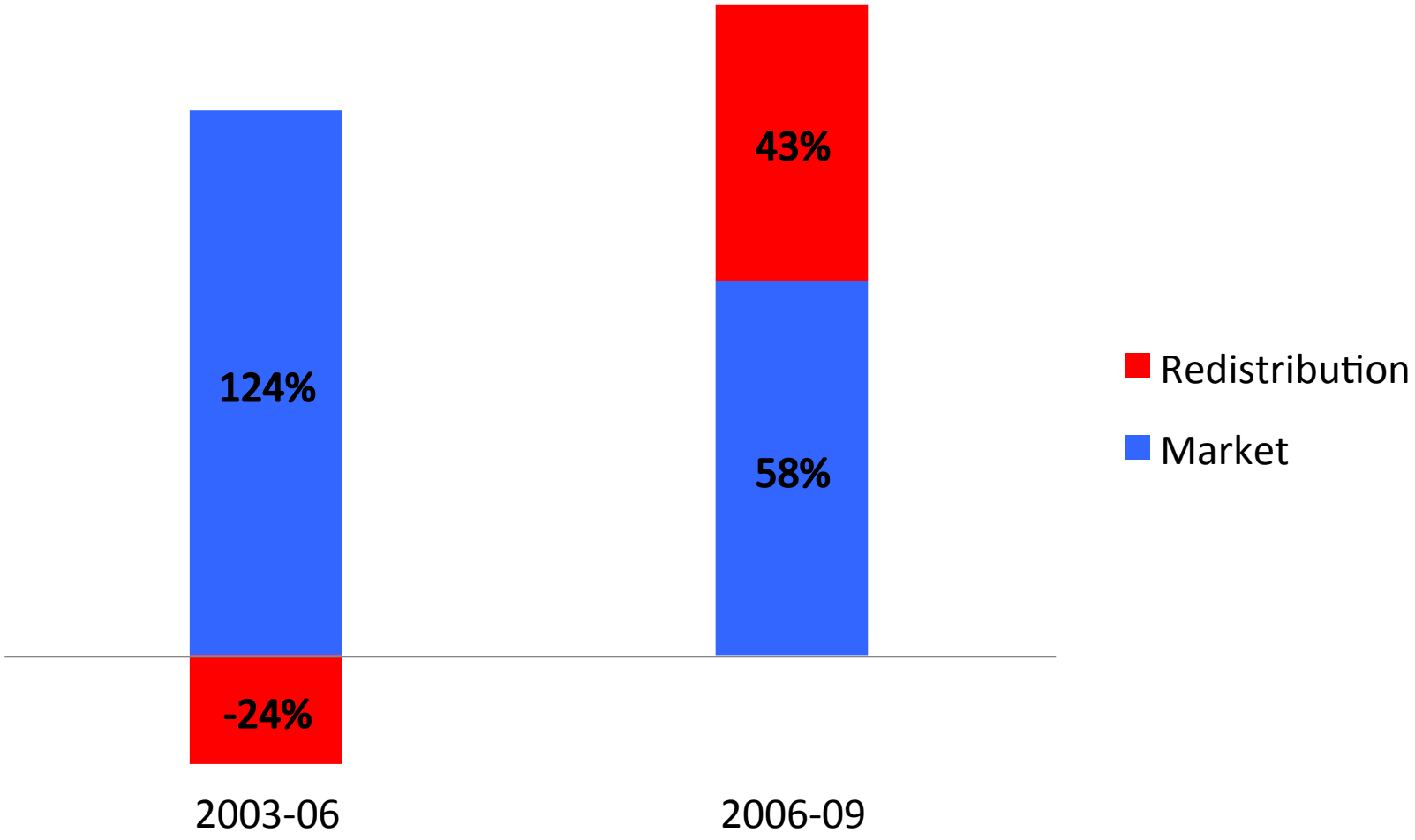
	Argentina (2009)	Bolivia (2009)	Brazil (2009)	Mexico (2010)	Peru (2009)	Uruguay (2009)
Pensions as %GDP	7.2	3.5	9.1	3.7	0.9	8.7
Gini pre-pensions	0.506	0.503	0.600	0.509	0.503	0.527
Gini post-pensions	0.489	0.503	0.579	0.511	0.504	0.492
Change in ppts	-1.7	0.0	-2.1	0.2	0.1	-3.5

