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Assessing the Impact and Effectiveness of Environmental Taxes

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Abstract

In this article we defined and developed a method of evaluating and adapting of the impact and the efficiency of environmental taxes, taking in account the budgetary criteria in the aspect of sufficiency terms of stability. This method was applied to the main environmental taxes having as its main objective: efficient taxes in terms of visibility and operating costs, efficient allocation of resources and equity application on vertical and horizontal with a focus on achieving the correct contributions. Behind research found that the evolution method cyclical phases, characterized by an evolution of implementation, self-evaluation and improvement of the main environmental taxes in order to ensure a superior quality in their application and to mitigate environmental impacts. Environmental taxes are an important field of future Fiscality for the countries of the world, having as the main objective environmental protection as well as a stimulating healthy economy, simultaneously rising budget for the country funds and with the economic involvement. \

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1. Introduction

Fiscal policies should reflect the current needs of our world – including environmental issues – and for that we need a new fiscal philosophy. We need a change of emphasis from labor taxation, the taxation impact of our activities have on the environment. Environmental taxes, can not only determine the price increase to their true cost resources, but also represents a way that can be collected resources to finance projects aimed directly

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combating the harmful effects of human activities on the environment. Thus, a policy of sustainable development is inconceivable in the absence of effective policies on environmental taxation.

2. Impact of Environmental Taxes

As the European Union is currently undergoing a significant evolution, the taxation system is, therefore, going through frequent structural analysis as well, in order for it to be improved and adapted to the conditions that are continuously changing so as to match the recent objectives and policies and also include new possibilities of development. The intergovernmental conference (IGC), entitled “Financial Prospects”, and the multiannual working context of the European Union led to brand new debates on the European Union’s own taxes, asking for a structural analysis of some of the pros and cons so as to give the EU the power of charging some taxes. The following criteria have been taken into account:

- The EU Budget -All the taxes are meant to bring in money which adds to the European Union budget, so as to ensure in time the existence of all the resources that are imperative in order for everything to go on well; taxes must respect the following conditions of evaluation: sufficiency -l the money coming from taxes must be sufficient for the European Union to cover its functional expenses and stability: taxes must bring stable incomes to the EU budget.
- Efficiency -This aims at the fact that these administrative expenses of the taxes should represent a reasonable part of the total income, representing a social economic advantage. Taxes must respect the following conditions of evaluation: visibility -through visibility, we understand a raise in the amount of information given to the taxpayers as far as the value of the imposed taxes and their use are concerned and reduced operating expenses. The EU taxes should be quite simple to administrate and they should also involve reduced operating expenses: this is one of the most important parts regarding the efficiency of the entire system.
- Efficient resources allocation -The European Union taxes should facilitate an efficient resources allocation, taking into account two things: ensuring a potential relaxation for the community actions and give the EU policies a hand with the domains where problems such as frontiers externality or limited coordination between the country members come across and leading to creating a harmony between some of the potentially beneficial taxes for the intern market.
- Equity -This represents a complex concept, seldom quite difficult to achieve because of its content which varies in time and depends on the policy of the powers in charge. At the horizontal level the European Union tax has to have the same impact on the taxpayers from all over the European Union. At the vertical level it also has to make a redistribution of the income in the entire structure of the society. In present, the European Union taxes collect incomes from the country members which are proportional to their economical development.

The statistics basis for the development of the environmental taxes has been imposed by Eurostat, the Directorate-General for the Environment (European Commission) and the Directorate-General for Taxation and Customs Union, OCDE, AIE, according to whom the environmental tax is based on the environmentally polluting actions. One of the first initiatives of the European Community has been the environmental protection, approved by the Council in 1993. This came as a result of taking into consideration the latest scientific progresses as far as fighting against the air pollution caused by the CFS gases was concerned. The conclusions of the paperwork concerning the Perspective of the European Transport from 2010 also pointed out the necessity of adopting a high number of political measures and of introducing the instruments that are needed in order for a process of developing a modern transportation system to take place in the next 30 years. The measures which are encouraged represent in fact, a long-term strategy. The integration of environmental taxes in EU fiscal policy as an effective control tool for a clean economy is a trend as innovative as it is needed. Development of environmental taxes in E.U. has led to a complex methodology that includes comprehensive analysis and taxes assessment. This methodology contains the following:

- environmental tax function;
- environmental tax type;
- problem solved through charge;
- effect of the tax, considering both the forecasts and the effective results;
- economic stimulus level as well as ways of coordinating;
- barriers and solutions to avoid negative effects;
- the analysis of side effects social economic
- growth of budget revenues;
- efficiency of tax in terms of visibility, operating costs and resource allocation;
- equity of the tax environment. Analysis is both horizontally and vertically taking into account real contributions effective of the environmental tax.

