Fiscal Redistribution in Low and Middle Income Countries

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CGD and IAD

DevTalks
Development Centre
OECD
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• Comprehensive standard fiscal incidence analysis of current systems
• Harmonized definitions and methodological approaches to facilitate cross-country comparisons
• Uses income/consumption per capita as the welfare indicator
• Allocators vary => full transparency in the method used for each category, tax shifting assumptions, tax evasion
• Secondary sources are used to a minimum

CEQ Assessment: Fiscal Interventions

• Currently included:
  • Direct taxes
  • Direct cash transfers
  • Non-cash direct transfers such as school uniforms and breakfast
  • Contributions to pensions and social insurance systems
  • Indirect taxes on consumption
  • Indirect subsidies
  • In-kind transfers such as spending on education and health

• Working on:
  • Corporate taxes

CEQ Assessment: Income Concepts

MARKET INCOME

PLUS DIRECT TRANSFERS MINUS DIRECT TAXES

DISPOSABLE INCOME

PLUS INDIRECT SUBSIDIES MINUS INDIRECT TAXES

CONSUMABLE INCOME

PLUS MONETIZED VALUE OF PUBLIC SERVICES: EDUCATION & HEALTH

FINAL INCOME

Fiscal Incidence in CEQ Assessments

- Accounting approach
  - no behavioral responses
  - no general equilibrium effects and
  - no intertemporal effects
  - but it incorporates assumptions to obtain economic incidence (not statutory)

- Point-in-time

- Mainly average incidence; a few cases with marginal incidence

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 (and scale them down) 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?

Commitment to Equity Institute (CEQI)

Objective: To measure the impact of fiscal policy on inequality and poverty across the world

- Research-based policy tools
- Data Center
- Advisory and training services
- Bridges to policy

Grant from Bill & Melinda Gates Foundation US$4.9 million for 5 yrs
Three main messages from theory

1. Analyzing the tax side without the spending side, or vice versa, is useless

   - Taxes can be unequalizing but spending so equalizing that the unequalizing effect of taxes is more than compensated (we knew this...)
   - Taxes can be regressive (Kakwani index) but when combined with transfers and other taxes, the fiscal system is more equalizing than without the regressive taxes (Lambert, 2001) (surprised?)
     - VAT in Chile
   - Transfers can be progressive (Kakwani index) but when combined with taxes and other transfers, the fiscal system is more unequalizing with the progressive pensions than without them (generalizing Lambert) (surprised?)
     - Contributory pensions in Colombia

2. Analyzing the impact on inequality only can be misleading

- Fiscal systems can be equalizing but poverty increasing (surprised?)

3. Analyzing the impact on traditional poverty indicators can be misleading

- Fiscal systems can show a reduction in poverty (headcount ratio, gap or squared gap) ...

- ...and yet a substantial share of the poor could have been impoverished by the combined effect of taxes and transfers (surprised?)


https://ideas.repec.org/p/tul/wpaper/1612.html
• Empirical results for 25 countries based on fiscal incidence studies from the Commitment to Equity Institute for around 2010
  • Two low-income countries: Ethiopia (Hill et al., 2016) and Tanzania (Younger et al., 2016)
  • Nine lower middle-income countries: Armenia (Younger and Khachatryan, 2016), Bolivia (Paz-Arauco et al., 2014), El Salvador (Beneke, Lustig and Oliva, 2014), Ghana (Younger et al., 2015), Guatemala (Cabrera, Lustig and Moran, 2015), Honduras (Castañeda and Espino, 2015), Indonesia (Afkar et al., 2016), Sri Lanka (Arunatilake et al., 2016), and Tunisia (Shimeles et al., 2016)
  • Eleven upper middle-income countries: Brazil (Higgins and Pereira, 2014), Colombia (Lustig and Melendez, 2016), Costa Rica (Sauma and Trejos, 2014), Dominican Republic (Aristy-Escuder et al., 2016), Ecuador (Llerena et al., 2015), Georgia (Cancho and Bondarenko, 2016), Jordan (Alam et al., 2016), Mexico (Scott, 2014), Peru (Jaramillo, 2014), Russia (Lopez-Calva et al., 2016), and South Africa (Inchauste et al., 2016)
  • Two high-income countries: Chile (Martinez-Aguilar et al., 2016), and Uruguay (Bucheli et al., 2014).
  • One unclassified: Argentina (Rossignolo, 2016),
SIZE AND COMPOSITION OF GOVERNMENT REVENUES AND SPENDING
More social spending, more redistribution

