

Carbon Mitigation Policy



Ian Parry and Eliza Lis

International Monetary Fund

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Views are authors' alone

Outline (from economist's perspective)

Rationale carbon pricing

Role of other policies

Carbon pricing is the most effective policy

Behavioral response	Carbon pricing
Fuel switching coal to natural gas	✓
Expanding renewables	✓
Expanding other zero-carbon fuels	✓
Reducing electricity demand	✓
Improving vehicle fuel economy	✓
Reducing driving	✓
Reducing heating fuels	✓

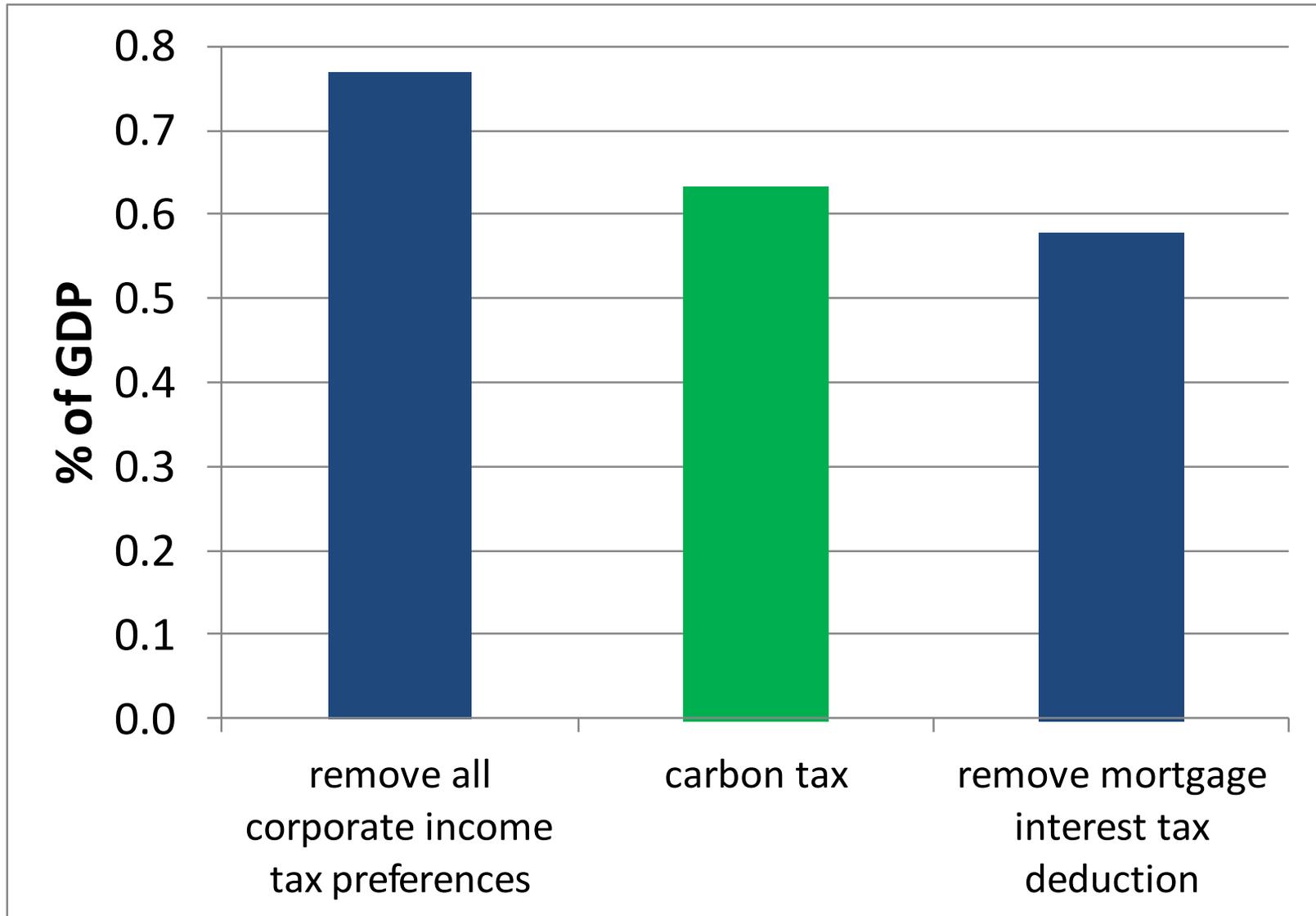
Regulatory policies are less effective

Behavioral response	Regulatory policies		
	Vehicle fuel economy	Renewable energy	CO ₂ per kWh standard
Fuel switching coal to natural gas			✓
Expanding renewables		✓	✓
Expanding other zero-carbon fuels			✓
Reducing electricity demand			
Improving vehicle fuel economy	✓		
Reducing driving			
Reducing heating fuels			

Targeting the right base: electricity tax

Behavioral response	Electricity tax
Fuel switching coal to natural gas	
Expanding renewables	
Expanding other zero-carbon fuels	
Reducing electricity demand	✓
Improving vehicle fuel economy	
Reducing driving	
Reducing heating fuels	

Revenue from deficit reduction options (US)



But fiscal dividend is not a reason to set higher tax rates

- ❑ carbon prices should be set to reflect environmental damages, with broader revenue needs from broader instruments (e.g., VAT, personal income taxes).

