Equity impacts of carbon pricing in LMICs

Dr. Jan Christoph Steckel

The political economy of green fiscal policies in the context of Green Recovery

September 15, 2021
Managing equity concerns key for making GFPs work

• Political resistance to be expected:
  • Broad-based resistance, e.g. to rising energy prices
  • Immediate price increases can lead to large protests that have the power to stop the reform; short term distributional incident crucial for the acceptance of reform

• Interests groups that lose from policy reforms can be expected to lobby (or protest) against it
  • Energy users
  • Workers
  • Fossil fuel owners
  • Industry
  • Specific regions
  • ...

Understanding and managing distributional effects is key for success!
Carbon prices would likely be progressive

Empirical analysis based on World Bank Global Consumption Database, covering 87 countries

Key result: Carbon pricing more progressive in poorer countries
Key mechanism: Differences in energy expenditures drive results

Dorband et al. (2019, World Development)
Design matters

All effects refer to carbon price of USD 40 / t CO$_2$

Steckel et al. (in press, Nature Sustainability)
Progressive distributional effects might still hurt the poor

- Even progressive distributional implications can mean a substantial burden to incomes of poor households
- What does it mean for development indicators? Food? Energy use?
- How to use revenue recycling schemes to protect the most vulnerable groups?

Dorband et al. (2019, World Development)
Considering LMIC particularities important for effectiveness of reforms

- High prevalence of charcoal and firewood for cooking
- Fossil fuel price hikes may raise biomass collection

- Negative health impacts via indoor air pollution
- Adversely impact female labour supply & women’s time use
- Potentially drives forest degradation

Source: Peters/Rose based on DHS data
Nigeria: Distributional effects of infrastructure investments

- 60% of population lack access to basic infrastructure
- Spending revenues for transfers or infrastructure investments?
- Double progressivity when using revenues to finance infrastructure investment

Dorband et al., in review

<table>
<thead>
<tr>
<th>Change in HH welfare (% of income)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poorest 20%</td>
</tr>
<tr>
<td>Richest 20%</td>
</tr>
</tbody>
</table>

Uncompensated
Using existing social security schemes to keep transaction costs low

- The case of Ecuador: Fossil fuel subsidy reform
- Using existing schemes vs. creating new instruments compensation
- Existing social transfer schemes can be used to make distributional outcome progressive

Option 1: Scaling up existing scheme
Option 2: Expanding eligibility of existing scheme
Option 3: Establishing a new channel (minimum pension)
Consider full distribution and revenue recycling: Carbon Tax Indonesia

Source: MCC, unpublished
Consider full distribution and revenue recycling: Carbon Tax Indonesia

Source: MCC, unpublished
Consider full distribution and revenue recycling: Carbon Tax Indonesia

- Targeted transfers more beneficial for majority of the “poor” but not for all
- Universal transfers less beneficial for majority of the “poor” but inclusion is secured

Source: MCC, unpublished
Key points

- Distributional effects in LMICs are most likely progressive

- Progressivity hides huge differences within income groups

- How to recycle revenues is key

- Making green fiscal policies socially and politically acceptable requires to embed those in broader social policy considerations
Thank you

steckel@mcc-berlin.net