The Impact of Taxes and Social Spending on Inequality and Poverty in Argentina, Bolivia, Brazil, Mexico, Peru and Uruguay: An Overview

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Assessment of current fiscal system:

• What is the impact of taxes and government transfers on inequality and poverty?
• Who are the net tax payers to the “fisc”?
• How equitable is access to government education and/or health services? By income, gender, ethnic origin, for example.
• How progressive are taxes and public spending?
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?
Basic elements of standard fiscal incidence

Start with:

• Before taxes income of unit $h$, or $I_h$
• Taxes $T_i$
• “Allocators” of tax $i$ to unit $h$, or $S_{ih}$ (or the share of tax $i$ borne by unit $h$)

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

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

Net Market Income = \( I^n \)

Disposable Income = \( I^d \)

Post-fiscal Income = \( I^{pf} \)

Final Income = \( I^f \)

TAXES

Personal income taxes and employee contributions to social security (only contributions that are not directed to pensions, in the benchmark case)

Indirect taxes

Co-payments, user fees
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
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
• Incidence at the national level; rural and urban; by race and ethnicity
Methodological Contributions

• Clarify and homogenize terminology: e.g., definitions of progressive or regressive taxes and transfers

• Disaggregate changes in outcome indicators (disposable income inequality or poverty) into market and redistribution component

• Development of new indicator: rate of impoverishment
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
- 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

• In progress: Ecuador, Dominican Republic(*), Honduras, Nicaragua, and Venezuela
Main Results: the Foreseeable

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

<table>
<thead>
<tr>
<th></th>
<th>Argentina</th>
<th>Bolivia</th>
<th>Brazil</th>
<th>Mexico</th>
<th>Peru</th>
<th>Uruguay</th>
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</thead>
<tbody>
<tr>
<td>Gini Market Income</td>
<td>0.49*</td>
<td>0.50</td>
<td>0.58</td>
<td>0.51</td>
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<td>0.49</td>
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<td>Kakwani Coefficients</td>
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<tr>
<td>Direct Taxes</td>
<td>na</td>
<td>ne</td>
<td>0.19</td>
<td>0.30</td>
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<tr>
<td>Indirect Taxes</td>
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<td>-0.13</td>
<td>-0.06</td>
<td>0.01</td>
<td>0.02</td>
<td>-0.05</td>
</tr>
<tr>
<td>All</td>
<td>na</td>
<td>-0.13</td>
<td>0.02</td>
<td>0.11</td>
<td>0.08</td>
<td>0.07</td>
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<tr>
<td>Noncontributory Pensions</td>
<td>-0.27</td>
<td>0.01</td>
<td>-0.48</td>
<td>-0.10</td>
<td>ne</td>
<td>-0.53</td>
</tr>
<tr>
<td>Flagship CCTsa</td>
<td>-0.50</td>
<td>-0.25</td>
<td>-0.58</td>
<td>-0.54</td>
<td>-0.65</td>
<td>-0.61</td>
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<tr>
<td>All</td>
<td>-0.31</td>
<td>-0.07</td>
<td>0.03</td>
<td>-0.30</td>
<td>-0.48</td>
<td>-0.47</td>
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<tr>
<td>Pre-school</td>
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<td>-0.33</td>
<td>-0.24</td>
<td>-0.25</td>
<td>-0.45</td>
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<tr>
<td>Primary</td>
<td>-0.39</td>
<td>-0.25</td>
<td>-0.31</td>
<td>-0.25</td>
<td>-0.34</td>
<td>-0.43</td>
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<tr>
<td>Secondary</td>
<td>-0.24</td>
<td>-0.12</td>
<td>-0.21</td>
<td>-0.08</td>
<td>-0.20</td>
<td>-0.12</td>
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<tr>
<td>Tertiary</td>
<td>0.20</td>
<td>0.30</td>
<td>0.44</td>
<td>0.32</td>
<td>0.31</td>
<td>0.47</td>
</tr>
<tr>
<td>All</td>
<td>-0.20</td>
<td>-0.02</td>
<td>-0.15</td>
<td>-0.09</td>
<td>-0.17</td>
<td>-0.11</td>
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<tr>
<td>Health Spending</td>
<td>-0.23</td>
<td>-0.04</td>
<td>-0.11</td>
<td>0.04</td>
<td>0.18</td>
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<tr>
<td>Social Spending</td>
<td>-0.15</td>
<td>-0.04</td>
<td>-0.09</td>
<td>-0.06</td>
<td>-0.02</td>
<td>-0.16</td>
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<tr>
<td>Indirect Subsidies</td>
<td>0.29</td>
<td>0.37</td>
<td>-0.27</td>
<td>0.26</td>
<td>na</td>
<td>ne</td>
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<tr>
<td>Total Benefits</td>
<td>-0.05</td>
<td>-0.02</td>
<td>-0.09</td>
<td>-0.02</td>
<td>-0.02</td>
<td>-0.16</td>
</tr>
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</table>
Public spending on education and health is a more powerful equalizer than cash transfers.
Main Results: the Unexpected