Source: Lustig (2016)
Social spending/GDP increases with income (Gross National Income per capita)

\[ y = 6 \times 10^{-6}x^{**} + 0.073^{**} \]

\[ (3.09) \quad (3.51) \]

\[ R^2 = 0.3027 \]

Source: Lustig (2016)
Direct transfers/GDP vs. GNI per capita

Source: Lustig (2016)
Education spending/GDP vs. GNI per capita

Source: Lustig (2016)
Health spending/GDP vs. GNI per capita

\[ y = 1E-06x^{**} + 0.0164^{**} \]

\( R^2 = 0.2122 \)

Source: Lustig (2016)
Composition of total government revenues as a share of GDP (circa 2010)

(rank by total government revenue/GDP; GNI right hand scale)

Source: Lustig (2016)
Composition of social spending as a share of GDP (circa 2010)

(ranked by social spending plus contributory pensions / GDP; GNI right hand scale)
FISCAL REDISTRIBUTION
CEQ Assessment: Income Concepts

MARKET INCOME

PLUS DIRECT TRANSFERS MINUS DIRECT TAXES

DISPOSABLE INCOME

PLUS INDIRECT SUBSIDIES MINUS INDIRECT TAXES

CONSUMABLE INCOME

PLUS MONETIZED VALUE OF PUBLIC SERVICES: EDUCATION & HEALTH

FINAL INCOME

Inequality
Fiscal Policy and Inequality – Contributory pensions as deferred income

Market income (plus contributory pensions) → Disposable income → Consumable income → Final income

Gini Coefficient

Source: Lustig (2016)
Fiscal Policy and Inequality – Contributory pensions as direct transfers

Gini Coefficient

Market income (plus contributory pensions)

Disposable income

Consumable income

Final income

Argentina (2012)
Brazil (2009)
Costa Rica (2010)
El Salvador (2011)
Ghana (2013)
Indonesia (2012)
Peru (2009)
Sri Lanka (2010)
Uruguay (2009)

Armenia (2011)
Chile (2013)
Dominican Republic (2013)
Ethiopia (2011)
Guatemala (2011)
Jordan (2010)
Russia (2010)
Tanzania (2011)

Bolivia (2009)
Colombia (2010)
Ecuador (2011)
Georgia (2013)
Honduras (2011)
Mexico (2010)
South Africa (2010)
Tunisia (2010)

Source: Lustig (2016)
Redistributive effect
(Change in Gini points: market income plus pensions and market income to disposable income, circa 2010)

(rank by redistributive effect (left hand scale); Gini coefficients right hand scale)

Source: Lustig (2016)
More unequal, more social spending/GDP
No “Robin Hood Paradox”

\[ y = 0.2131x^{***} + 0.002 \]

(2.87)  (0.06)

\[ R^2 = 0.2637 \]

Source: Lustig (2016)
More unequal, more redistribution
No “Robin Hood Paradox”

\[ y = 0.0952x^* - 0.0184 \]

\[ (1.76) \quad (-0.70) \]

\[ R^2 = 0.1183 \]

Source: Lustig (2016)
In sum...

• In **NO** country, inequality increases as a result of taxes, subsidies and social spending

  ➢ Fiscal policy is always equalizing

  ➢ The more unequal, the more fiscal redistribution
Which fiscal instruments are equalizing and which are not?