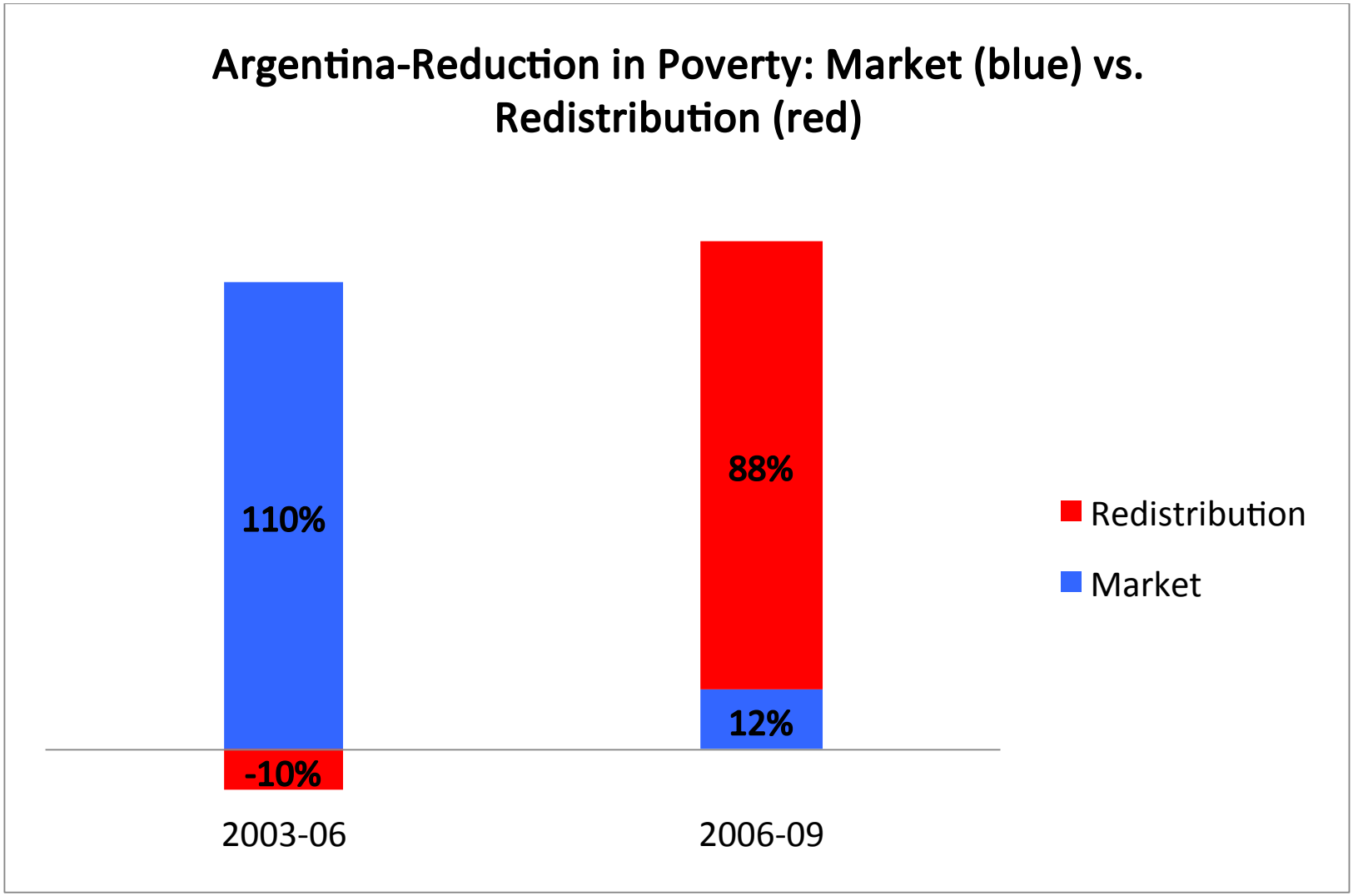
Main Results: the Unexpected

- Argentina is among the most ‘effective’ countries at redistribution and poverty reduction; however, redistribution might have gone “too far”
- Bolivia is a leftist government that redistributes little
- Brazil
  - indirect taxes wipe out cash transfers’ benefits to the poor and cause a significant amount of impoverishment
  - the poor whites receive more in cash transfers than the poor black and pardos

