How can fiscal policy be better aligned with scaling up service delivery?

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Making Services Work for Poor People

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Scaling Up Service Delivery Innovations and Income Poverty Reduction:

Is there a Trade-off?

Based on Higgins & Lustig (2014)…

- Trade-off is likely to exist whenever you need to mobilize domestic resources through, for example, consumption taxes
- Standard poverty measures might fail to capture that poor are made poorer by the tax system
- Propose a measure of fiscal impoverishment that is axiomatically derived which can tell you how much you really need to compensate the poor
- Dominance criteria to compare among alternative forms of mobilizing domestic resources (no time to show today)

Commitment to Equity Framework
(Joint project Inter-American Dialogue & Tulane U.)

- Impact of taxes and transfers on income inequality and poverty
- Fiscal Incidence (accounting approach)
- Services = In-kind Transfers on Education and Health valued at government cost

http://www.commitmentoequity.org

CEQ
COMMITMENT
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What is CEQ

The Commitment to Equity (CEQ) is a joint project of CIPR and the Department of Economics at Tulane University and the Inter-American Dialogue. Directed by **Nora Lustig**, the 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.

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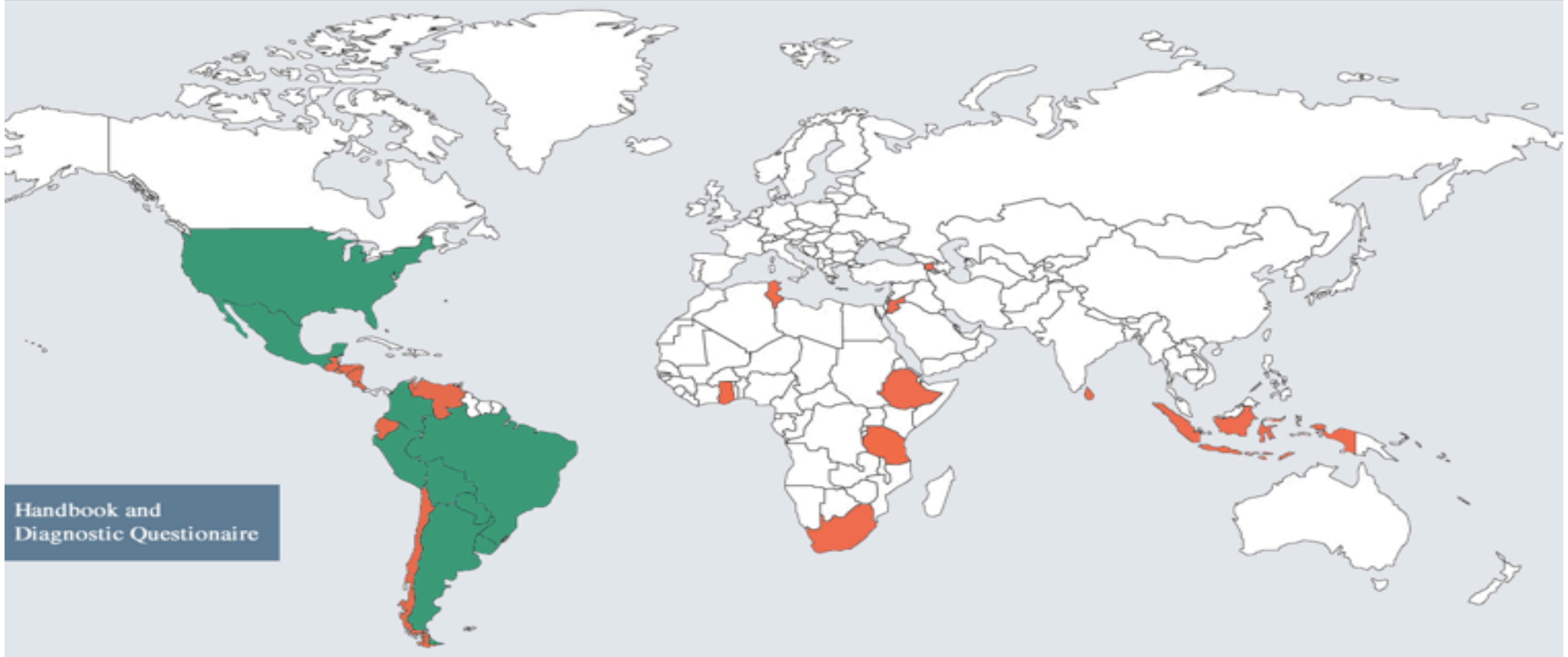
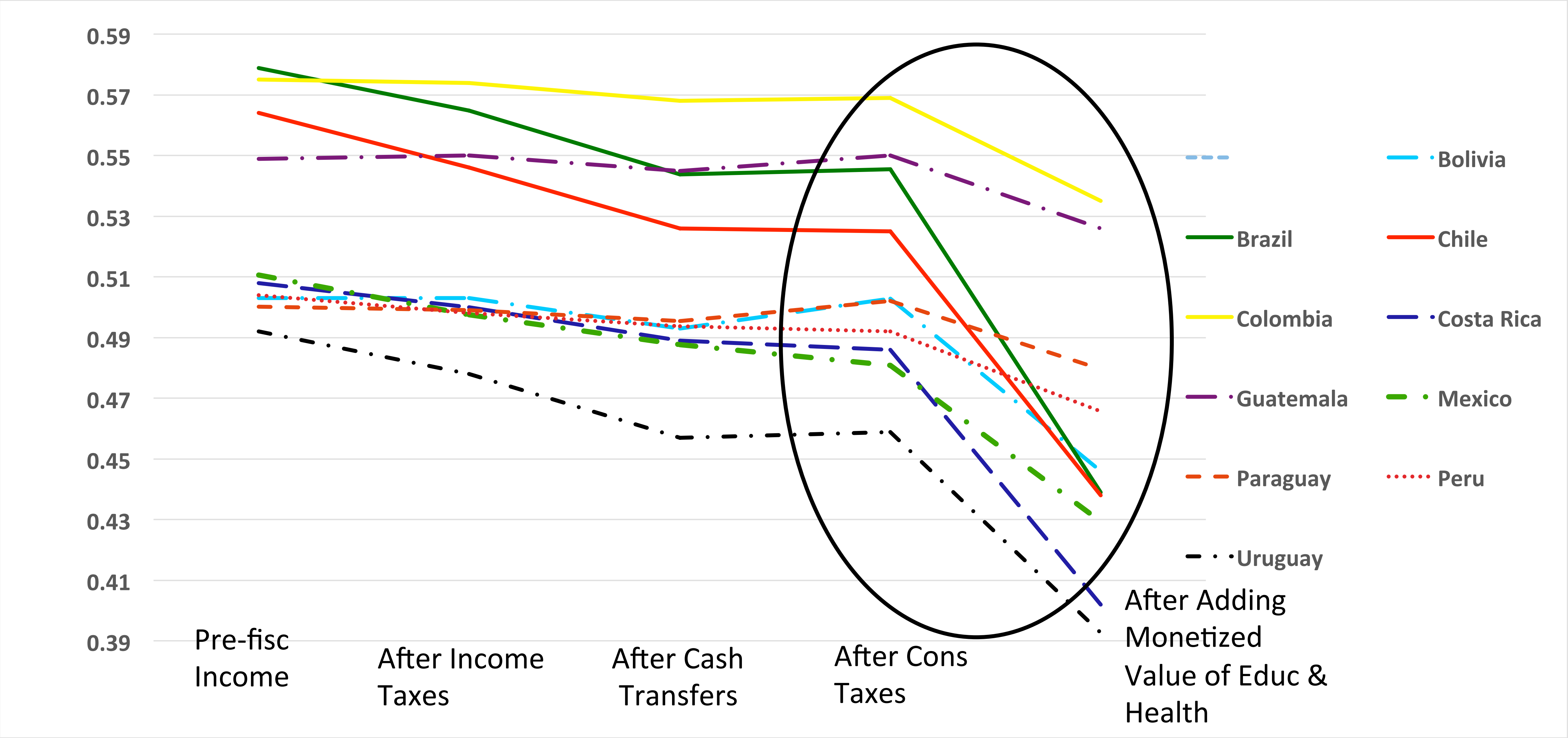
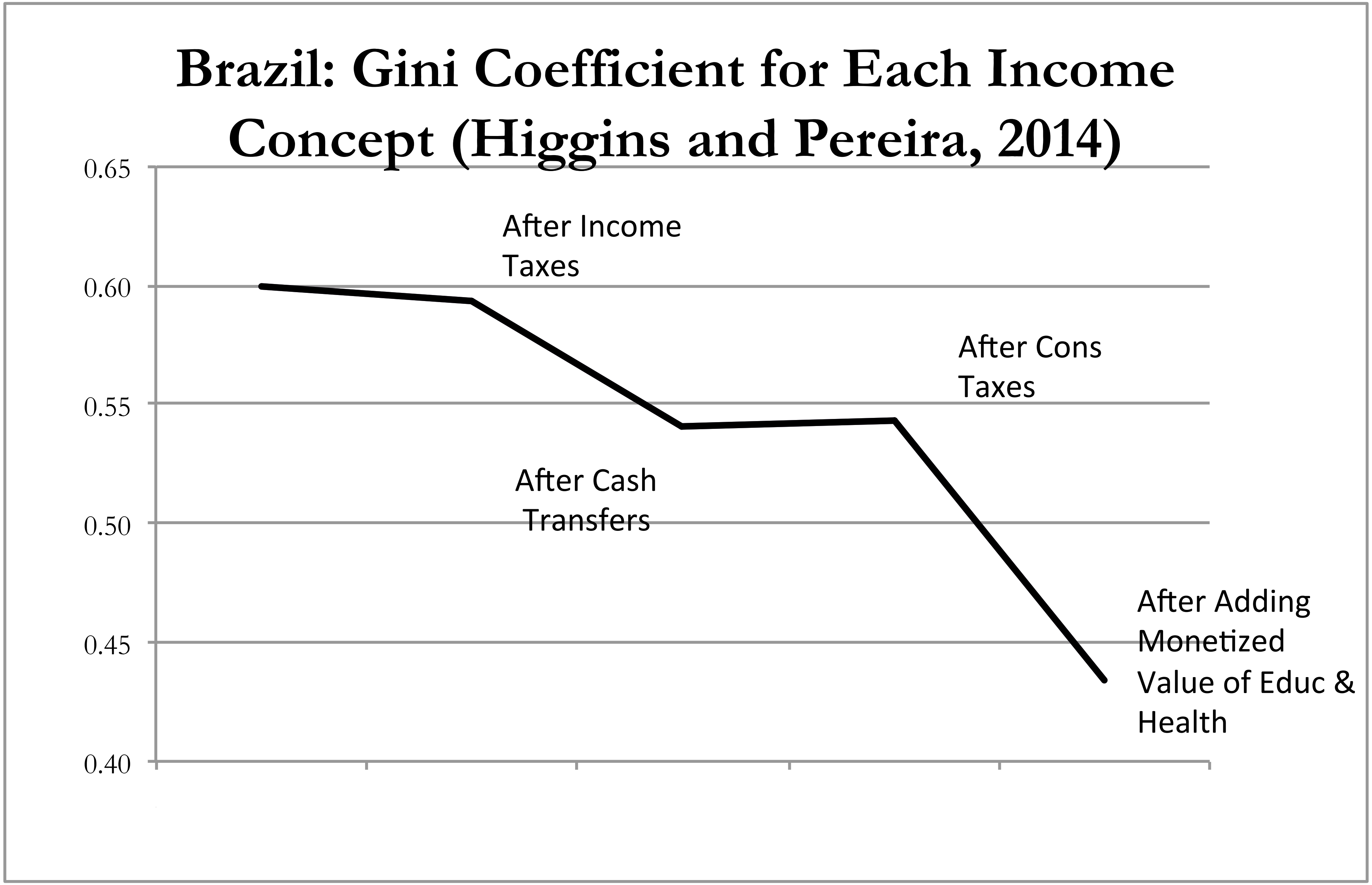