- Rely on the sign of the “marginal contribution”
- The marginal contribution equals the difference in the reduction in inequality observed without the fiscal instrument of interest (and all the others in place) and with it (and all the others in place)
  - Positive means it is equalizing
  - Negative means it is unequalizing
  - Zero means it leaves inequality unchanged
  - The following tables uses the change in Gini points to measure fiscal redistribution
<table>
<thead>
<tr>
<th></th>
<th>Low-income Economies</th>
<th>Lower-middle-income economies</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Redistributive effect</td>
<td></td>
<td></td>
<td>0.0534</td>
<td>0.1125</td>
<td>0.0646</td>
<td>0.0356</td>
<td>0.0349</td>
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<td>Final income</td>
<td></td>
<td></td>
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<td></td>
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<td></td>
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<tr>
<td>Direct taxes</td>
<td>-0.0012</td>
<td></td>
<td>0.020</td>
<td>--</td>
<td>--</td>
<td>0.0039</td>
<td>-0.0057</td>
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<td>Direct transfers</td>
<td>0.0009</td>
<td></td>
<td>0.091</td>
<td>0.0099</td>
<td>0.0057</td>
<td>0.0011</td>
<td>0.0011</td>
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<td>0.000</td>
<td>0.0004</td>
<td>0.0012</td>
<td>0.0016</td>
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<tr>
<td>Indirect subsidies</td>
<td>-0.0033</td>
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<td>-0.001</td>
<td>0.0004</td>
<td>0.0011</td>
<td>--</td>
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<tr>
<td>Education</td>
<td>0.0116</td>
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<td>0.013</td>
<td>0.0340</td>
<td>0.0141</td>
<td>0.0085</td>
<td>0.0194</td>
</tr>
<tr>
<td>Health</td>
<td>0.0016</td>
<td></td>
<td>0.003</td>
<td>0.0237</td>
<td>0.0105</td>
<td>0.0073</td>
<td>0.0031</td>
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<tr>
<td>Kakwani</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direct taxes</td>
<td>0.4789</td>
<td></td>
<td>0.096</td>
<td>--</td>
<td>--</td>
<td>0.3574</td>
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<tr>
<td>Direct transfers</td>
<td>0.2791</td>
<td></td>
<td>0.660</td>
<td>0.0713</td>
<td>0.5001</td>
<td>0.8066</td>
<td>0.6397</td>
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<tr>
<td>Indirect taxes</td>
<td>0.0992</td>
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<td>-0.129</td>
<td>-0.1259</td>
<td>-0.0182</td>
<td>-0.0021</td>
<td>-0.0420</td>
</tr>
<tr>
<td>Indirect subsidies</td>
<td>-0.2126</td>
<td></td>
<td>0.381</td>
<td>0.1311</td>
<td>0.1666</td>
<td>-0.0115</td>
<td>0.0560</td>
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<td>Education</td>
<td>0.2641</td>
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<td>0.5076</td>
<td>0.5655</td>
<td>not available</td>
<td>0.3630</td>
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<td>Health</td>
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<td>0.500</td>
<td>0.5360</td>
<td>0.3126</td>
<td>not available</td>
<td>0.2730</td>
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<td>Relative size</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direct taxes</td>
<td>1.3%</td>
<td></td>
<td>4.5%</td>
<td>--</td>
<td>--</td>
<td>1.7%</td>
<td>4.6%</td>
</tr>
<tr>
<td>Direct transfers</td>
<td>0.4%</td>
<td></td>
<td>18.4%</td>
<td>2.1%</td>
<td>1.2%</td>
<td>0.2%</td>
<td>0.7%</td>
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<tr>
<td>Indirect taxes</td>
<td>13.1%</td>
<td></td>
<td>12.0%</td>
<td>7.8%</td>
<td>7.3%</td>
<td>6.3%</td>
<td>6.8%</td>
</tr>
<tr>
<td>Indirect subsidies</td>
<td>1.2%</td>
<td></td>
<td>0.0%</td>
<td>0.7%</td>
<td>0.9%</td>
<td>2.1%</td>
<td>8.2%</td>
</tr>
<tr>
<td>Education</td>
<td>7.5%</td>
<td></td>
<td>3.1%</td>
<td>7.7%</td>
<td>2.6%</td>
<td>6.0%</td>
<td>6.2%</td>
</tr>
<tr>
<td>Health</td>
<td>2.3%</td>
<td></td>
<td>1.5%</td>
<td>5.2%</td>
<td>3.6%</td>
<td>3.1%</td>
<td>1.6%</td>
</tr>
<tr>
<td>All taxes – all transfers</td>
<td>3.1%</td>
<td></td>
<td>-6.5%</td>
<td>-7.9%</td>
<td>0.8%</td>
<td>-0.5%</td>
<td>-9.8%</td>
</tr>
</tbody>
</table>