Carbon Taxes vs. ETS

Comprehensively covering emissions



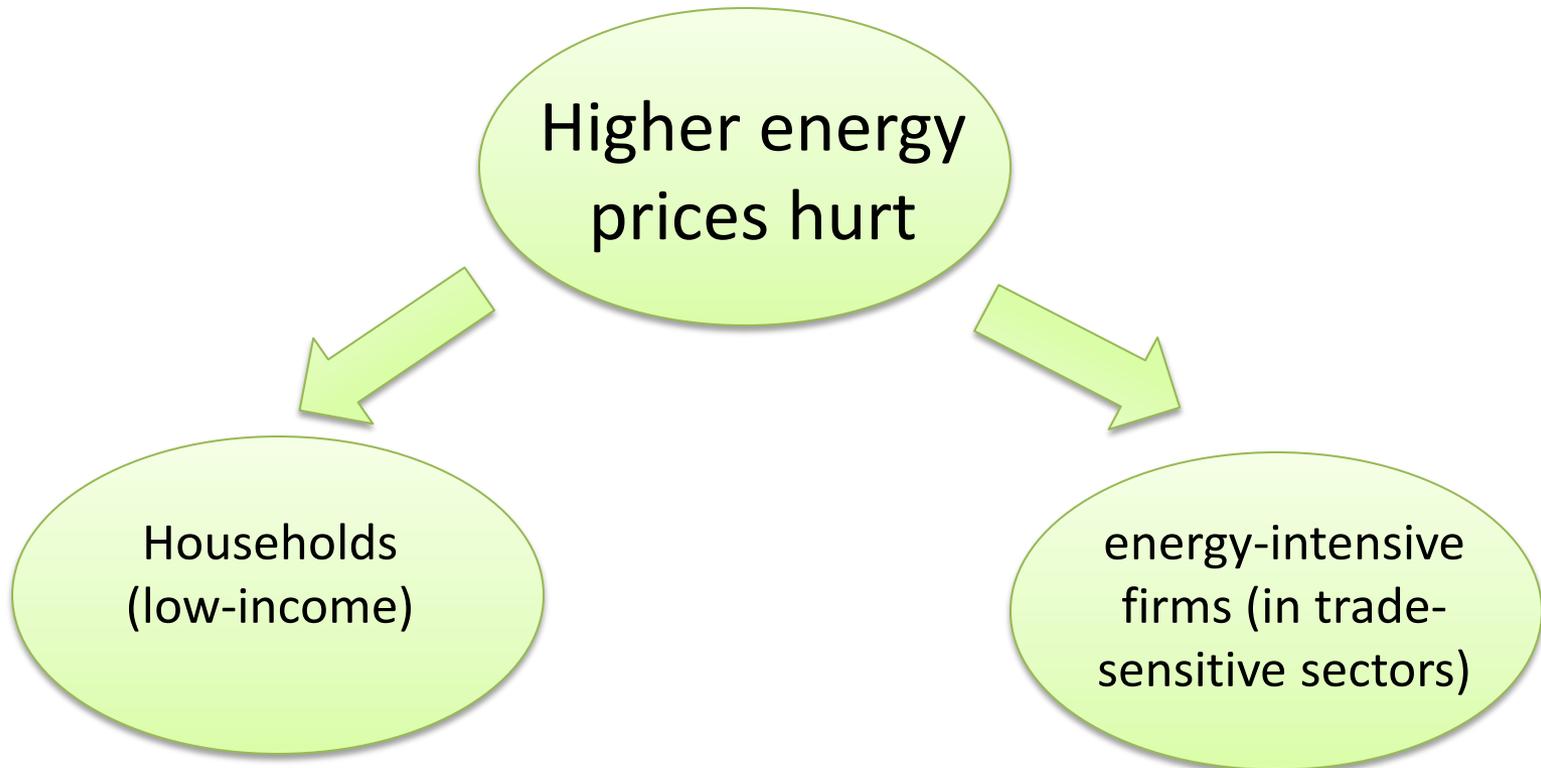
Important to get the design details right



