Ecological Fiscal Policy: between Theory and Practice

Mariana VUȚĂ[1]

ABSTRACT
The environment is becoming a more important element in the public decision process. Governments, non-profit organizations, civil society and firms are involved in different projects in order to protect this public good. But what does a state do in order to correct the damages brought upon the environment?
This paper aims, on one side, to underline state's fiscal leverages in order to internalize costs related to pollution externalities, and on the other side to preset clean investments encouraging instruments. The study will show that even though in Romania the fiscal pressure in high budgetary encasements obtained though environmental instruments do not help in putting in place a coherent policy with positive and visible effects upon future generations.

KEYWORDS: *environment, environmental taxes, ecological fiscal policy*

JEL CLASSIFICATION: *Q50, H23*

INTRODUCTION

At international level the environmental policy is realized under different forms the scope, although, being the same to stimulate the enterprise to respect regulations regarding pollution decrease that will eventually allow the enterprise to safe up the amount equal to the pollution tax of permit, stimulating at the same time innovation, research and non-polluting technology. If there is not consistence and coherence in applying these environmental policies their impact upon competition will not be of such an importance and the biggest polluters will relocate their activities in countries with a lower restrictive environmental policy (Fitoussi et al., 2007).

Level and structure environmental taxes evolution is the result of two elements interaction. Develop countries consider that the environmental problems have priority thus they try to take measures in order to reduce green house gases emissions that have as effect an increase of the global warming. At the same time, from a fiscal point of view, we can see the growing importance of pollution certificates along with political pressure regarding energy taxes decreasing with a direct effect upon fuel prices.

In European Union member states introduction of so called "green taxes" had had different reactions. Denmark, Finland, Germany, Holland, Sweden and Great Britain have introduced the environmental taxes along with decreasing labor taxes. In Slovenia in 1997 was introduced a tax upon CO_2 emissions applicable to all energetic products while in the Czech

[1] The Bucharest Academy of Economic Studies, Romania, mariavuta@yahoo.fr

Republic an environmental reform was made in 2008 regarding the tax quotas increase for almost all energetic products between 2008 and 2012.

1. ENVIRONMENTAL FISCALITY: A STRANGER?

OECD (2001) understands by environmental fiscal policy all the taxes or royalties applied upon any product or service that injuries the environment or upon polluters under the form of natural renewable or non-renewable resources undertaking. This way of applying the fiscal policy resembles the Romanian legislation principle the polluters must pay (Law regarding the environment protection no. 137/1995).

Environmental fiscal policy elements are very diverse from direct regulation to true fiscal elements, from environmental norms to emissions certificates. No matter the used instrument the scope is the same to reduce pollution by internalizing negative externalities in costs thus the one producing the negative effects will be the supporting the costs. This theory has been proposed by Pigou who was supporting the idea that the difference between the social and private cost should be covered by a tax levied upon the person producing the "damage", its level being the exact difference between the two costs, social and private.

Internalizing the externality is, in this way, translated by the damage payment, the product price being equal to the marginal social cost of that product (figure 1).