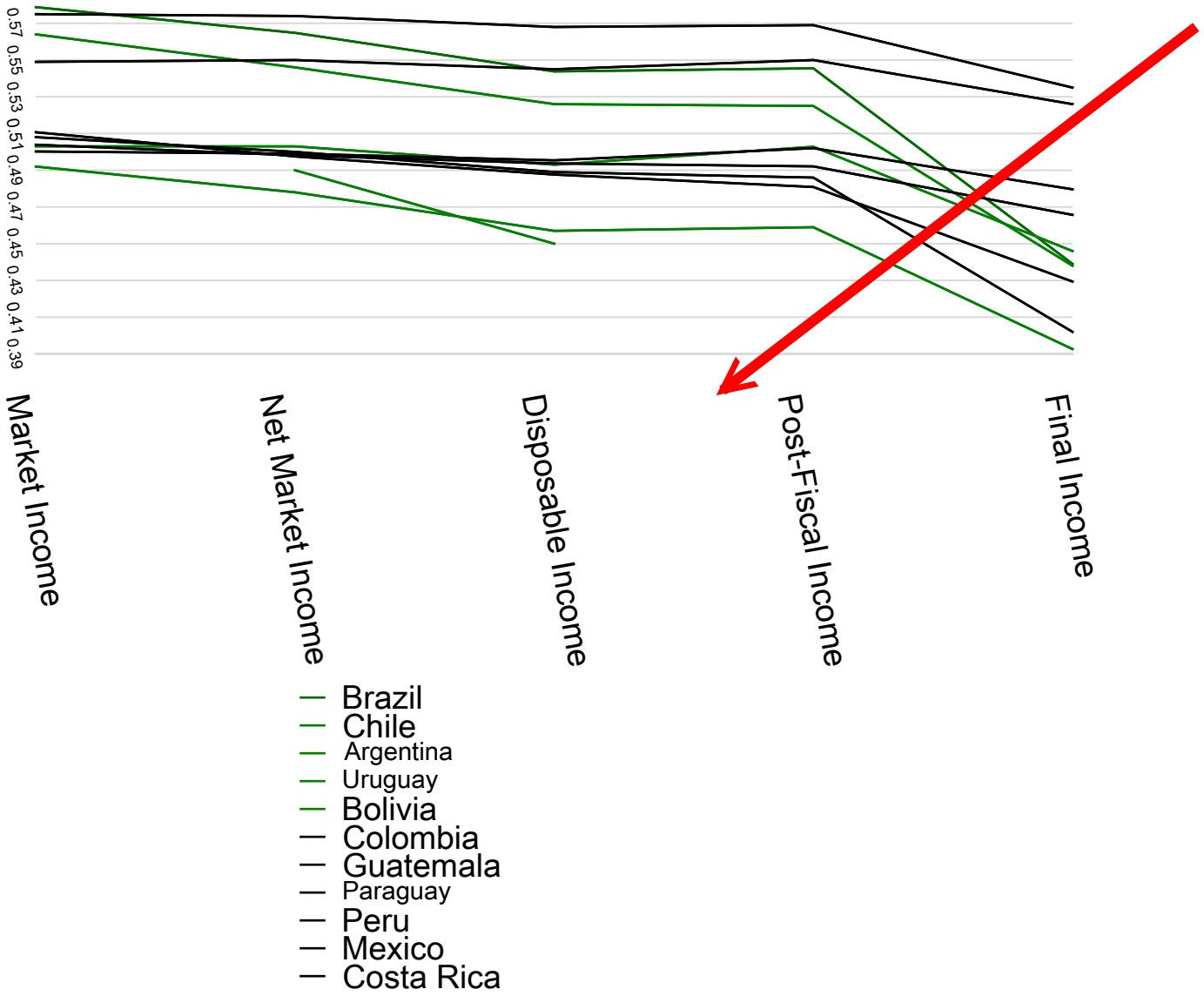
Argentina: Redistributive Effectiveness

Argentina-Reduction in Inequality: Market (blue) vs. Redistribution (red)



