

Mexico's Carbon Tax

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The rationale for environmental taxes

- Choice of instruments: Environmental taxes (Prices) vs Cap&Trade (Quantities)

Taxes	Cap & Trade
Higher certainty on costs , higher uncertainty on outcomes	Higher uncertainty on costs , higher certainty on outcomes
Collection is easier as it can rely on existing capacities and institutions	Developing deep and liquid markets is a challenge
General application	Issues of initial, and subsequent, allocations

- In practice, environmental taxes seem to be the most attractive choice for most emerging markets.

The rationale for environmental taxes.

1. Strategic complement for environmental policy.
 2. *Green* revenue (better to tax bads than to tax goods)
- Policy choice of instruments: correcting prices
 - Prices (environmental taxes) give certainty to **costs**, **outcomes** depend on firms adoption of technology, substitutes, price elasticities..
 - Decentralized incentives: **wider reaching** than large emitters' regulation or markets, plus lower implementation costs.
 - Fiscal policy: raise revenue with **minimum welfare loss**.
 - Ramsey rule: Low elasticity goods and services.
 - Double dividend: Reduce negative externalities, and less DWL in others.

The Carbon Tax in Mexico

- Part of a broad fiscal reform that was sent to Congress in 2013:
 - A fixed amount per ton of CO₂ content, for all fossil fuels.
 - The tax was set at US\$ 5.7 per ton of CO₂ (average of most relevant carbon markets: EU-ETS, California, New Zealand).
 - Rates are adjusted annually for general inflation.

The Carbon Tax in Mexico

- Tax administration would be straightforward:
 - The carbon tax is paid at the production or import stages and can be credited, except for the final sale (similar mechanics to a VAT).
 - Collection and auditing is done by the revenue collection agency (SAT), on the same terms as other excise taxes.



The Carbon Tax in Mexico

- Well received in Congress, it was approved with some changes:
 - Lower average carbon pricing (US\$3.7 per ton of CO₂).
 - Natural gas was taxed at zero. Argument: cleanest fossil fuel.
 - Only coal used as fuel is subject to the tax.
 - The tax can be paid with internationally-recognized certificates of emission reductions, at market values.
- To comply with international aviation treaties, jet fuel is also taxed at zero (through Executive decree).

Carbon tax's performance in Mexico

Fossil fuel	Impuesto (IEPS carbono)				
	2014 MX cents per unidad	US\$ per Ton CO ₂	2015 MX per unit	US\$ per Ton CO ₂	Revenue 2014+2015 (US\$ million*)
Gasolinas	10.4 per liter	3.44	10.8 per liter	3.00	532.9
Diesel	12.6 per liter	3.56	13.1 per liter	3.11	321.7
Natural Gas	0.0 per m ³	0.0	0.0 per m ³	0.0	0.0
LPG	5.9 - 7.7 per liter	3.01	6.1 - 8.0 per liter	2.66	111.3
Aviation fuel	(12.4 per liter)	--	(12.9 per liter)	--	0.0
Fuel oil	13.5 per liter	3.57	14.0 per liter	3.12	103.4
Cokes	15.6 per Kg	1.09	16.2 per kg	1.01	13.8
Coal	23.9 per Kg	1.11	28.7 per kg	1.03	39.5
Total (+otros)					1,178.0