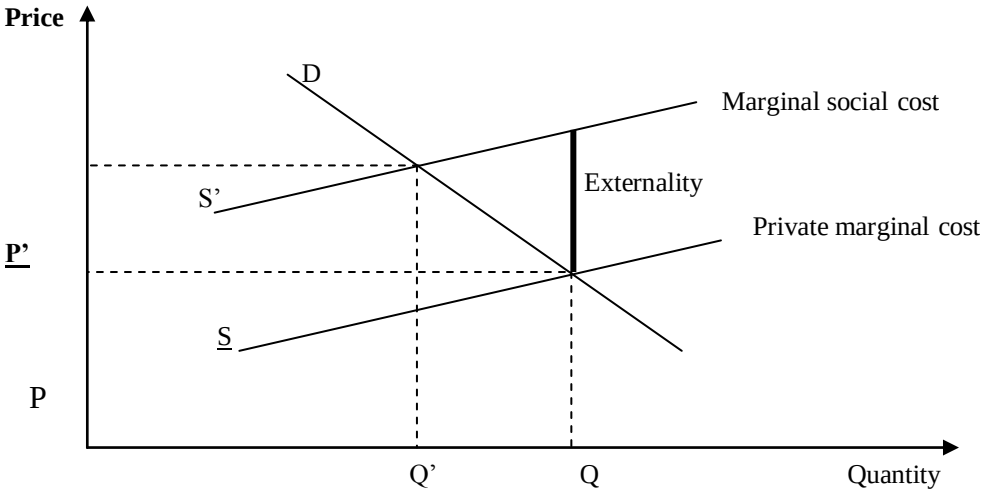

Figure 1. Externality – the difference between the social and private cost
Source: adaptation after Faucheux & Nöel (1996)

Where P, Q = equilibrium price and the produced quantity at equilibrium when the demand is equal to the marginal private cost; P', Q'= equilibrium price and the produced quantity at equilibrium when the demand is equal to the marginal social cost; D = demand; S, S'= offers.

The European Union is the leader in fighting against pollution, especially against green house gases emissions that are part of the Kyoto Protocol negotiations, this region being the first in the world to create an arrangement and a common carbon European market (Agence Européenne de l'environnement, 2005).

But because until now states have not manage to include the climatic changes into market prices, the higher economic and social costs, estimated according to the Stern report (Stern, 2007), to about 5 to 20% from the global gross domestic product, will be supported mostly by poor countries with a lower adaptability capacity.

Until 2030 it is estimated that the global GDP will be almost double face to the one from 2005 but still developing countries will hold a larger amount of emissions face to develop ones. Investments into a low carbon economy would require almost 0,5% from the global GDP in the period 2013-2030. This will decrease the global GDP increase with just 0,19% annually until 2030, just a fraction from the global GDP increase estimated at 2,8%.

Under the fiscal aspect environmental taxes efficiency is more static than dynamic because they are inciting the enterprise to modify its production ways on one side and on the other side the consumer will change the consumption pattern. If the production prices are negatively affected (they increase) by introducing environmental taxes this will be reflected upon the decreasing consumption, thus the consumer will try to substitute these products with cheaper ones (Godard, 2008).

We do consider that introducing these taxes negative effects can appear even in economy by increasing administrative costs, appearance of social disequilibrium, decrease competition when tax quota are high, because as OECD (2002) stipulated taxes upon production factors will have an influence upon increasing prices, decreasing wages and capital efficiency.

A fiscal reform has to be associated with fiscal or budgetary neutrality thus the social impact is diminishing by fiscal burden decrease, especially upon labor. Thus, environmental taxes are characterized by the mechanism known as the "double dividend" (Dyck-Madsen, 2003): improve environment quality and create jobs.

Denmark, Sweden and Belgium have succeeded to present to the public the positive effects of the environmental taxes and by applying them have reduced and corrected human activities negative effects upon the environment.

Environmental taxes encasements can be used to sustain environmental program, finance the budgetary deficit or public expenses.

2. ECOLOGICAL FISCAL POLICY IN ROMANIA AND THE EUROPEAN UNION

An analysis of the different fiscal systems from the European Union gives us the right to state that fiscal encasements have three major sources: consumption, capital and labor taxes (table 1).

Table 1. Different taxes percentage in GDP and total encasements, 2008

% in GDP	**Bulgaria**	**Germany**	**France**	**Romania**	**EU 27**
• capital taxes	**5,4**	**6,9**	**9,8**	**5,2**	**7,5**
• consumption taxes	**18**	**15,5**	**10,7**	**11,2**	**12**
• labor taxes	**10,2**	**21,8**	**22,6**	**11,6**	**17,5**
• eco-taxes	**3,5**	**2,2**	**2,1**	**1,8**	**2,6**

% total encasements	Bulgaria	Germany	France	Romania	UE 27
• capital taxes	16,2	17,4	22,8	18,6	20,4
• consumption taxes	54,1	27,0	25,0	40,1	33,1
• labor taxes	30,7	55,5	52,7	41,2	46,7
• eco-taxes	10,6	5,7	4,9	6,3	7,1

Source: European Commission Taxation and Customs Union (2010)

We can see a significant difference between European Union develop states and the 2 states adhered in 2007 in the sense that in the first ones the direct taxation has a greater percentage in the total encasements while in the two recently adhered the indirect taxation is greater. This element can show the development degree of an analyzed country. While if we are talking about the eco-taxes we can see that their percentage varies from one country to the next.