The unequalizing effect appear in red font and cases where microdata is unavailable and mc is calculated based on the information by deciles are highlighted in blue.

Source: Lustig (2016)
### Marginal Contributions (contributory pensions as deferred income) – Upper-middle-income and high-income economies

<table>
<thead>
<tr>
<th></th>
<th>Upper-middle-income Economies</th>
<th>High-income Economies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Redistributive effect (from Gini market income plus pensions to final income)</td>
<td>0.1221</td>
<td>0.0677</td>
</tr>
<tr>
<td>Marginal contribution</td>
<td>Direct taxes</td>
<td>0.0143</td>
</tr>
<tr>
<td></td>
<td>Direct transfers</td>
<td>0.0148</td>
</tr>
<tr>
<td></td>
<td>Indirect taxes</td>
<td>0.0113</td>
</tr>
<tr>
<td></td>
<td>Indirect subsidies</td>
<td>0.0005</td>
</tr>
<tr>
<td></td>
<td>Education</td>
<td>0.0509</td>
</tr>
<tr>
<td></td>
<td>Health</td>
<td>0.0292</td>
</tr>
<tr>
<td>Kakwani</td>
<td>Direct taxes</td>
<td>0.2490</td>
</tr>
<tr>
<td></td>
<td>Direct transfers</td>
<td>0.5069</td>
</tr>
<tr>
<td></td>
<td>Indirect taxes</td>
<td>-0.0179</td>
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<tr>
<td></td>
<td>Indirect subsidies</td>
<td>0.8373</td>
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<tr>
<td></td>
<td>Education</td>
<td>0.7087</td>
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<tr>
<td></td>
<td>Health</td>
<td>0.6914</td>
</tr>
<tr>
<td>Relative size</td>
<td>Direct taxes</td>
<td>4.2%</td>
</tr>
<tr>
<td></td>
<td>Direct transfers</td>
<td>5.1%</td>
</tr>
<tr>
<td></td>
<td>Indirect taxes</td>
<td>12.9%</td>
</tr>
<tr>
<td></td>
<td>Indirect subsidies</td>
<td>0.1%</td>
</tr>
<tr>
<td></td>
<td>Education</td>
<td>10.6%</td>
</tr>
<tr>
<td></td>
<td>Health</td>
<td>4.8%</td>
</tr>
<tr>
<td></td>
<td>All taxes - all transfers</td>
<td>-3.6%</td>
</tr>
</tbody>
</table>

*Unequalizing effect appears in red font.*

Source: Lustig (2016)
In sum...

- Direct taxes are equalizing except in Colombia, Ghana and Tanzania *(surprised?)*
- Direct transfers are always equalizing *(phew!)*
- Indirect taxes are more often than not equalizing *(surprised?),* except in Colombia, Georgia, Indonesia, Jordan and Russia
- Indirect subsidies are more often than not equalizing *(surprised?),* except in Armenia, Ghana, and Tanzania
- Education and health spending are always equalizing
Poverty
• Fiscal policy can be equalizing but poverty increasing (in terms of the poor’s ability to consume private goods and services):
  ➢ 1.25/day line: Ethiopia, Ghana, Guatemala, Tanzania
  ➢ 2.50/day line: Armenia, Bolivia, Ethiopia, Ghana, Guatemala, Honduras, Sri Lanka, Tanzania
  ➢ 4/day line: all of the above plus Argentina, Brazil, Costa Rica and Tunisia