*

*Average exchange rate= 14.58

Additional Considerations

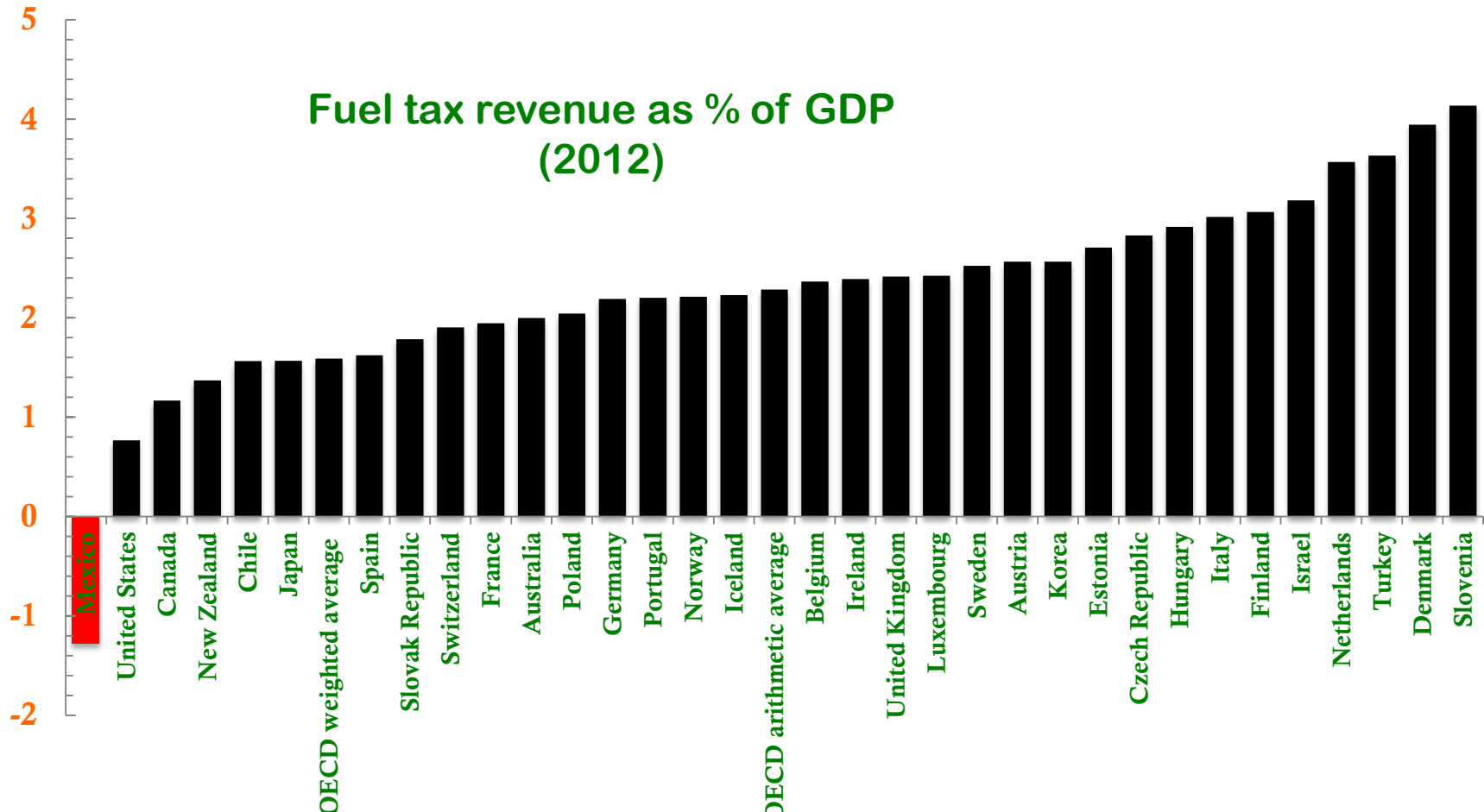
- Support from domestic think tanks and NGOs was important in media and policy discussions.
- Build on previous success. Mexican Congress had approved its Climate Change Law in 2012, where carbon taxes were mentioned as potential instruments.
- Having the “greenest” option (natural gas) taxed at zero increases political acceptance (similar to the tax for pesticides, part of the same bill).
- Neighbors matter: lower fuel taxes in some neighboring countries reduced maneuvering room.

Effect of Carbon taxes

- Counterfactual.
 - Previous price level, subsidies level, percentage?
 - Price elasticity. Gasoline: -0.8, Diesel: -0.35, LPG:-0.22
 - Increase in price 1.3%, reduction of 1% emissions.
 - Aprox 1.8 million tons CO₂ per year.
- Cross-price elasticities:
 - Renewables & natural gas vs fuel oil and coal
 - Logistics, EEcapital, Biofuels vs gasolines & diesel.
 - Requires measurement. Double effect?