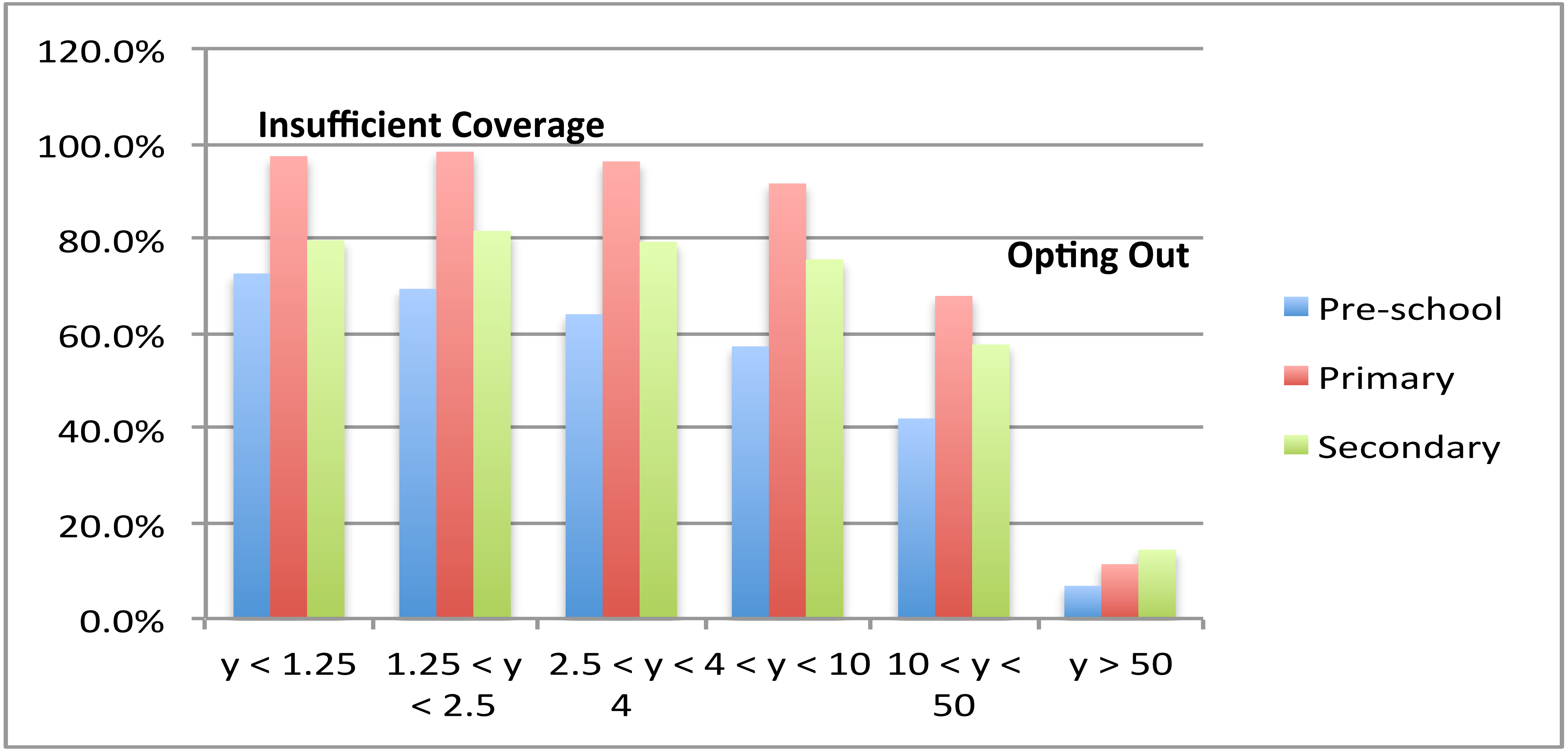
Public spending on education and health and inequality