• Diversity:
  – government size: primary spending from 41 in Brazil to 19 percent of GDP in Peru
  – extent of redistribution (25% in Arg, 7% in Peru)

• Net payers to the fisc (in terms of cash) start at relatively low deciles

• Tertiary Education is progressive in relative terms or neutral

• Contributory Pensions are progressive (in relative terms) or regressive depending on the country
Budget Size and Composition
Primary and Social Spending as % of GDP

- Brazil: 16% Primary, 15% Social
- Argentina: 21% Primary, 15% Social
- Bolivia: 15% Primary, 13% Social
- Uruguay: 13% Primary, 10% Social
- Mexico: 24% Primary, 19% Social
- Peru: 19% Primary, 7% Social
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

<table>
<thead>
<tr>
<th>Country</th>
<th>Before Cash Transfers</th>
<th>After Cash Transfers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argentina</td>
<td>15.00%</td>
<td>20.00%</td>
</tr>
<tr>
<td>Bolivia</td>
<td>25.00%</td>
<td>20.00%</td>
</tr>
<tr>
<td>Brazil</td>
<td>0.00%</td>
<td>5.00%</td>
</tr>
<tr>
<td>Mexico</td>
<td>10.00%</td>
<td>15.00%</td>
</tr>
<tr>
<td>Peru</td>
<td>15.00%</td>
<td>20.00%</td>
</tr>
<tr>
<td>Uruguay</td>
<td>25.00%</td>
<td>30.00%</td>
</tr>
</tbody>
</table>
Fiscal Policy and Poverty
Headcount Ratio

Poverty Rate at $4 PPP/day for Each Income Concept
(Pensions included in Market Income)
However, indirect taxes wipe out the poverty-reducing effect of cash transfers.
Net Payers to the Fisc

Incidence of Post-Fiscal Income by Decile

Decile

Net Change in Income

-20.0%
-15.0%
-10.0%
-5.0%
0.0%
5.0%
10.0%
15.0%
20.0%

Bolivia (2009)
Brazil (2009)
Mexico (2010)
Peru (2009)
Uruguay (2009)
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
Main Results: the Unexpected

• 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
“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
Conclusions

- Direct taxes and cash transfers reduce inequality and poverty by nontrivial amounts in Argentina, Brazil, and Uruguay but less so in Bolivia, Mexico, and Peru
- Direct taxes are progressive, but redistributive impact is small
- Cash transfers programs are quite progressive in absolute terms, except in Bolivia
- In Bolivia and Brazil, indirect taxes more than offset the poverty reducing impact of cash transfers
- In-kind benefits have a large effect on reducing inequality in all countries
Commitment to Equity (CEQ), joint project of Tulane University and Inter-American Dialogue. [www.commitmenttoequity.org](http://www.commitmenttoequity.org)
World Bank

- Armenia
- Ethiopia
- Indonesia
- Jordan
- South Africa
- Sri Lanka

Gates Foundation

- Ghana
- Tanzania
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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.

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Thank you!
References


• **Brazil:** Higgins, Sean and Claudiney Pereira. The Effects of Brazil’s High Taxation and Social Spending on the Distribution of Household Income. In Lustig, Nora, Carola Pessino, and John Scott, editors, Fiscal Policy, Poverty and Redistribution in Latin America, Special Issue, *Public Finance Review*, forthcoming.