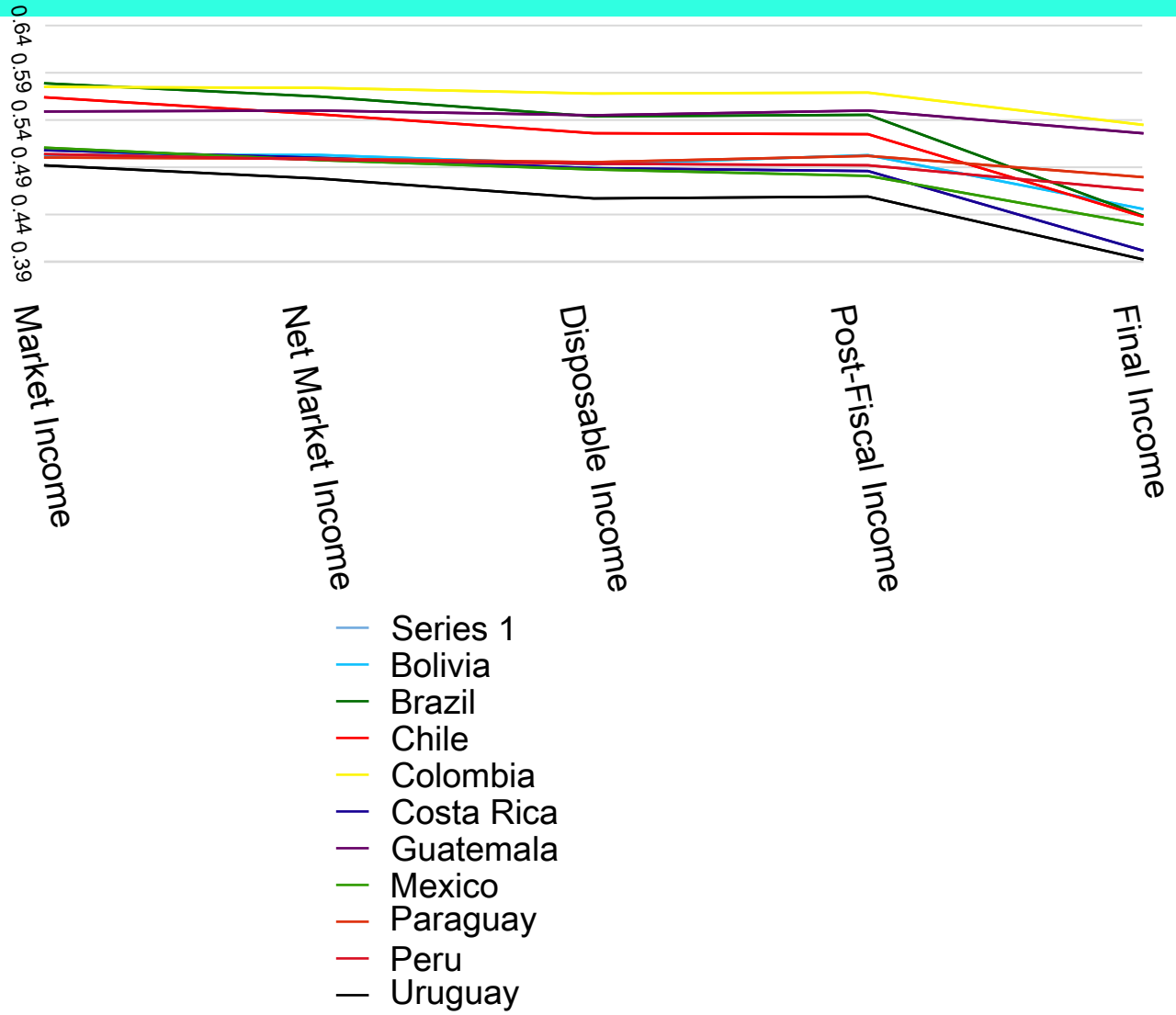

Argentina-Reduction in Poverty: Market (blue) vs. Redistribution (red)
110%
-10%
88%
12%
2003-06
2006-09
Redistribution
Market