(Gini coefficient by income concept. Source: CEQ 2013; authors listed at the end)




Brazil: Gini Coefficient for Each Income Concept (Higgins and Pereira, 2014)
0.65
0.60
0.55
0.50
0.45
0.40
After Income Taxes
After Cash Transfers
After Cons Taxes
After Adding Monetized Value of Educ & Health

Brazil: Usage of School Services by Level and Income Concept (Higgins&Pereira, 2014)



The Trade-off

- Let’s say you want to expand coverage of pre-school and secondary school for the poor and entice the middle-classes to use public schools
- If this requires more financial resources, most likely governments will have to resort to additional revenues
- The usual advice is to increase VATs and/or eliminate exemptions

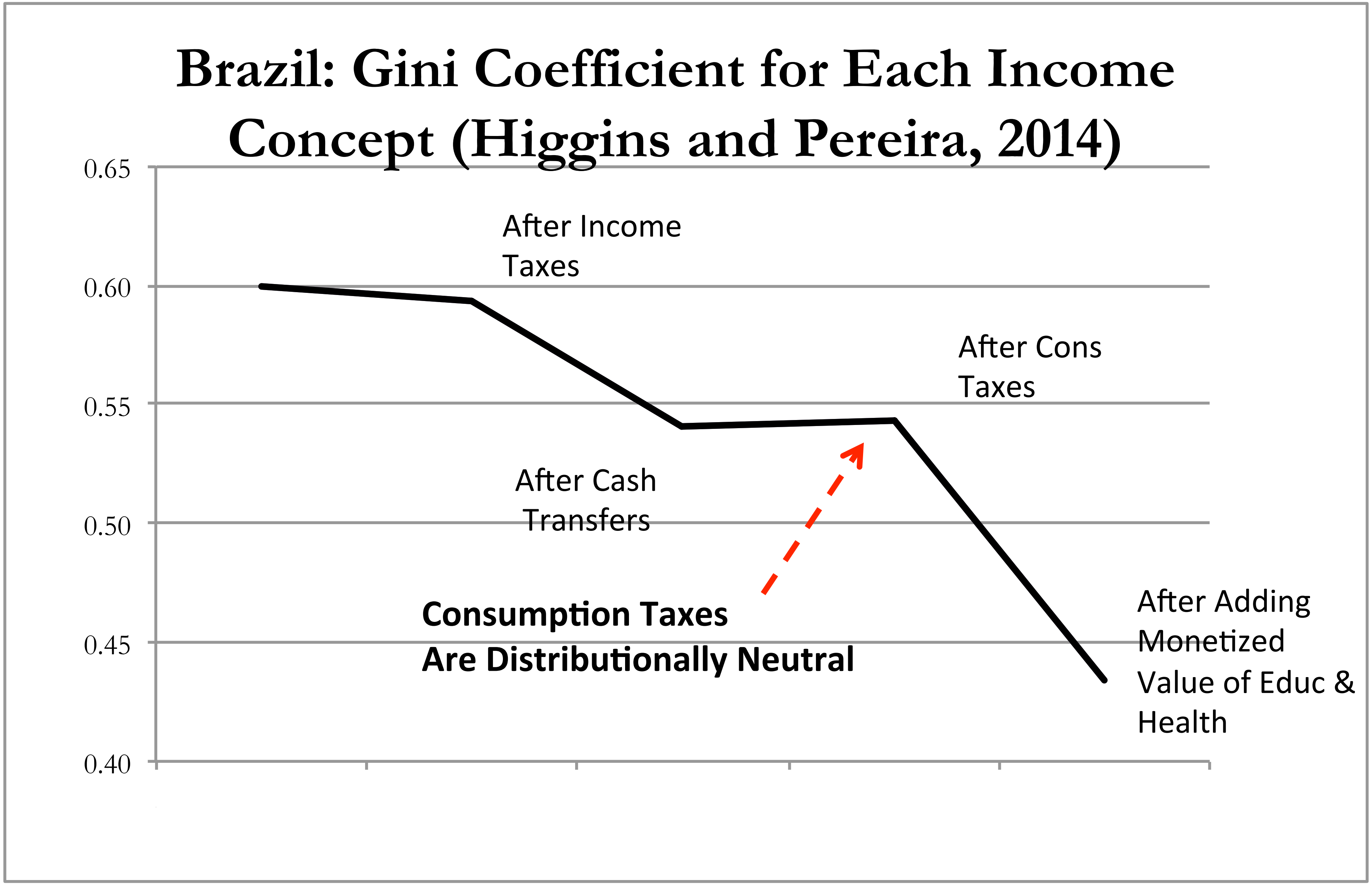
=>>>>> Trade-off between scaling-up educational services and income poverty reduction emerges

Regressivity vs. Poverty Increasing

- Usually, concern is whether a tax or a proposed tax reform is regressive: i.e., increases inequality
- However, a tax or a tax reform can be neutral or even progressive and yet:

