Fiscal Policy and Fossil Fuels

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Plan of talk

- Appropriate taxation of fossil fuels to reduce carbon and improve air quality
- Reform of existing subsidies

Environmental taxes are effective instruments

- They exploit all—and strike right balance between—emissions reduction opportunities:

- E.g., carbon tax
  - Promotes fuel switching in power generation
  - Reduces demand for electricity, transportation fuels, heating fuels
  - Across-the-board incentives for clean technology development and deployment

Carbon taxes vs. other instruments

- Regulatory policies (in isolation) are much less effective at reducing emissions:
  - e.g., renewables mandate

- Cap-and-trade can be reasonable alternative
  - But only if designed to mimic advantages of emissions taxes (raising revenue and price stability)

Administrative issues

- Minimizing admin. costs and maximizing coverage suggests upstream taxes (refinery gate, mine-mouth, point of imports).
- Charges for pollution content should be the same across fuels and end users.
- To promote downstream emissions abatement need refunds/regulations (e.g., SO_2 scrubbers, CCS, controls on tailpipe emissions).

Tax levels

- Fuel excise taxes should contain charges for carbon, SO_2, NO_x, particulates.
- Charges scaled to environmental damages per ton (e.g., mortality risk).
- More work is needed on damage assessment.

Transportation sector

- Include congestion, accident, and road damage in fuel taxes.

- Longer term—per mile tolls (e.g., congestion fees, truck tolls varying with axle weight).

Fiscal Case for Electricity/Vehicle taxes

- With fuels appropriately taxed—no environmental justification for taxes on electricity consumption and vehicles.

- But some taxation may be appropriate on fiscal grounds (e.g., if personal income taxes difficult to enforce).

Fossil fuels and electricity often subsidized (tax expenditures, p<MC, etc)—need a reform strategy.

1. Emphasize large fiscal cost

- Developed countries: $45-75 billion a year (OECD). Developing countries > $550 billion (IEA).

- Consumer subsidies for petroleum alone were $250 billion in 2010 (IMF).

Pass through of oil price increases 2008-2011

	Gasoline	Diesel	Kerosene
Passthrough (in percent)			
All countries:			
Advanced	133	124	...
Developing	36	50	17
Emerging	85	71	0
Number of countries			
Total	164	162	44
Passthrough less than 1	116	99	40
Passthrough less than 0.75	99	85	36
Passthrough less than 0.5	79	68	32

2. Most benefits accrue to high income groups

Distribution of Fuel Subsidies Across Income Groups

	Consumption Quintiles					
	Bottom	2	3	4	Top	All households
Total Impact	7.1	11.4	16.2	22.5	42.8	100.0
Total Direct Impact	7.1	10.7	14.0	19.9	47.6	100.0
Gasoline	3.0	5.7	9.7	19.4	61.3	100.0
Kerosene	19.0	19.7	20.6	20.1	20.6	100.0
LPG	3.8	7.6	12.6	20.8	53.8	100.0
Indirect Impact	7.3	11.7	16.3	22.6	42.0	100.0

Source: Arze del Granado and Coady (2010)

3. Vulnerable households and firms

- Low-income households
  - Targeted cash transfers
- Trade-exposed energy-intensive firms
  - Incentives for energy-efficient technologies
  - Transitory production subsidies

4. Sequence and gradual price reforms

- Instant removal of subsidies that mostly benefit better off (e.g., gasoline, jet fuel).
- More gradual adjustment of other subsidies that impact vulnerable firms and low-income households (e.g., diesel, LPG, kerosene).
- Automatic pricing mechanism in interim with smoothing rule (e.g., based on moving average of past international prices).

Conclusion

- Important role for international institutions:
  - Measuring the appropriate taxation of fossil fuels to account for environmental damages
  - Monitoring effective taxes/subsidies on fuels/energy at present

End