• This worrisome result stems mainly from consumption taxes
Fiscal Policy and Poverty Reduction

(Change in Headcount Ratio from Market to Consumable Income (Poverty line $1.25 / day 2005 ppp; Contributory Pensions as Deferred Income; in %)

(ranked by poverty reduction in %; poverty line $1.25 2005PPP/day)

Source: Lustig (2016)
Fiscal Policy and Poverty Reduction

(Change in Headcount Ratio from Market to Consumable Income (Poverty line $2.50 / day 2005 ppp; Contributory Pensions as Deferred Income; in %)

(ranked by poverty reduction in %; poverty line $2.50 2005PPP/day)

Source: Lustig (2016)
Fiscal Policy and Poverty Reduction

(Change in Headcount Ratio from Market to Consumable Income (Poverty line $4.00 / day 2005 ppp; Contributory Pensions as Deferred Income; in %)

(ranked by poverty reduction in %; poverty line $4.00 2005PPP/day)

Source: Lustig (2016)
Net payers and net receivers (by decile; Contributory pensions as deferred income)

Source: Lustig (2016)
Net payers and net receivers (by income groups; Contributory pensions as deferred income)

Source: Lustig (2016)
Analyzing the impact on traditional poverty indicators can be misleading

- Fiscal systems can show a reduction in poverty and yet a substantial share of the poor could have been impoverished by the combined effect of taxes and transfers

Higgins and Lustig (2016)
Domestic Resource Mobilization and the Poor

How frequently fiscal systems may be inequality reducing but at the same time leave the poor worse off in terms of their purchasing power of private goods and services?
Fiscal Impoverishment (Market to Consumable Income)

<table>
<thead>
<tr>
<th>Country (survey year)</th>
<th>Market income plus pensions Poverty headcount (%)</th>
<th>Change in poverty headcount (p.p.)</th>
<th>Market income plus pensions poverty ( Gini)</th>
<th>Reynolds-Smolensky inequality (▲Gini)</th>
<th>Change in inequality</th>
<th>Fiscally impoverished as % of population</th>
<th>Fiscally Impoverished as % of consumable income poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil (2009)</td>
<td>16.8</td>
<td>-0.8</td>
<td>57.5</td>
<td>4.6</td>
<td>-3.5</td>
<td>5.6</td>
<td>34.9</td>
</tr>
<tr>
<td>Chile (2013)</td>
<td>2.8</td>
<td>-1.4</td>
<td>49.4</td>
<td>3.2</td>
<td>-3.0</td>
<td>0.3</td>
<td>19.2</td>
</tr>
<tr>
<td>Ecuador (2011)</td>
<td>10.8</td>
<td>-3.8</td>
<td>47.8</td>
<td>3.5</td>
<td>-3.3</td>
<td>0.2</td>
<td>3.2</td>
</tr>
<tr>
<td>Mexico (2012)</td>
<td>13.3</td>
<td>-1.2</td>
<td>54.4</td>
<td>3.8</td>
<td>-2.5</td>
<td>4.0</td>
<td>32.7</td>
</tr>
<tr>
<td>Peru (2011)</td>
<td>13.8</td>
<td>-0.2</td>
<td>45.9</td>
<td>0.9</td>
<td>-0.8</td>
<td>3.2</td>
<td>23.8</td>
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<tr>
<td>Russia (2010)</td>
<td>4.3</td>
<td>-1.3</td>
<td>39.7</td>
<td>3.9</td>
<td>-2.6</td>
<td>1.1</td>
<td>34.4</td>
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<tr>
<td>South Africa (2010)</td>
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<td>77.1</td>
<td>8.3</td>
<td>-7.7</td>
<td>5.9</td>
<td>13.3</td>
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<tr>
<td>Tunisia (2010)</td>
<td>7.8</td>
<td>-0.1</td>
<td>44.7</td>
<td>8.0</td>
<td>-6.9</td>
<td>3.0</td>
<td>38.5</td>
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<tr>
<td>Brazil (2009)</td>
<td>16.8</td>
<td>-0.8</td>
<td>57.5</td>
<td>4.6</td>
<td>-3.5</td>
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<tr>
<td>Chile (2013)</td>
<td>2.8</td>
<td>-1.4</td>
<td>49.4</td>
<td>3.2</td>
<td>-3.0</td>
<td>0.3</td>
<td>19.2</td>
</tr>
</tbody>
</table>

