Towards a unified global tax on carbon

Antoine d'Autume, Katheline Schubert and Cees Withagen

For G-MonD, an article by **Nicholas Bray**

THE MOST EFFECTIVE WAY TO COMBAT GLOBAL WARMING

Now that the world's governments have agreed in Durban to negotiate a comprehensive agreement by 2015 on ways to limit greenhouse gas emissions, **it's time to review the mechanisms that could make such an agreement work**. A number of instruments have already been tested at national or regional level, including carbon taxes, cap-and-trade systems and emission reduction credits.

All have their strengths and weaknesses, but arguably the simplest mechanism for reducing emissions at a global level would be a global tax on carbon. Such a proposal raises a number of questions, however, including whether the tax should be set at the same level for all nations. In a world marked by severe economic inequalities, developing countries need to expand their economic output, with inevitable consequences in terms of increased emissions of greenhouse gases.

Should these countries be penalized by a tax on carbon set at the same level for them as for developed countries? **Finding a way to address this evident inequity is one of the major hurdles still to be overcome in international climate change negotiations**.

THE GENERAL PRINCIPLES OF THE RECOMMENDED SCENARIO

In a study of the role of tax policy as a means of combating climate change, researchers at the Paris School of Economics and the VU University Amsterdam have concluded that a uniform tax on carbon would indeed be the most effective solution. According to the recommended scenario that emerges from their analysis, **such a global tax could be coupled with existing or additional national taxes aimed at addressing local environmental and economic objectives**.

On top of this, however, they argue that developed countries should transfer some of their revenues from the global levy to developing countries, as the price for obliging these countries to tax their citizens and companies at the same rate as those in the developed world.

"The best solution," says Katheline Schubert, a professor of economics at the University of Paris 1 Panthéon-Sorbonne and the Paris School of Economics who was one of the three participants in the study along with Prof. Antoine d'Autume, also of Paris 1 and PSE, and Prof. Cees Withagen of VU University Amsterdam, "is that the carbon tax should be identical for all countries, always assuming that **this is accompanied by cash transfers from the richer to the poorer nations**."

Such a conclusion obviously prejudges the outcome of the tough bargaining between governments that lies ahead. But **a first step towards a possible agreement on such transfers was already achieved at climate talks in Cancun**, Mexico, in December 2010. There, developed countries agreed to transfer $100 billion annually by 2020 to a Green Climate Fund to help developing nations adapt to climate change and develop stable and healthy low-carbon economies. In light of this, Ms. Schubert and her colleagues maintain, the notion of using a global tax on carbon to finance cash transfers to developing countries may not be totally Utopian.

A UNIFIED CARBON TAX MODEL

The economic justification for their recommendation is based on an evaluation backed by mathematical analysis of the range of possible alternatives for a so-called Pigovian tax (named after the originator of the concept, University of Cambridge economist Arthur Cecil Pigou) to compensate for the costs to the world community resulting from burning fossil fuels. **One of the keys to their approach is the recognition of the role already played by widely varying existing national taxes** on fossil fuels in serving clearly defined domestic purposes, including curbing local pollution.

Under their scenario, the introduction of a global carbon tax would not require any change in these arrangements, as the global tax would come on top of existing domestic taxes. While the latter would be targeted at addressing domestic pollution issues, the global tax would be specifically designed to counter the global pollution that is causing climate change.

A uniform tax on carbon reflecting the true social cost of emissions – or, failing this, a mechanism setting a world carbon price through emission permits – would be the best incentive to curb all the negative externalities associated with fossil fuel consumption and global warming, the three researchers assert in an as yet unpublished paper.

"Uniqueness of the price implies the equalization of marginal abatement costs and therefore minimizes the worldwide cost of abatement of emissions. The redistribution of tax receipts or the initial allocation of permits offers then the possibility to accompany carbon taxation with an international redistribution scheme and to share equitably the burden of taxation between countries."

Fixing the level of national taxes on fossil fuels would be up to national governments, in the absence of a world regulatory body empowered to make such decisions. Ideally, however, **they would fully cover the costs of achieving whatever is required in terms of less pollution, less traffic congestion or other related public benefit**, as well as possibly contributing to the overall public exchequer.

The global tax on carbon, meanwhile, would need to be set at a level corresponding to the marginal cost imposed on the global environment of each additional ton of carbon released into the atmosphere.

In combination, the two sets of taxes would internalize the externalities -- to use economists' jargon -- of both local and global pollution. Revenues from the global carbon tax could then be redistributed across countries taking account of different levels of development, in order to ensure a fair sharing of the effort to reduce global greenhouse gas emissions.

Références

Working paper CES-Centre d'conomie de la Sorbonne [2011.76] "Should the carbon price be the same in all countries ?"

Antoine d'AUTUME, Katheline SCHUBERT, Cees WITHAGEN