This methodology of analysis and evaluation of the environmental tax is based on a scoring system that provides a complete view of the importance and difficulty of applying the tax. This analysis is subjective because, in many cases, the actual statistical analysis of performance criteria and allocating score isn't available. To better understand how to apply this complex methodology based on a scoring system we will take for example the energy tax. The environmental taxes are referred to as really important taxes (including the energy, the transportation, the pollution and the resources taxes). The taxes on the CO₂ emissions are enclosed in the energy taxes, sometimes also representing a significant part of these. The VTA has been excluded from the analysis of the taxes imposed on the polluting elements; it happened the same for the rights of petrol and gases extraction. The comparisons have been made only between the taxes belonging to the national accounts systems, meaning that the government payments for treating wastewater have not been taken into account. The value of the environmental tax income should not be seen as a proof in favor of the environmental protection, but as a high rate of taxation imposed on things that harm the nature around us, no matter what the reason standing behind applying it may be. The consequence of this system affects only the environmental tax, perceiving them as a whole. The list containing the individual taxes has been made by the Directorate-General for Taxation and Customs Union. Each and every country member's list can be found in the Eurostat catalogue, which includes information about the taxation systems, also mentioning the total taxes, the work taxes, the total amount of income obtained from taxes such as the production and imports tax, the personal income tax. The work taxes are, generally speaking, defined as personal income taxes, salary taxes and social contributions of the employees, which are proportional to their income. We can notice that, although the environmental taxes have made a real progress as an instrument used for controlling the economy, the percent of their appliance in the developed economic systems shows that the green fiscal reform is still in its infancy; up till now, it does not respect all the criteria mentioned in order for us to build a trustworthy source of income for the European Union and all its country members (Table 1).

Table 1. The evaluation of the taxes in the EU according to the above-mentioned criteria

<i>Tax proposed</i>	<i>Criterion: The budget</i>			<i>Criterion: Efficiency</i>		<i>Criterion: Equity</i>		
	Suffic	Stab	Visib	Small operating costs	Efficient resources allocation	Horiz	Vert	Real Cont
Energy tax	3	3	2	3	3	3	2	2
Communication Tax	1	2	2	2	1	3	3	3
Environmental tax airlines	1	1	2	3	3	3	3	3

Source: EUROSTAT

Arguments in favor of the proposal regarding the examined criteria:

- the criterion has not been respected and too many problems have arisen;
- the criterion has been partially respected and some significant problems have arisen;
- generally speaking, the criterion has been respected, but there are some problems.

We get to notice that the energy tax is one of the most stable ones, but compared to the personal income taxes and its added value, it does not bring any significant fiscal contribution to the state, without causing it problems of equity or even triggering a negative stimulation of the economic processes.

3. Equity and the existent price and tax system

Consumers with low income and home users are the most vulnerable to environmental taxes, because they incur the largest expenditures with environmentally sensitive commodities, such as energy and water.

Pearson and Smith show that the EU Carbon-Energy tax must be regressive until compensatory measures are put into place. Methods aimed at reducing the negative effects of energy and water tax as well as for transportation in rural areas, vary and are specific to national taxing and benefit systems.

When designing environmental taxes existing pricing and tax procedures should be taken into account. Market collapse, market structure, subsidies, culture, EU regulation can facilitate the correction of environmental pressures and stimuli and neutralize the desirable effects of environmental taxes.

For goods sensitive to environmental changes the market is complex, and implies aspects other than just price. For example, for energy efficiency the market can stop functioning correctly for lack of information, or demand for short periods of time, because of tariff structure which encourages extensive production as opposed to efficiency, difficulties in accessing capital, problems between owner and renter, all of these building up to a situation where neither party makes any significant gains from responsibly managing energy making investment non-profitable.

All subsidies to intensive agriculture, fossil fuels, ground and air transport will counteract environmental taxes designed to alleviate the impact of these activities on the environment. In contradiction with its environmental impact the Aviation industry is not subject to VAT and energy tax, in most circumstances. Recent studies show the necessity of instilling these industries with a more environmentally responsible attitude, with the mention that it would be a costly debut for an eventual environmental tax.