Bolivia: a Leftist Gov that Redistributes Little

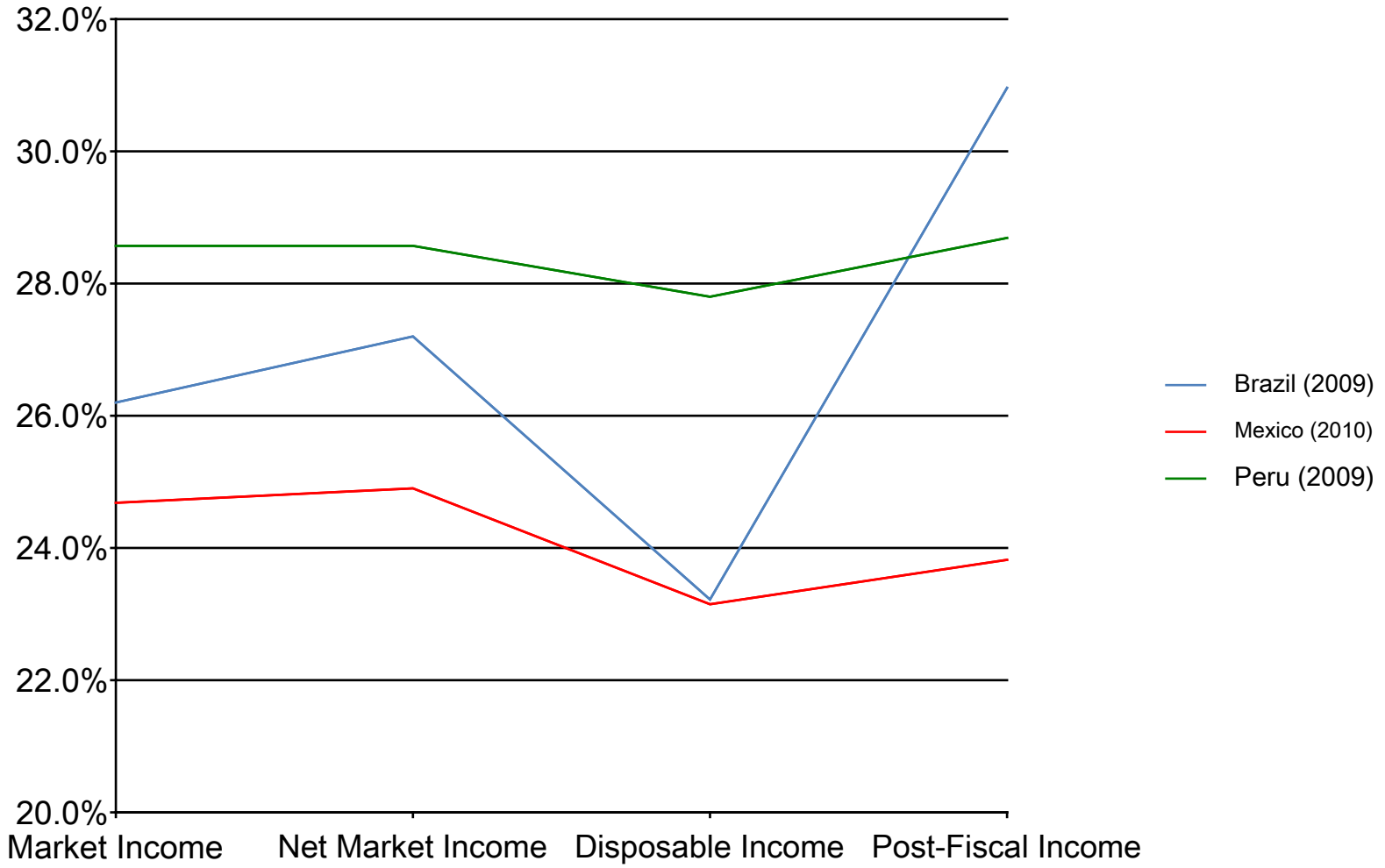


Brazil Reduces Inequality Significantly

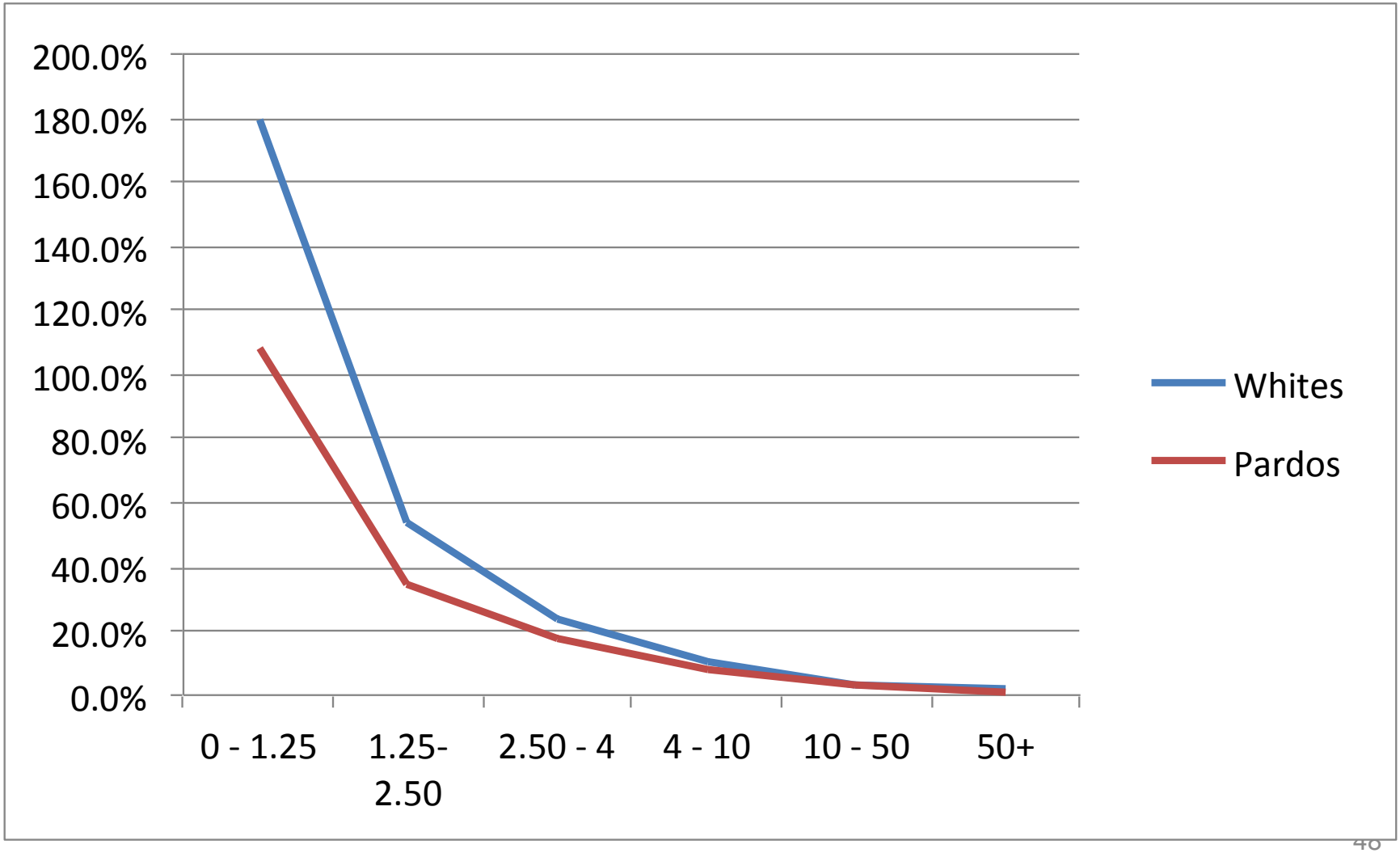
Gini Coefficient by Income Concept



However, indirect taxes wipe out the poverty-reducing effect of cash transfers



Poor Pardos in Brazil Receive Less in Cash Transfers than Equally Poor Whites
(Incidence of Cash Tranfers by Race)