=>>>> it can cause poverty to increase

=>>>> it can make some of the poor poorer (and some of the nonpoor poor)


Brazil: Gini Coefficient for Each Income Concept (Higgins and Pereira, 2014)
0.65
0.60
0.55
0.50
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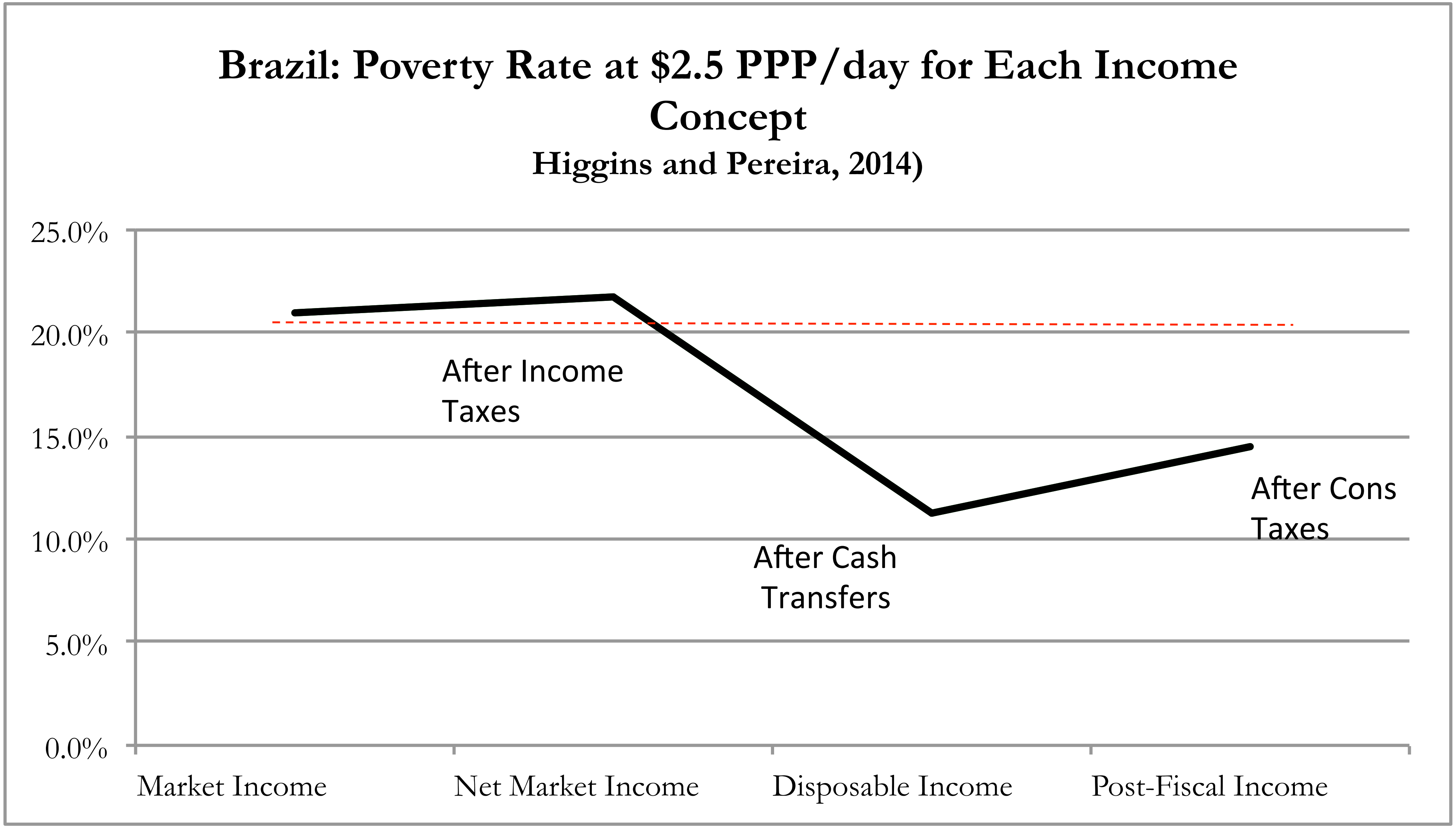
After Income Taxes
After Cash Transfers
After Cons Taxes
After Adding Monetized Value of Educ & Health
Consumption Taxes
Are Distributionally Neutral

How can we tell if the trade-off exists?