Panel A: Upper-middle income countries, using a poverty line of $2.5 2005 PPP per day
## Fiscal Impoverishment (Market to Consumable Income)

<table>
<thead>
<tr>
<th>Country (survey year)</th>
<th>Market income plus pensions Poverty headcount (%)</th>
<th>Change in poverty headcount (p.p.)</th>
<th>Market income plus pensions inequality (Gini)</th>
<th>Reynolds-Smolensky Change in inequality (▲Gini)</th>
<th>Fiscally impoverished as % of population</th>
<th>Fiscally impoverished as % of consumable income poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Armenia (2011)</td>
<td>21.4</td>
<td>-9.6</td>
<td>47.4</td>
<td>12.9</td>
<td>-9.3</td>
<td>6.2</td>
</tr>
<tr>
<td>Bolivia (2009)</td>
<td>10.9</td>
<td>-0.5</td>
<td>50.3</td>
<td>0.6</td>
<td>-0.3</td>
<td>6.6</td>
</tr>
<tr>
<td>Dominican Republic (2013)</td>
<td>6.8</td>
<td>-0.9</td>
<td>50.2</td>
<td>2.2</td>
<td>-2.2</td>
<td>1.0</td>
</tr>
<tr>
<td>El Salvador (2011)</td>
<td>4.3</td>
<td>-0.7</td>
<td>44.0</td>
<td>2.2</td>
<td>-2.1</td>
<td>1.0</td>
</tr>
<tr>
<td>Ethiopia (2011)</td>
<td>31.9</td>
<td>2.3</td>
<td>32.2</td>
<td>2.3</td>
<td>-2.0</td>
<td>28.5</td>
</tr>
<tr>
<td>Ghana (2013)</td>
<td>6.0</td>
<td>0.7</td>
<td>43.7</td>
<td>1.6</td>
<td>-1.4</td>
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</table>

*Panel B: Lower-middle income countries, using a poverty line of $1.25 2005 PPP per day*

Higgins and Lustig (2016)
• Fifteen of the eighteen countries with a reduction in poverty and inequality due to the tax and transfer system experienced various degrees of fiscal impoverishment.

• In ten countries—Armenia, Bolivia, Brazil, El Salvador, Guatemala, Indonesia, Mexico, Russia, Sri Lanka, and Tunisia—between one-quarter and two-thirds of the post-fisc poor lost income to the fiscal system.

• In the three countries where the headcount ratio rose (Ethiopia, Ghana and Tanzania), the proportion of the poor who were impoverished by the fiscal system is staggering (above 75 percent).

• In Armenia, Ethiopia, Indonesia, Tunisia, and Russia, between 25 and 50% are still fiscally impoverished when the monetized value of education and health services are included as transfers.

Extreme care must be taken with emphasizing domestic resource mobilization to achieve SDGs

Must assess the impact on the poor of tax and subsidy reforms, otherwise one may be taking away from the poor more than is transferred to them

Impact on the poor of increasing taxes requires the use of adequate indicators; conventional measures of inequality and poverty can be awfully misleading

Fiscal Impoverishment Index fulfills all the requirements to obtain an accurate assessment of the impact of fiscal changes on the poor

How pro-poor is spending on education and health
Classification

A = Pro-poor and equalizing, per capita spending declines with income

B = Neutral in absolute terms and equalizing, same per capita for all

C = Equalizing but not pro-poor, per capita spending as a share of market income declines with income

