



Environmental Tax Reform in Europe
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ETR: Effects on Competitiveness

Comments

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Constraints to unilateral environmental taxes

- In recent years environmental taxation has gained a large consensus, but the practical achievements have been tiny
- The reason lies in the fear that any new levy will increase production costs, reducing external competitiveness of the domestic firms
- Furthermore, if a country adopts unilaterally environmental taxes a leakage could follow, i.e. a delocalisation of production towards countries with less constraining environmental rules, or a widening of free riding, especially in the case of protection of global commons



The role of pricing power

- This research is the first that addresses the ex-post effects of ETR on competitiveness with an in-depth analysis
- Where competitiveness is the issue at hand the main focus is on the manufacturing sector
- If manufacturing industries enjoy an effective pricing power in the market they are able to pass on – at least in part - their costs increase
- One must be careful before assuming that any increase in ET will lead to a loss of market shares for affected industries



What happens to sectoral competitiveness after an ETR?

- For the period 1990-2002 no general sign of loss of competitiveness has been identified
- While there were signs of loss of competitiveness for 13 sectors, competitiveness seems to have improved in 9 sectors
- The remaining 34 (of 56) sectors display relatively stable performance
- If it seems difficult to identify a general loss of competitiveness as a result of ETR, it emerges that for some sectors there is a problem



The Porter's Hypothesis

- As tax burden increases, productivity improvements in the use of energy could be drawn on
- Unit energy costs as a share of value added are expected first to increase in response to a tax increase and then level off
- Porter's hypothesis is that these productivity improvements will lead to innovation of processes and products and to gains in competitiveness in the longer run



The impact on costs of an ETR

- The impact of a 1 per cent increase in energy taxes is just a 0.03 increase in unit energy costs (much less than a similar increase in energy prices that shows a long-run elasticity of 0.77)
- Hence, only negligible impacts on economic performance follow from an ETR
- According to this research in the seven European ETR countries a 10 per cent increase in energy taxes results in a 0.3 increase in unit energy costs and a 0.023 per cent increase in unit labour costs



The overall economic impact of an ETR

- The two impacts together amount to a mere 0.04 per cent increase in unit costs
- Considering the potential Porter effects, it has appeared that these increases stimulated demand-related innovation which more than offset the negative impact of cost increases on output
- For 56 manufacturing sectors, on average a 10 per cent cost increases in energy taxes is seen to have led to small increases in gross value-added of some 0.23 per cent
- Inflationary effects from carbon-energy taxes – in a revenue-neutral environment – are not confirmed and this suggests the possibility of reaping a small double-dividend from ETR



The impact on energy-intensive sectors

- Under the present system of carbon-energy taxation considerable exemptions have been allowed to energy-intensive industries in Europe
- Short-run competitiveness concerns need to be balanced by a more long-term view on gains from improved energy productivity induced by the economic incentives posed by carbon-energy taxes
- When the value of energy productivity improvements induced by the tax is offset against the tax bill, for less energy-intensive sectors as well a net gain from the ETR appears
- But such gains are not apparent for the conventional energy intensive-sectors – cement and ferrous and non-ferrous metals



Some important conclusions of the research

- "Even revenue-neutral environmental tax reforms impose a net burden on energy-intensive industries, as their labour forces is too small to allow full compensation of carbon-energy taxation via reduced labour costs"
- "Because carbon emissions tend to be concentrated in certain energy-intensive industries, a focus on sectoral competitiveness is required"
- "Taking into account exemptions, the effective carbon-energy tax rate for energy-intensive industries is at present closer to 1-2 Eur/t CO₂ for countries with environmental tax reform"



Are border tax adjustments a feasible alternative?

- A border tax adjustment implies that in the country imposing the carbon-energy tax all imports are levied with a custom duty corresponding to the carbon-energy content, while all the exports get a refund on a similar basis
- In the US when in 1993 Clinton's Btu tax proposal was considered in the House of Representatives, it included an "imputed Btu tax on imported products identified by the Treasury Department as having direct energy inputs that would have been taxed if produced in the United States in excess of 2% of value of the final products"
- The tax on toxic chemicals treats imports in a similar fashion. The tax rate on imported products that embody 50 per cent or more of taxable chemicals is set equal to the tax that would have been collected if the taxable chemicals used in production had been sold in the US