Higgins and Lustig (2014) show:

- standard poverty comparisons
- stochastic dominance tests
- measures of progressivity and horizontal inequity

=>>>>fail to measure whether transfers to the poor are large enough to compensate them for what they pay in taxes.


Brazil: Poverty Rate at $2.5 PPP/day for Each Income Concept
Higgins and Pereira, 2014)
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
After Income Taxes
After Cash Transfers
After Cons Taxes
Market Income
Net Market Income
Disposable Income
Post-Fiscal Income

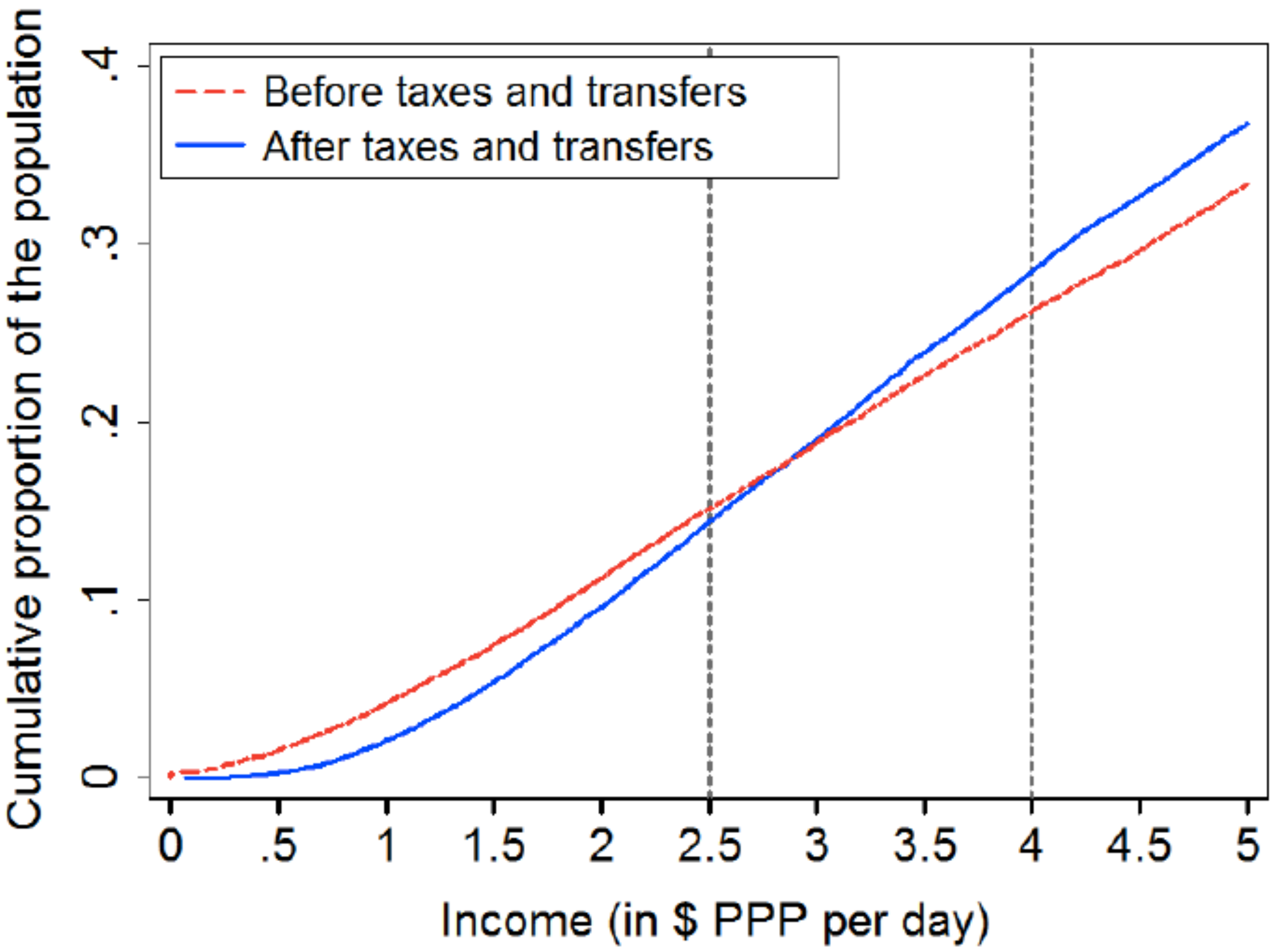


Figure 3: Cumulative distribution functions in Brazil.

