



MARKET BASED INSTRUMENTS – EFFECTIVE TOOLS FOR ENVIRONMENTAL STABILITY IN EUROPEAN UNION

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Abstract:

Market-based instruments (MBIs) can be particularly effective tools for dealing with the four major areas of action of the European Union 6th environmental action programme, namely: tackling climate change, preserving nature and biodiversity, protecting environment and human health, and through the sustainable use of resources and management of wastes. They do so by addressing the sources of environmental pollution most relevant to these areas such as: emissions from power stations, industry, cars and aircraft (tradable emission permits, fuel taxes); increasing waste generation by households and other actors (waste disposal taxes, taxes on packaging, incentives for recycling); emissions resulting from houses and offices (incentives for improved insulation and energy efficient heating systems); emissions resulting from agricultural activities (fertiliser and pesticide taxes).

Keywords:

MBIs, tradable permits, subsidies, environmental taxes, efficiency, polluter-pays principle

1. INTRODUCTION

1.1. Conceptual delimitations and classification of MBIs

There are a lot of definitions of economic instruments. The OECD labels instruments economic “when they affect estimates of the costs and benefits of alternative actions open to economic agents”. This definition focuses on the mechanics of the measure and points to the existence of financial incentives and freedom of response, thus creating a distinction with direct regulatory or administrative measures. Hahn points to the outcome and calls an instrument economic when it improves efficiency compared with a situation where another instrument would have been in use, or none at all. A carefully-designed administrative measure can be an economic instrument in his view. James observes: “In reality, the distinction between direct regulations and economic instruments is often blurred as any system of economic instruments usually requires appropriate legislative or regulatory backing. Wherever economic instruments have been used, ... supporting regulations have been applied”. His opinion represents a practical view, and points to the importance of policy mixes. Rather than defining market-based instruments, this paper lists the following environmental instruments as “economic”: emissions trading, environmental taxes and charges, deposit-refund systems, subsidies (including the removal of environmentally-harmful subsidies), green purchasing, and liability and compensation. In dealing with these instruments, policy mixes will not be lost from view. An important policy mix that has emerged recently is environmental tax or fiscal reform, which combines market-based environmental measures with measures in the fiscal and economic sphere.

MBIs are classified into five main categories:

1. *tradable permits* that have been designed to achieve reductions in pollution (such as emissions of CO₂) or use of resources (such as fish quotas) in the most effective way through the provision of market incentives to trade;
2. environmental taxes that have been designed to change prices and thus the behaviour of producers and consumers, as well as raise revenues;
3. environmental charges that have been designed to cover (in part or in full) the costs of environmental services and abatement measures such as waste water treatment and waste disposal;
4. environmental subsidies and incentives that have been designed to stimulate development of new technologies, to help create new markets for environmental goods and services including technologies, to encourage changes in consumer behaviour through green purchasing schemes, and to temporarily support achieving higher levels of environmental protection by companies;

5. liability and compensation schemes that aim at ensuring adequate compensation for damage resulting from activities dangerous to the environment and provide for means of prevention and reinstatement.

Experience in recent years shows that the question of 'which instrument is best' has changed to 'which mix of instruments is best', both in terms of using MBIs alongside other environmental measures such as regulations and in terms of using MBIs to meet environmental objectives in combination with economic and social objectives e.g. environmental tax reform and subsidy reform.