The limits of BTA

- They are not easy to administer and it is difficult to calculate the costs hitting domestic producers following the implementation of carbon-energy taxes since BTA used to offset cost disadvantages imposed on domestic producers should reflect added production costs not only occurring directly, but also indirectly
- Where the environmental tax is applied to an intermediate good, but it is the final good that is imported, the import tax on the final good should equal the level of the environmental tax times the extent to which the intermediate good enters the cost function of the domestic firm
- As noted by the 2006 Stern Report, unilateral trade barriers “are clearly second best to implementing a similar carbon price across the global economy” through international agreements; but could be used as a stick to reach a worldwide consensus



Are BTA compatible with WTO rules?

- According to GATT Article II:2(a) Contracting Parties are not prevented “from imposing at any time on the importation of any product...a charge equivalent to an internal tax...in respect of the like domestic product or in respect of an article from which the imported product has been manufactured or produced in whole or in part”. Such “article” could be interpreted as including the energy (and resulting carbon) used to produce the product
- It remains unclear where a tax on inputs which are not physically incorporated into the final product – such as a tax on carbon content of the steel imported – can be adjusted at the border



Previous (WTO compatible) cases of BTAs

- A 1987 GATT panel report in the US-Superfund dispute did permit the US to impose a domestic tax on certain chemicals also on imports that had used the same chemicals “as materials in the manufacture or production” of these imports
- The US introduced a tax on ozone depleting chemicals and applied this tax also to imports of such chemicals or products containing or produced with such chemicals. This tax was not questioned even if this tax on ozone depleting chemicals is process-related, not related to the physical characteristics of the final imported product



Policy reasons for allowing BTA

- As the very reason for the tax is to make the carbon-intensive products more expensive, the tax should shift forward to consumers so as to give an incentive to both producers and consumers to limit the use of carbon-intensive products and to shift to greener energy
- The tax changes the terms of competition and to ensure trade neutrality the tax of the country of consumption should apply (destination principle: exports get a rebate, imports get taxed); hence, border tax adjustment should be permitted so that all products in a given market compete on the same competitive terms
- Under a carbon tax, the link between the tax and the products concerned – say, steel or cement – appears to be tight enough so as to allow adjustment



An alternative to border tax adjustments

- In this research it is suggested that the legal and economic difficulties related to WTO rules could be avoided if emerging industrialising countries were to impose a carbon-energy tax on their exports to the abating countries
- Such arrangement could help reduce concerns about competitiveness while generating a significant revenue flow to developing countries
- This implies that all the countries agree to internalise the external costs of energy uses, but does not offer a viable solution if unilateral tax measures have to be adopted



The economic impact of BTAs (1)

- In a previous paper we have tried a computable general equilibrium assessment of border tax adjustments and other compensatory measures
- Without any compensation a substantive reduction in CO₂ emissions costs a lot from an economic point of view
- A comparison is then implemented between two different scenarios: in the first one there is an equal-yields decrease in social security contributions; in the second one there is an equal-yield border tax adjustment. This means that a reduction in labour taxes is allowed to exactly compensate the higher tax revenue accruing to the government from two sources: higher energy taxes and the border tax adjustment



The economic impact of BTAs (2)

- In the first scenario the extra government revenue is actually used to reduce distortionary taxes, but this is not enough to offset the loss of competitiveness domestic firms suffer vis-à-vis their foreign counterparts
- The negative effects on employment prompted by the collapse of energy-intensive and energy domestic production more than offset the incentives to labour hiring coming from labour taxes' decrease
- In the border tax adjustments scenario, the positive incentive given to the domestic production is enough to reverse the result and produce a double dividend



The market-access argument against BTA

- The newly-industrialised countries that currently have very low per capita emissions levels – that are expected to rise sharply in the following years - strongly reject the use of climate as a non-tariff barrier
- India's new environment Minister hit out loudly at US climate change legislation that would allow import tariffs to be imposed on goods from countries not taking sufficient steps to control carbon emissions
- As it happened in the past years within the Trade and Environment Committee in WTO, developing countries are scared that the rich world uses the BTAs as a protectionist device
- But the guarantee of a fair market-access should be balanced with the provision of a level playing field: BTAs should not be employed to discriminate against foreign products. Their goal is to avoid loss of competitiveness if some countries do not accept to curb CO₂ emissions in the framework of a global agreement