Exploiting the fiscal dividend

Establishing a significant, credible and rising price trajectory

Obstacles to carbon pricing



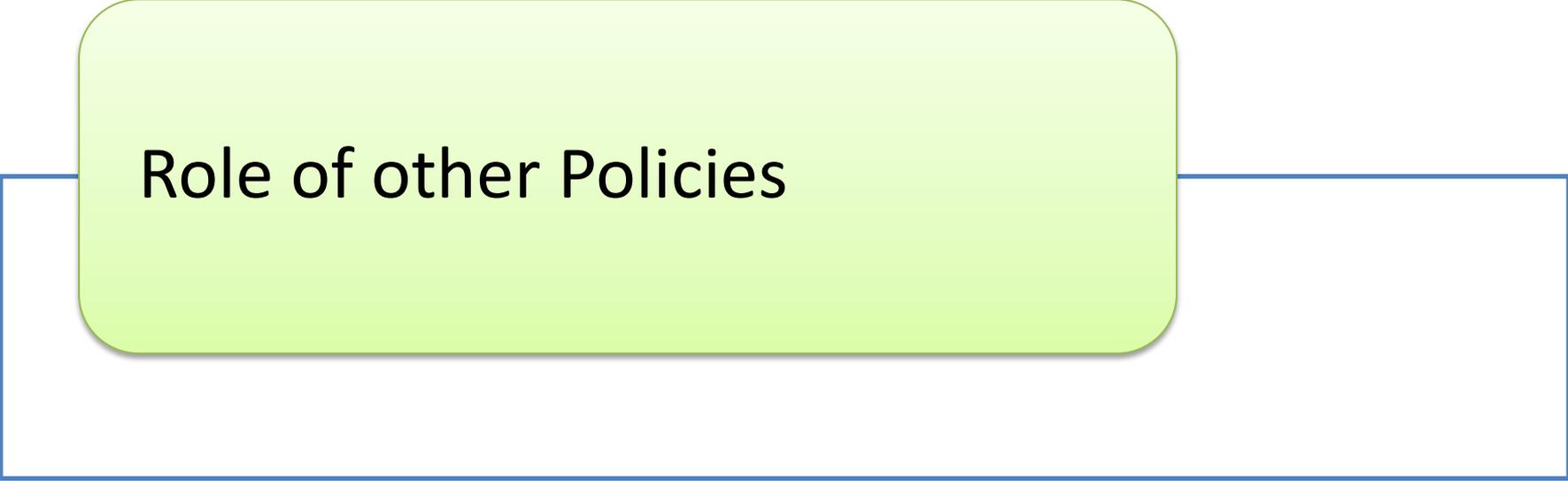
Households

- ❑ Possibilities for scaling back other energy taxes
--e.g., excise taxes on electricity consumption, vehicle sales
- ❑ Inefficient to hold down energy prices
--most benefits leak to higher income groups
- ❑ Targeted measures better, e.g.,
--targeted tax cuts (Australia), cash transfers

Firms

Competitiveness impacts trickier, but...

- ❑ Use some revenues for general reduction in corporate taxes
- ❑ Provide transitory support for vulnerable firms
- ❑ Border tax adjustments
- ❑ Ideally, major trading partners would price carbon together



Role of other Policies

Other policies may not be needed—*on climate grounds*

- ❑ Carbon pricing strikes right (cost-effective)
balance between mitigation options
- ❑ Combining with another policy may increase total costs for a given emissions reduction

Other policies can have a role

- ❑ If a high enough carbon price is not feasible
- ❑ If obstacles prevent sufficient investment in cleaner technologies
- ❑ But other policies should be carefully designed

Ideally regulatory policies should...

- ❑ Target broad set of mitigation opportunities
 - CO₂ per kWh standard more effective than renewables

- ❑ Include credit trading provisions
 - to lower burdens on firms

Ideally regulatory policies should...

- ❑ Include price ceilings to contain costs
 - harmonized across different regulations
- ❑ Technology deployment—subsidies may be preferable to mandates

Policy overlaps

- With ETS, other policies

- do not affect emissions

- lower revenues by lowering the emissions price

- With carbon taxes, other policies

- reduce emissions

- reduce revenues, but to a much lesser extent

Tax-subsidy variants of regulations

□ For example

- taxes/subsidies on vehicles in proportion to the difference between CO_2/km and average
- taxes/subsidies on generators in proportion to difference between CO_2/kWh and average

□ These policies

- handle uncertainty over mitigation costs
- provide ongoing incentives to reduce emissions
- cost effective because all firms face same reward for reducing CO_2

Conclusion

- ❑ Other policies have role to play, but carbon pricing needs to be the centerpiece.
- ❑ Getting the design details right (for all policies) important
 - For environmental, economic, and fiscal reasons
 - Enhance prospects that policy sustained and strengthened over time