1.2. Guiding principles that govern MBIs

The potential qualities of market-based instruments were recognised early in the evolution of environmental policy. Following academic debate and incidental application, market-based instruments were widely recommended at the European and global level in the last two decades of the 20th century. The 5th environmental action programme (CEC, 1993) mentions market-based instruments as important tools “towards sustainability” as they “... encourage the production and use of environmentally-friendly products and processes”. Agenda 21 states “Environmental law and regulation are important but cannot alone be expected to deal with the problems of environment and development. Prices, markets and governmental fiscal and economic policies also play a complementary role in shaping attitudes and behaviour towards the environment”. The polluter-pays principle is a main guiding principle in environmental policy and is frequently invoked as the legislative justification for the broader use of market-based instruments. However, as originally formulated by OECD and adopted by the member countries, this principle only requests that “...the polluter should bear the expenses of carrying out the measures ... to ensure that the environment is in an acceptable state”. This is a narrow definition as it leaves out any damage that may remain after the necessary measures have been taken. Many use a wider interpretation, wherein the polluter should bear “the cost of pollution abatement, the costs of environment recovery and the compensation costs for victims of damages if any, due to pollution”. The EU has followed this interpretation with the recent adoption of the environmental liability directive, which has been based explicitly on the polluter-pays principle. Also in its wider interpretation, the polluter-pays principle does not request the polluter to pay for the use of the environment per se. The main guiding principle for the application of market-based instruments is the *economic principle of efficiency*. The costless use of objects that have a value for society is a market imperfection that reduces efficiency and can be corrected by “getting the prices right”. This is captured by the user-pays principle that complements the polluter-pays principle.

2. THE STUDY

2.1. Reasons for using MBIs as policy tools

The economic rationale for using market-based instruments lies in their ability to correct market-failures in a cost-effective way. Market failure refers to a situation in which markets are either entirely lacking (e.g. environmental assets having the nature of public goods) or do not sufficiently account for the “true” or social cost of economic activity. Public intervention is then justified to correct these failures and, unlike regulatory or administrative approaches, MBIs have the advantage of using market signals to address the market failures.

Whether by influencing prices (through taxation or incentives), or setting absolute quantities (emission trading), or quantities per unit of output, MBI implicitly acknowledge that firms differ from each other and therefore provide flexibility that can substantially reduce the costs of environmental improvements. MBIs are not a panacea for all problems. They need a clear regulatory framework in which to operate and will often be used in a policy mix with other instruments. But if the right instrument is chosen and appropriately designed, MBI carry certain advantages over regulatory instruments:

1. They improve price signals, by giving a value to the external costs and benefits of economic activities, so that economic actors take them into account and change their behaviour to reduce negative – and increase positive - environmental and other impacts.
2. They allow industry greater flexibility in meeting objectives and thus lower overall compliance costs.
3. They give firms an incentive, in the longer term, to pursue technological innovation to further reduce adverse impacts on the environment (“dynamic efficiency”).
4. They support employment when used in the context of environmental tax or fiscal reform.

2.2. MBIs in the EU context

The European Union is a leading force in the world in taking action on environmental sustainability and, in particular, on climate change. This has been confirmed through the adoption of the energy and climate policy package in which the EU repeated its commitment to addressing climate change internally and on an international scale, to promoting environmental sustainability, to

reducing dependence on external resources and to ensuring the competitiveness of European economies. In addition, halting loss of biodiversity, preserving natural resources that are under pressure and protecting public health also require urgent action. Without public intervention and the strong commitment of all actors, these ambitious objectives cannot be reached. The EU has increasingly favoured economic or market-based instruments (“MBI”) – such as indirect taxation, targeted subsidies or tradable emission rights – for such policy purposes because they provide a flexible and cost-effective means for reaching given policy objectives. The more intensive use of MBI has also been advocated in the EU’s 6th Environment Action Programme (6th EAP) and the renewed EU Sustainable Development Strategy as well as the renewed Lisbon Strategy for Growth and Jobs. This paper launches a discussion on advancing the use of market-based instruments in the Community. In this sense the paper fits into the framework set by the new integrated energy and climate change agenda where market-based instruments and fiscal policies in general will play a decisive role in delivering the EU’s policy objectives. The paper also explores options for a more intensive use of market-based instruments in different areas of environmental policy at both Community and national levels.

Besides their merits in helping achieving specific policy goals, the EU has used market-based instruments to avoid distortions within the internal market caused by differing approaches in individual Member States, to ensure that a similar burden falls on the same sector across the EU and to overcome potential adverse competitiveness effects within the EU. Common action also makes the EU stronger when confronting external competition from its trading partners. At the EU level, the most commonly used market-based instruments are taxes, charges and tradable permit systems. In economic terms these instruments work in similar ways. However, they also differ in notable aspects.