If we are to analyze the eco-taxes from a longer period (figure 2) we can see that no significant modifications have taken place, the general tendency is to decrease their percentage in the GDP (exception Denmark where the percentage is significantly above the EU average).

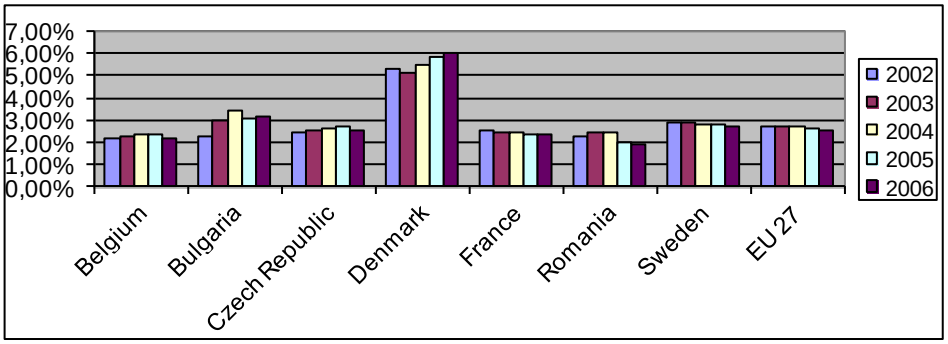

Figure 2. Eco-taxes percentage in GDP in 2002-2008 in European Union countries
Source: European Commission Taxation and Customs Union (2010)

In our opinion if there is to analyze in terms of ecological efficiency the eco-taxes GDP percentage is not significant as regard to the other taxes (in 2008 in the EU 27 only 2,8% from the GDP is represented by eco-taxes encasements while labor taxes are 17,5%).

In the eco-taxes structure the main branch is represented by the energy taxes (73% from the total fiscal encasements), then transport taxes (23% from the total) while taxes upon resources/pollution are not significant (0.4% from the total fiscal encasements).

In order to understand this decrease we must know that environmental taxes are not ad-valorem taxes they are regularly established as a nominal value upon a product unit. Thus their real reported to GDP tends to decrease if they are not actualized by the inflation rate or are not regularly increased by law. This problem could easily be resolve by annually

increasing environmental taxes value by the inflation rate. Decreasing real value of environmental taxes can be seen from the following pints of view:

- Increasing energy taxes had had as effect a decrease in energy consumption, determining a lower tax base;
- Some governments don't sustain an increase of these taxes because the votes wouldn't be ok with it. Furthermore in this case the fiscal burden and evasion will significantly grow if there are not some supplementary measures to reduce other taxes.

Romania follows the same trend, meaning the energy taxes have the leading position in the total environmental taxes encasements with a 89% percentage while all the other taxes together hold the difference (in 2006) and as GDP percentages the energy tax is 1,72% (figure 3).

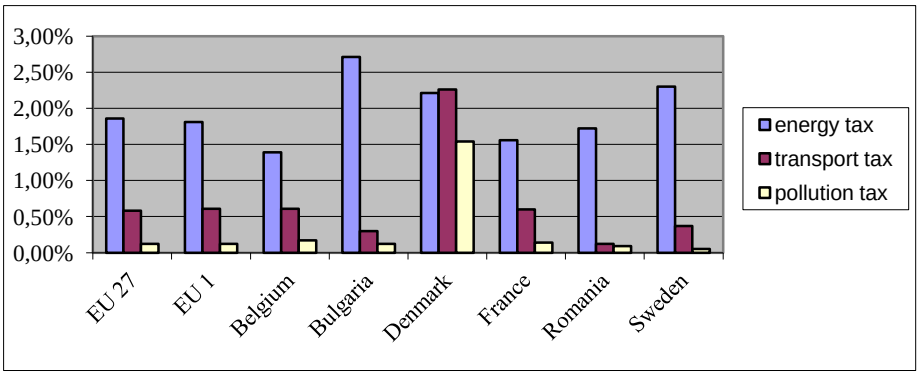

Figure 3. Energy, transport and pollution taxes percentages in GDP
Source: European Commission Taxation and Customs Union (2010)