At the level of EU, member states taxes can be incompatible with the internal markets or other existing regulations. In the European Union there exists the commission for “Environmental Cooperation”, whose purpose is that of helping member states to engage in unilateral actions in according to EU regulation Unanimity of the EU as a buffer. Article 130 of the European Union Treaty states that “provision of a fiscal nature” will be adopted by the Council “which is acting in unanimity at the proposal of the Commission” Taxes which cover costs aim at collecting funds for financing specifically environmental endeavors, and can be categorized into: taxes on usage and taxes on financing. In both cases collection from income is the principal means of action. But, taxes for cost coverage (usage) may have an incentive effect when correlated with the quantity and the quality of the service rendered.

4. Commentaries on the information available in regards to the efficiency of environmental measures

From available data, resulting from several studies, there is little in the way of concrete evidence as to the efficiency of environmental measures through “green” taxes, because of the complexity of these actions. One essential issue is that of the impossibility of evaluation of the over time effects of deregulation, as there is essentially no object of comparison. As such the answer to the question: “what would have happened had there been no tax applied?” remains to be found, which effects the process of establishing a relevant evaluation system for the measure’s efficiency. Another facet is the way the measures are adopted as part of packages which contain separate measures created to counteract past regulations and practices – defined theoretically – which makes a quantitative evaluation of a certain measure, part of a package, difficult.

Comparing the past evolutionary trends with the results from a period affected by an observed tax, does not yield conclusive results because of the way each nation evolves as under the influence of ever changing economic factors.

Administrative costs when discussing implementation of measures are dependent on a myriad of factors and are generally impossible to compare, simply put; once a measure is decided on it must be seen through to the end. If an environmental tax could be easily implemented along with other taxes already exercised, such as excise duties, this serves as means to reduce administrative costs.

It is important to take into account these costs when evaluating the full value deriving from the specific action (and those of techno-scientific monitoring) not just those administered by the state. What matters is the cost to the final customer, which translates into the impact of the used instrument. As a general rule it must be underlined that administrative costs generated by environmental taxes are generally smaller than those generated by other economic instruments

Environmental ministries have the habit of imposing regulations which are then brought to the attention of those decisional bodies that have to be consulted. These regulations are aimed at noticeably reducing pollution, at a cost which is difficult to estimate compared to taxes. Environmental taxes require the implication of other decisional bodies such as the Ministry of Finance, the authority on tax collection, in order to establish a solution to issues such as the tax rate, the tax base, income redistribution and market collapse.

Cultural barriers to taxation also play an important role, as the implementation of any tax requires extensive consultation, education, experimentation and political support. It appears that environmental taxes work best when included as part of a package of measures which addresses the ensemble of problems such as: market collapse, equity, competitiveness and labor force. It is clear that the success of environmental taxes is highly reliant on political support. Also, the entire problematic of these taxes is of a controversial nature, but it is becoming one of great interest and is gaining more and more support within the European Union, where environmental taxes are substantial and increasing in scope. Moreover, political parties and European institution are mustering support towards these taxes, as a way to solve and control, through a democratic process, the current environmental concerns. More environmental taxes should be introduced in circumstances described by the "implementation list" based more on accurate evaluation. The potential of environmental taxes is important in: regional taxation procedures, harmonization and in extending the tax base.

Environmental policy is evolving towards strategies oriented at a group of pollutants, or pollutants with multiple effects and it exploits the inter-connection of natural elements and environments in order to diversify the cost of strategy such that multiple problems are addressed simultaneously. In this sense, environmental taxes become an adequate instrument, more so than other types of regulation, applicable over a larger number of economic entities and more capable to affect complex economic flows.

Moreover income from environmental tax can be used to refinance restoration efforts. The stimulus effect on producers and consumers can be improved significantly. The complexity of environmental taxes in the European Union and the problems caused by interference with the rules and regulation of the union should be addressed and improved. Measures aimed at harmonizing economic policy across different economic sectors are necessary

5. Conclusions

There is a real need for more independent research in order to evaluate the impact on the environment and the global efficiency of the following instruments of environmental policy: voluntary accords; environmental taxes, negotiable permits; regulations. Economic models regarding environmental taxes should be improved such that multiple dynamic effects are integrated. Studies should address problems regarding refinancing and the potential to develop new tax bases in fields such as aviation, dangerous chemical products, tourism and land exploitation. Development of field research on external costs should be extended to: aviation, chemical

treatment, intensive agriculture, organic farms and forestry to understand the distribution of costs across different segments of society. Furthermore, the study should be extended to include an analysis on the tendencies of principal taxes on labor, capital, energy and environment, which should be harmonized in accordance with the new state imposed and union regulation. Research done in this sense should also include the administration of taxes, the roles of interest groups in development of tax policy and the degree to which green reform is publically accepted.

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