Fossil fuel subsidies

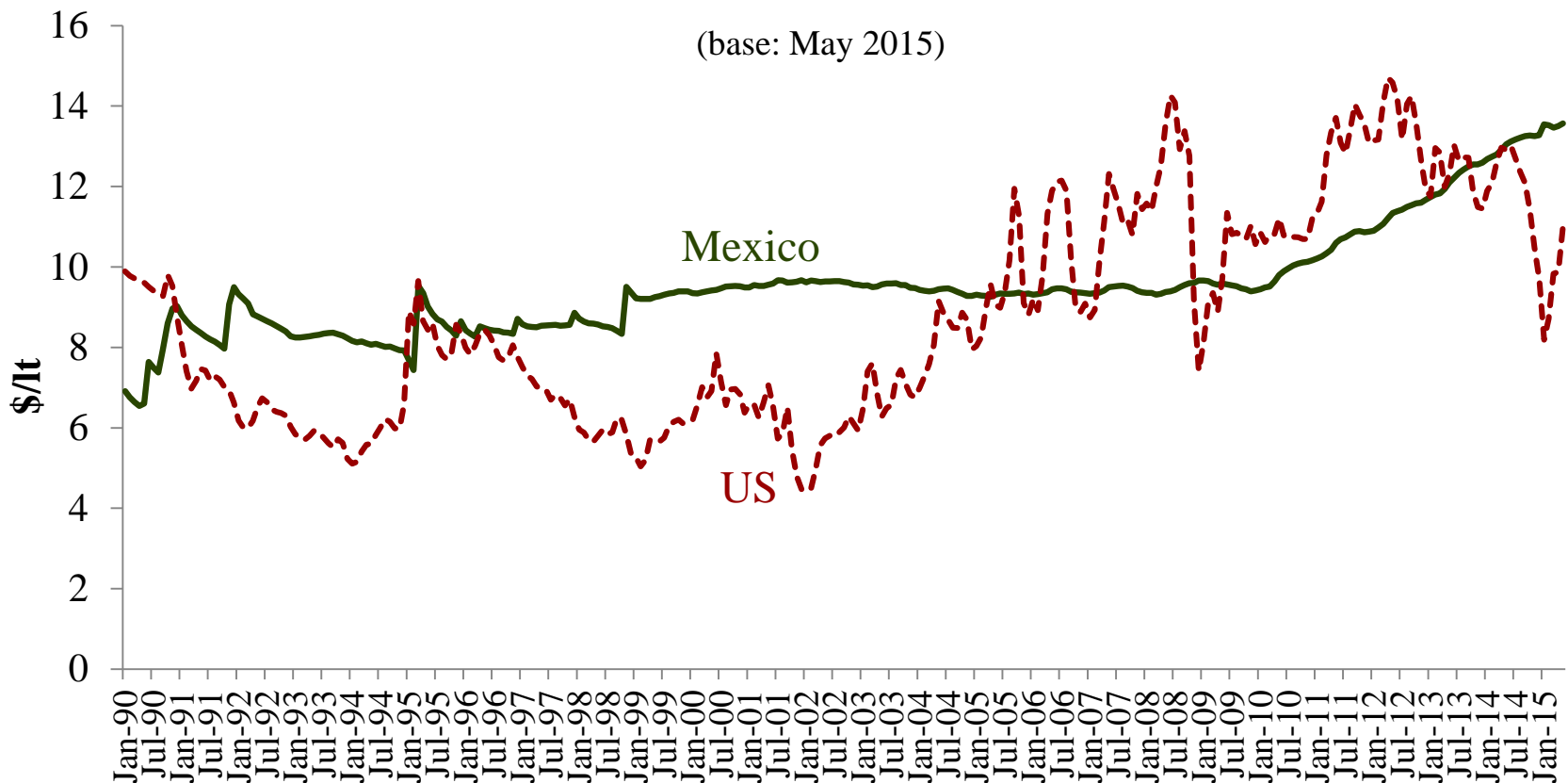
- Mexico, fossil fuel subsidies 1% of GDP. Not OECD trend.
- Pattern similar to Indonesia, Iran, Nigeria, not quite Venezuela.
- G20 commitment.



Fossil fuel subsidies phase-out

- Slow and steady real price increases allowed us to reduce fossil-fuel subsidies, even before the recent fall in oil prices.
- From subsidies 1% of GDP, to taxes of 1% of GDP in 6 years.
- Currently diesel & gasolines tax > US\$75 per ton of CO₂

Gasoline real prices in Mexico and the US, 1990 – 2015



Mexico's carbon tax 2016 challenges: Develop links with international carbon markets.

- Possibility of **paying in value** of CERs; government as aggregator.
- **Heterogeneous linkages** to carbon markets.
- From mexican consumers/firms to international differentiated responsibility players.
- **Not** a budget allocation.
- Double effect: price signal and whoever purchases de additional reductions. Not double counted.
- **Incentive?** Salience, visibility. Empirical. Experience and development.

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