As regarding the revenue structure evolution we can analyzed it by the three existing categories: energy, transport and pollution taxes. Analyzing we can state that in 2008 the energy taxes had the highest level, followed by transport taxes.
Between 2000 and 2008 the moderate decrease of energy taxes in GDP at European level is the result of taxes structure modification at member states level (figure 4). In Cyprus, for example, energy taxes increased by 1% in GDP, while in Bulgaria, Poland and Estonia they are almost 0.5% from the GDP. In Romania these taxes have a strong reduction of 2%. In Denmark following an increase on corporation's hydrocarbon emissions taxes, the non-energetic taxes have arisen significantly.

Seen in the European context Romania has a particular tendency as regard to the other 9 post-communist countries also member states, registering the highest encasements decline of environmental taxes as GDP percentage after 2000 and until present days. Revenues from environmental taxes was under 2% from GDP in 2009 while in 2000 was almost double. These numbers are placing Romania in the last places of the EU classification (figure 5).

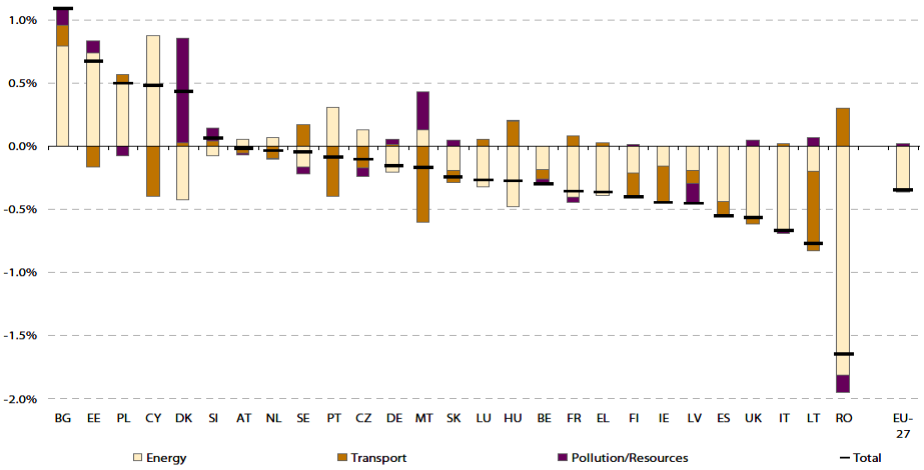

Figure 4. Structural environmental taxes modification in 2000-2008
Source: European Commission Taxation and Customs Union (2010)

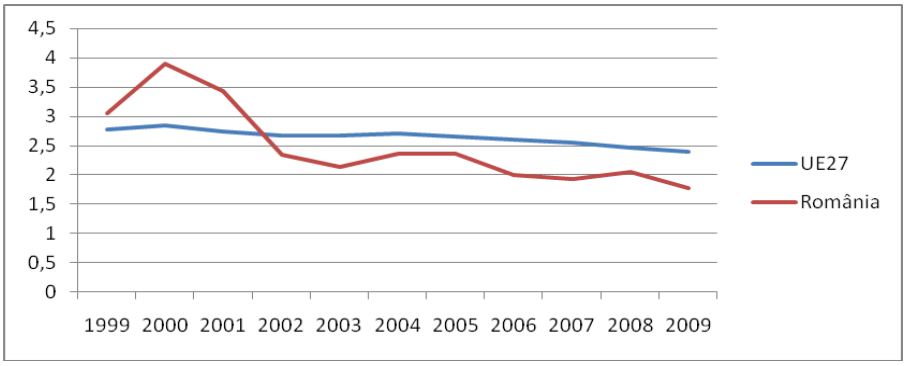

Figure 5. Environmental taxes revenues evolution in GDP: comparison between Romania and EU 27
Source: Eurostat data processing