Firstly, quantitative systems, such as tradable permit schemes, provide more certainty as regards reaching specific policy objectives, e.g. emission limits, (subject to effective monitoring and compliance) compared to purely price-based instruments, such as taxes. Price-based instruments, in turn, provide security regarding the cost or the price of policy objective and tend to be easier to administer. Secondly, they differ when it comes to the aspect of revenue generation. Taxes (and in a more limited way charges) have increasingly been used to influence behaviour, but they also generate revenue. Tradable permit systems can generate revenue if the allowances are auctioned by public authorities. Tradable permit systems using auctioned allowances have therefore similar features to a tax (the regulatory and compliance aspects differ). Charges, on the contrary, are usually a payment in return for a clearly identified service or cost, and therefore lack the flexibility for the public budget to use such revenue.

The above features have, to an important extent, influenced the ways and areas that the EU currently uses market-based instruments at Community level, thus leading to the introduction of instruments such as the EU Emission Trading Scheme (“the EU ETS”), the Energy Taxation Directive, and, in the field of transport, the Eurovignette directive. These aspects have to be taken into account should the EU consider using market-based instruments further at EU level, in such a way as to make the best use of each of them in the most appropriate field and avoid overlaps. In principle, Community decision-making rules should not have an influential role to play in this context. Nevertheless the unanimity requirement in the tax area means that the possibility of using taxation as an instrument differs from other instruments in some respects.

3. ANALISES, DISCUSSIONS, APPROACHES AND INTERPRETATIONS

The EU is strongly committed towards ensuring environmentally sustainable development as well as promoting the Growth and Jobs agenda. An environmental tax reform (ETR) shifting the tax burden from welfare-negative taxes, (e.g. on labour), to welfare-positive taxes, (e.g. on environmentally damaging activities, such as resource use or pollution) can be a win-win option to address both environmental and employment issues. At the same time, a long term tax shift will require relatively stable revenues from the environment related tax base. ETR can also help to alleviate the possible adverse competitiveness effects of environmental taxes on specific sectors. If the action is closely co-ordinated at the Community level, these impacts can be further reduced compared to unilateral actions by Member States. Reductions in labour taxation or social-security contributions which tend to benefit lower-income households, can counterbalance any possible regressive effect from environmental taxes.

Finally, with an ageing population, which increases pressure on public expenditure, and globalisation that makes taxation of capital and labour less viable, the shift of tax burden from direct taxation towards consumption and, in particular, environmentally damaging consumption, may provide considerable benefits from a fiscal perspective. As well as discouraging environmentally damaging behaviour through taxation, Member States may also use fiscal incentives such as subsidies

to encourage green behaviour, facilitate innovation, research and development, provided that public resources are first generated in some other way (e.g. by taxing environmentally damaging behaviour) or that spending is reduced (e.g. by removing environmentally harmful subsidies). This approach is particularly relevant in the context of the ambitious objectives of the climate and energy agenda of the EU, notably to achieve the reduction of greenhouse gas emissions by at least 20% by 2020, the binding target of 20% renewables of energy production by 2020, and the target of 10% biofuels.

At the EU level it is considered that it is for Member States to find the right balance between incentives and disincentives in their tax systems, while respecting overall fiscal constraints and fiscal neutrality. The Commission would like, however, Community tax policy to facilitate this balance. There may be scope to improve the structured exchange of information between Member States on their best practices in the area of MBI in general and environmental tax reform in particular. While specialised structures exist in some areas there is no horizontal forum available. In this respect, one option could be the establishment of an MBI Forum.

4. CONCLUSIONS

EU believes that alongside regulation and other instruments, there should be increased use of MBI, including trading schemes, taxation measures and subsidies, as a cost-effective tool to achieve environmental and other policy objectives, both at Community and national levels. This would be in keeping with the Sustainable Development, Lisbon and Better Regulation Agendas.

The new energy and climate policy agreed in Europe implies nothing less than a new industrial revolution over the next 10 to 15 years. It will require a substantial change in the way Europe deals with energy with the final aim of achieving a real low carbon economy. Several policy areas - at the national as well as at the European level - will have to contribute and to be adapted in order to lead to this ambitious objective. Market-based instruments will be important parts of the efforts to achieve real change through changing incentives for businesses and consumers. On top of this important long term role, these market-based instruments also carry important advantages for fiscal, other environmental and allocative purposes addressed in this paper.

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