Interactions of Carbon Pricing Instruments

Dirk Heine Senior Economist EFI Chief Economist Office

Most countries have layers of several carbon prices

- Most countries have fuel taxes; many countries have commodity taxes
- Many have fuel subsidies
- Many have negative carbon price through reduced VAT rates, and deductions from CIT and PIT
- In most countries, there are negative carbon prices from the tariff system
- Increasingly countries have feebate systems or tradable performance standards in specific industries
- Central banks, e.g. in China, are starting implicit forms of carbon pricing in their asset purchase programs
- \rightarrow First best approach to aim for one unified price signal, but that is not happening anywhere yet.
- → Essential to at least coordinate these instruments. Often not happening. Only creates image of climate action. At least coordinate with fuel and commodity taxes, which are the main form of carbon pricing in most cases.

Some sectors need a deeper carbon price for triggering change, or are politically challenging.

- \rightarrow Traditional approach to combine carbon prices with exemptions, but very inefficient.
- \rightarrow Better to add a layer of carbon pricing with feebate systems

Better to aim for full coverage than multiple systems

Carbon pricing often does not use existing pricing systems which then co-exist and which are not coordinated with carbon pricing. Especially fuel/commodity tax/subsidy systems.

Explicit carbon pricing is often introduced with small coverage, which creates further distortions. Better to build on existing system, upstream, and aim for full coverage with unified price signal.

→ It is not that hard to convert an existing fuel/commodity tax/subsidy into a carbon price. In most cases there is no need for new systems.

Achieving a more salient, stable price signal



Instruments with more stable rates (fuel/carbon/commodity taxes/subsidies and feebates) can complement (or substitute) systems with unstable rates to ensure the needed price stability for long-term investments

Avoiding to unnecessarily have multiple instruments can help create a clearer price signal.
 → No point in creating carbon taxes separate from fuel/commodity taxes/subsidies. Undermines salience.

An ETS + any other climate policy requires a third policy



Through the waterbed effect, ETS cancel out other climate policies. Managing that requires a carbon price floor. That can be a reserve, but this is not working well in the EU. Better to complement with a tax/fee.

Countries have often adopted multiple pricing instruments

There are various carbon pricing designs...

Implicit carbon pricing

- Fuel and commodity taxes / subsidies: implicitly pricing carbon-intensive products → all countries
- **Tradeable performance standards:** introducing trading into existing environmental regulations
- Shadow carbon pricing: private entities accounting for social costs, portfolio construction and stress-testing
 Explicit carbon pricing
- Carbon taxes: taxing emissions directly, or explicitly varying fuel/commodity taxes by carbon content
 → 32 jurisdictions
- Emissions Trading Systems: fixing total emissions through tradeable emissions permits, incl. with offsets
 → 28 markets, often covering several jurisdictions
- Feebates (fee & rebate): price carbon and rebate the revenues back to the industry per unit of output

... accommodating different country priorities

- **Priority on revenues:** taxes, auctioned ETS permits
- **Priority on industrial policy:** feebates, tradeable performance standards
- **Priority on reusing existing systems:** taxes, tradeable performance standards
- Priority on simple governance: carbon taxes administratively simple; politically difficult – ETS reverse
- **Priority on cross-sector/international transfers:** ETS or carbon tax with policy crediting or traded offsets
- Combining carbon price with other mitigation instruments: Taxes (with their fixed price) have simple, positive interaction effects with green bonds, public investments, sectoral regulations. ETS require managing price reductions caused by other mitigation instruments.