D = Unequalizing, per capita spending as a share of market income increases with income
Progressivity and pro-poorness of education and health spending - Low-income economies

<table>
<thead>
<tr>
<th>Low-income Economies</th>
<th>Education</th>
<th>Pre-school</th>
<th>Primary</th>
<th>Secondary</th>
<th>Tertiary</th>
<th>Health</th>
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<td>C</td>
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<td>+</td>
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Source: Lustig (2016)
## Progressivity and pro-poorness of education and health spending - Lower-middle-income economies

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<th>Education</th>
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<td>Sri Lanka (2010)</td>
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Source: Lustig (2016)
Progressivity and pro-poorness of education and health spending – Upper-middle-income economies

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<th>Upper-middle-income Economies</th>
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<td>Russia (2010)</td>
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Source: Lustig (2016)
Progressivity and pro-poorness of education and health spending – High-income economies

<table>
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<th>High-income Economies</th>
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<th>Primary</th>
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<td></td>
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<td>Argentina (2012)*</td>
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-- = not available
* unclassified

Source: Lustig (2016)
Main results

- Education spending on primary and secondary schooling per person tends to decline with income ("pro-poor") or be the same across the income distribution...
- ... with the exception of Ethiopia where although equalizing, per capita spending on secondary education increases with income
  - Are middle-classes opting out in middle and high income countries?
- Tertiary education spending is not pro-poor but it is equalizing except for Ethiopia, Ghana, Guatemala and Tanzania, where it is unequalizing

Source: Lustig (2016)
Main results

- Health spending per person tends to decline with income ("pro-poor") or be the same across the income distribution....

- ....except for El Salvador, Ethiopia, Guatemala, Indonesia, Jordan, Peru and Tanzania where although not unequalizing per capita spending increases with income.

Source: Lustig (2016)
In conclusion...

• Fiscal systems are always equalizing but can often reduce the purchasing power of the poor
  ➢ Warning: unintended consequence of the domestic resource mobilization agenda can be making the poor worse off

• Spending on education and health is often pro-poor and almost universally equalizing
  ➢ Warning: is this favorable result because middle-classes and the rich are opting out?

• Reassuring results
  ➢ Redistributive effect increases with social spending
  ➢ Social spending as a share of GDP increases with inequality
  ➢ The more unequal, the more redistribution
Teams and references by country:
(in parenthesis: survey year; C=consumption & l=income)


Rossignolo, D. 2016. CEQ Master Workbook: Argentina, February 29. CEQ Institute, Tulane University.


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Teams and references by country:
(in parenthesis: survey year; C=consumption & I=income)


Sauma, P. and J. D. Trejos. 2014. CEQ Master Workbook: Costa Rica, February. CEQ Institute, Tulane University.


Teams and references by country:
(in parenthesis: survey year; C=consumption & I=income)


Teams and references by country:
(in parenthesis: survey year; C=consumption & I=income)


Scott, J. 2013. CEQ Master Workbook: Mexico, September 2. CEQ Institute, Tulane University.


Jaramillo, M. 2015. CEQ Master Workbook: Peru, August 7. CEQ Institute, Tulane University.


Teams and references by country:  
(in parenthesis: survey year; C=consumption & I=income)


Younger, S., F. Myamba, and K. Mdadila. 2016. CEQ Master Workbook: Tanzania, June 1st. CEQ Institute, Tulane University.


Additional References:


• --------- “Inequality and Fiscal Redistribution in Middle Income Countries: Brazil, Chile, Colombia, Indonesia, Mexico, Peru And South Africa.” Journal of Globalization and Development. Forthcoming.

• --------- “The Redistributive Impact of Government Spending on Education and Health: Evidence from 13 Developing Countries in the Commitment to Equity Project” Chapter 17 in Gupta, Sanjeev, Michael Keen, Benedict Clements and Ruud de Mooij, editors, Inequality and Fiscal Policy, Washington: International Monetary Fund, 2015.

Thank you!