

A NOVEL MODEL OF GHGs EMISSION FISCALITY: A SWOT ANALYSIS

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Overview

The greenhouse gasses (GHG) emissions are strictly linked to the worldwide production and consumption system based on economic rules.

The idea of “carbon taxation” to tackle climate change is linked to the possibility of modifying market equilibrium through fiscal mechanism in order to favour the technologies with lower GHG emissions.

In the recent years, many Governments have announced their will to introduce a green tax in their fiscal system.

The basic concept is to give a price signal to the customers and, in this way, to change their choice: the production will be forced to follow these market changes. If carbon taxation is imposed on source sectors, as “production-based” method, the producer will include in the sale price the carbon tax that considers the full productive chain; the customer will buy the product that, *certeris paribus*, has a low price linked to a production with lower emission technologies (or lower carbon contents). On the other hand, if carbon taxation is imposed on consumption sectors, every product will be taxed referring to the GHG emission and to its production. In each case, the result could be the same: the goods with higher content of carbon will go out of market, causing a reduction of GHG emissions.

The European ETS, as “production-based” method, assigns emission allowances which can be perceived as an economical disturbance: its application at global level can create a penalty especially for the developing countries, hampering their growth; a limited application at regional level (e.g. only in Europe) can negatively affect the competitiveness of some industrial sectors. Furthermore, the growing importance in the last years of flux of products imported from developing countries and the related carbon content associated to this flux put in evidence the weakness of production based method.

A “consumption-based” method is neutral as regards the economy of each country and includes the control of carbon content of imported goods.

For a new model of GHG emission taxation “consumption based”, it is important to find an innovative method to calculate GHG emissions of the productive process of sold goods.

The aim of this article is to draw attention to a new taxation model offering a new proposal based on the account of carbon emission in the producing chain: the signal price of the goods should be due to the emissions directly linked to the productive process and to raw materials, products and services.

Thanks to carbon accountancy, it will be possible to identify the specific carbon emission of the goods in a simple and reliable way and inform the customers about it through the receipt.

This new tax is composed of three factors: quantity of goods, GHG emission factor, GHG emission tax rate (€/kgCO₂).

This rate could be fixed in order to obtain different results from the point of view of general tax levy: neutral (taxation balance equal to zero), additional (tax levy devoted to environmental actions support), progressive (larger tax rate for products with a larger carbon content respect benchmark values).

This rate should be periodically up-dated by a feed-back mechanism, in order to reach the pledge of GHG emission reduction.

Methods

In order to afford a first qualitative analysis of effectiveness of this instrument, a SWOT analysis has been performed. Using this technique, solutions of some critical state in the applications to different settings have been studied.

Results

The results of this preliminary qualitative analysis show that the new model of GHG emission taxation seems to offer a set of advantages compared to other methods: simple, transparent, shareable, applicable in different settings. Besides information on the carbon account, this instrument could be used to determine a scheme of taxation, similar to VAT: the Carbon Addict Tax (CAT). As indirect tax, the CAT will be transmitted into the productive chain up to the end-users that will see all information about CAT on their receipt or invoice

The possibility of a gradual application to different contexts (European, multilateral, global) gives the opportunity to adjust the mechanism *in itinere* and to increase and share its merits on international levels.

Conclusion

This fiscal instrument could be applied in different settings: global, multilateral (e.g. USA, Europe, China), unilateral (e.g. European Union).

The new model needs to be studied thoroughly through the use of general equilibrium models in order to obtain a quantitative and parametric analysis of its impact on GHG emission at national, European and global level; furthermore, market studies about its effects on consumers' behavior (buyers/companies) could be important.

References

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