As regarding the Romanian tax revenues structure the main characteristics that should be mentioned are:

- Until 2006 transport taxes had had a lower percentage in the environmental taxes. From 2007 things have changed with the introduction of the first matriculation tax which had lead to a triple value revenues from this tax;
- The main fluctuation source is represented by the energy tax which have decrease both in value and as GDP percentage;
- State capacity to collect pollution taxes is decreased while the fiscal evasion phenomenon is growing.

Taking into consideration that a lower level of the energetic taxes did not lead to a competitive advantage for our country the European Union is recommending a slow and sustained increase of the environmental tax long with introducing new environmental policies. Furthermore it is highly recommended that our country rallies to the European trend and shifts from labor (our country has a high labor taxation) to consumption and pollution taxation (Pirvu, 2010).

CONCLUSIONS

Although environmental taxes encasements are significant they are not entirely used for the environment protection being directioned toward other type of budgetary expenses (in Romania environmental protection expenses are 1.2% from GDP while environmental taxes percentage is 1.93%).

At European level different environmental programs are financed but there is not as a form of budgetary revenues formation a quota from the environmental taxes member states collect.

ACKNOWLEDGEMENTS

This work was cofinanced from the European Social Fund through Sectoral Operational Programme Human Resources Development 2007-2013, project number POSDRU/89/1.5/S/56287 „Postdoctoral research programs at the forefront of excellence in Information Society technologies and developing products and innovative processes", partner Bucharest Academy of Economic Studies – Research Center for "Analysis and Regional Policies.

REFERENCES

Agence Européenne de l'environnement, (2006). *Greenhouse gas emission trends and projections in Europe 2006*, European Environmental Agency, Retrieved from http://reports.eea.europa.eu/eea_report_2006_9/en/ eea_report_9_2006.pdf

Dyck-Madsen, S. (2003). Global Environmental Problems – Can be Solved Using Economic Instruments, *The Danish Ecological Council*, Copenhague, Retrieved from www.ecocouncil.dk

European Commission Taxation and Customs Union, (2010). *Taxation trends in the European Union.* Data for the EU Member States, Norway and Iceland, 2010 edition

Faucheux, S. & Nöel, J. F. (1996). *Économie des ressources naturelles et de l'environment*, Colin, Paris

Fitoussi, J.P., Laurent, E. L. & Le Cacheux, J. (2007). La Communauté européenne de l'environnement, de l'énergie et de la recherche, in FITOUSSI, J. P. et LAURENT, É. (dir.), France 2012. *E-book de campagne à l'usage des citoyens*, OFCE

Godard, O. (2008). La fiscalité écologique, *Les Cahiers français, Fiscalité et revenus*, 343, La Documentation française, mars-avril

Romanian Parliament, (1995). Law regarding the environment protection no. 137/1995, *Monitorul Oficial* no. 304/30 december 1995

OCDE, (2001). *Les taxes liées à l'environnement dans les pays de l'OCDE*, OCDE, Paris

OCDE, (2002). Les pratiques fiscales dommageables et autres questions fiscales, *Rapport d'une réunion d'experts syndicaux* tenue dans le cadre du *ProgrammeTravailleurs/ Employeurs* de l'OCDE. PAC/AFF/LMP, Retrieved from http://www.olis.oecd.org/ olis/2002doc.nsf/43bb6130e5e86e5fc12569fa005d004c/5a77e64c36141047c1256c02 0038e45a/$FILE/JT00129974.PDF

Pîrvu, D. (2010). Perspectives on the environmental taxes evolution in the EU, *The Romanian Economic Journal*, 147-161

Stern, N. (2007). *Stern Review on the Economics of Climate Change*, Retrieved from http://www.hm-12. treasury.gov.uk/