Impoverishment in Brazil is Significant

Pre-tax and transfer income groups	Post-tax and transfer income groups: < $2.50	$2.50 –4.00	$4.00 –10.00	> $10.00	% of Pop.
< $2.50	85%	10%	4%	1%	15%
$2.50 –4.00	14%	75%	10%	1%	11%
$4.00 –10.00	0%	13%	84%	3%	33%
> $10.00	0%	0%	16%	84%	40%
% of Pop.	14%	14%	36%	36%	100%

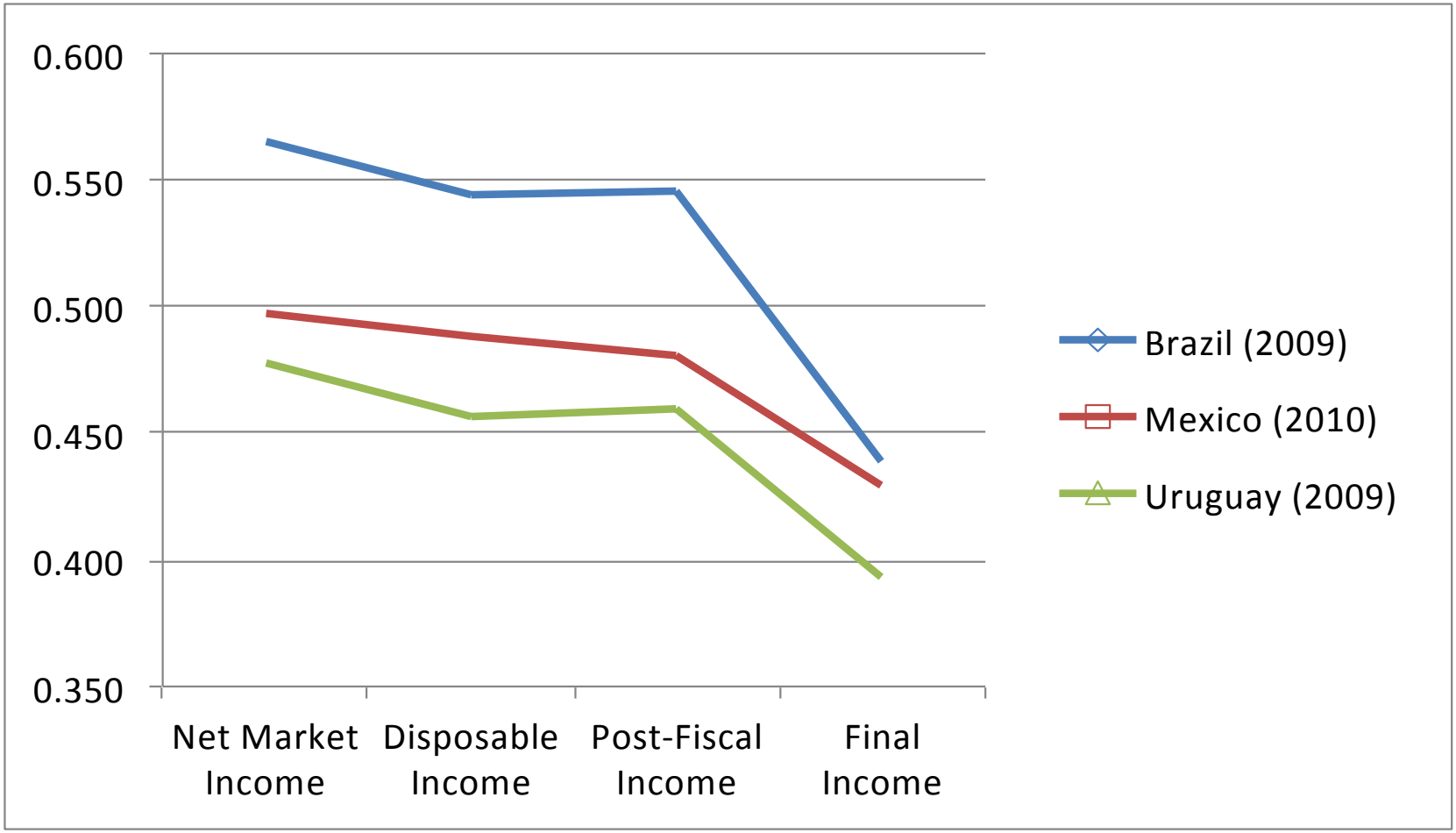
Main Results: the Unexpected

- Guatemala: even direct taxes are regressive
- Mexico:
  - Over time, redistribution has increased but Mexico still lags behind its peers such as Arg, Bra and Ury
  - coverage of Oportunidades and other cash transfers leave about 30 percent of extreme poor without safety net
- Peru: health spending is progressive only in relative terms