Yet, there is impoverishment
Fiscal Mobility Matrix: Brazil

(Higgins and Lustig, 2014)

Post-tax and transfer income groups

Pre-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%

Fiscal Impoverishment
(Higgins & Lustig, 2014)

- Fiscal impoverishment (FI) occurs if some poor are made poorer—or some non-poor made poor—by the tax and transfer system

- In other words, it occurs if the post-fisc incomes of some (post-fisc) poor are lower than their pre-fisc incomes

Fiscal Impoverishment
(Higgins & Lustig, 2014)

- Measuring FI will tell us:
  - Whether trade-off exists
  - The order of magnitude of the trade-off
  - How much is needed in cash transfers to compensate the losing poor
  - Which reforms may be less impoverishing (dominance criteria)

Fiscal Impoverishment
(Higgins & Lustig, 2014)

- If the post-fisc distribution **does *not* first order stochastically dominate** the pre-fisc distribution on the domain of poverty lines, **FI has occurred**.
- A **sufficient** condition to be sure that **FI has *not* occurred** is the simultaneous observance of **no reranking** among the poor and **first order stochastic dominance** of the post-fisc over the pre-fisc distribution on the domain of poverty lines

Measuring Fiscal Impoverishment
(Higgins & Lustig, 2014)

- Fiscal Mobility Matrix
- Fiscal Impoverishment Headcount
    - -wrt Total Population
    - -wrt Total Post-Fisc Poor

Both have limitations

- Fiscal Impoverishment Gaps => Axiomatically Derived

Fiscal Mobility Matrix: Brazil

(Higgins and Lustig, 2014)

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%
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> $10.00	0%	0%	16%	84%	40%
% of Pop.	14%	14%	36%	36%	100%

FI Headcount (Higgins & Lustig, 2014)

$$h(\boldsymbol{y^0}, \boldsymbol{y^1}; z) = |A|^{-1} \sum_{i \in S} \mathbb{1}(y_i^1 < y_i^0) \mathbb{1}(y_i^1 < z)$$

- where *A=S* gives the proportion of the total population that is impoverished, while

$$A = \{i \in S \,|\, y_i^1 < z\}$$

gives the proportion of the post-fisc poor that are impoverished. *I(·)* is the indicator function which has a value of 1 if its argument is true and 0 otherwise.

FI Headcount in Brazil (Higgins & Lustig, 2014)

- 5 percent of the total population

- 30 (!) percent of the post-fisc poor

were made poorer by the fiscal system

FI Gap (Higgins & Lustig, 2014)

- Axiomatically derived measure:

$$f(\boldsymbol{y^0}, \boldsymbol{y^1}; z) = k \sum_{i \in S} \left(\min\{y_i^0, z\} - \min\{y_i^0, y_i^1, z\} \right)$$

- The total impoverishment gaps multiplied by a factor of proportionality = k
- k can be chosen by practitioner. For ex,
  - k = 1 is the sum total of impoverishment gaps
  - k = number of post-fisc impoverished, per capita gap

FI Gap (Higgins & Lustig, 2014)

In Brazil, the FI Gap per capita for the post-fisc poor (with \$2.50 poverty line) equals \$0.19 per day or roughly 10 % of the income of the post-fisc poor

Conclusions

- Trade-off between scaling up service delivery if financed with consumption taxes (e.g., VAT) and income poverty-reduction is likely to exist
- Standard measures of poverty, dominance, progressivity and horizontal inequity can fail to capture that tax reforms may increase the number of impoverished
- We propose several measures of fiscal impoverishment, one axiomatically derived that gives us:
  - The order of magnitude of the trade-off
  - How much is needed in cash transfers at the minimum to compensate the losing poor
  - Which tax reforms may be less impoverishing (dominance criteria)

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