Guatemala: Concentration Curves for Taxes

Mexico: Inequality Reduction 1996 vs. 2010
(Impact of Social Spending)

Mexico still less redistributive than peers

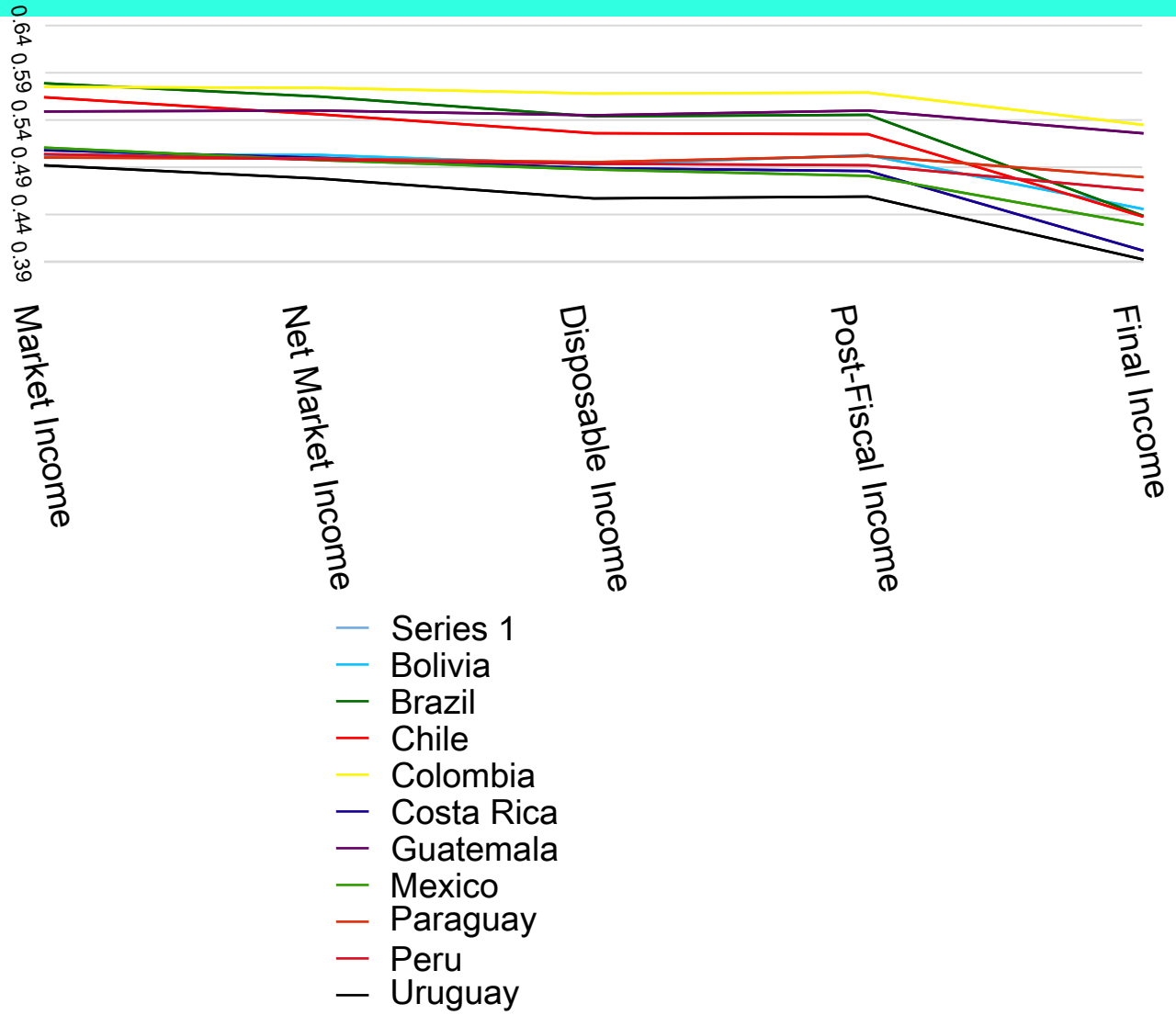


"Poster-child:" Uruguay

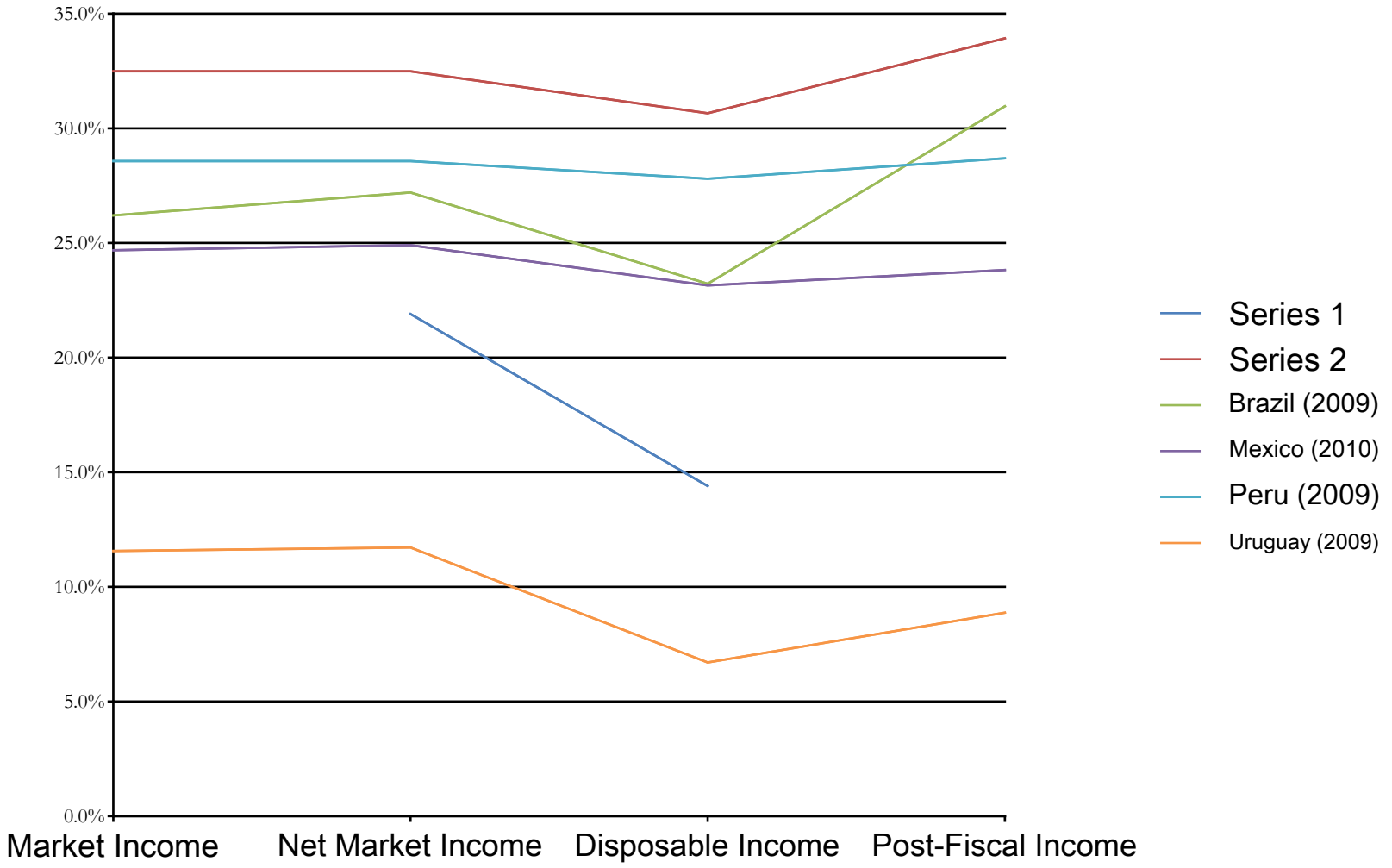
- Primary Spending/GDP is within reasonable levels
- Reduces inequality and poverty among the highest
- Has among the highest effectiveness indicators
- Taxes are neutral
- All social spending categories are progressive in absolute terms
- Coverage of the poor is close to 100 percent
- Only evident problem: access to tertiary is concentrated in the nonpoor

Fiscal Policy and Inequality

Gini Coefficient by Income Concept



Fiscal Policy and Poverty Headcount Ratio



Acknowledgements

This paper was produced under the Commitment to Equity (CEQ) project.

Launched in 2008, the CEQ framework was designed to analyze the impact of taxation and social spending on inequality and poverty in individual countries and to provide a roadmap for governments, multilateral institutions, and nongovernmental organizations in their efforts to build more equitable societies.

Led by Nora Lustig and Peter Hakim, the CEQ is a project of the Center for Inter-American Policy and the Department of Economics, Tulane University and the Inter-American Dialogue.

Since its inception, the CEQ has received financial support from Tulane University's Center for Inter-American Policy and Research, the School of Liberal Arts and the Stone Center for Latin American Studies as well as the Canadian International Development Agency (CIDA), the Development Bank of Latin America (CAF), the General Electric Foundation, the Inter-American Development Bank (IADB), the International Fund for Agricultural Development (IFAD), the Norwegian Ministry of Foreign Affairs, the United Nations Development Programme's Regional Bureau for Latin America and the Caribbean (UNDP/RBLAC), and the World Bank.

Thank you!