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A Missed Opportunity**

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Introduction

In recent decades several European countries have instituted taxes on the emission of polluting substances into the different natural environments. The reasons for doing so include the aggravation of environmental problems, or the appearance of new ones, with varying spatial scope (local, regional and global) and by the cost-efficient properties of this alternative as compared to other regulatory options. Essentially, an environmental tax succeeds in internalizing negative external effects at a minimal cost (static efficiency) and constitutes a continuous incentive for the adoption of conducts that are beneficial from an environmental perspective (dynamic efficiency).

However, the introduction of environmental taxes in fiscal systems does pose certain problems. When they form part of general measures (e.g. a series of policies designed to

fight climate change) their implications in terms of efficiency and equity are very relevant, since they affect all types of agents and sectors. In addition, the design process is complex and requires a careful preparation of the fiscal architecture in which such taxes will be implemented. This has occurred in various Northern European countries, which since the beginning of the 1990s have applied different variations of the model known as the Green Tax Reform (hereinafter GTR). The essence of a GTR strategy is to exchange taxation on income and social contributions for environmental taxation, with the aim of obtaining an additional dividend in terms of welfare.

However, Spain has remained relatively distant from the use of these instruments and from this widespread process of fiscal innovation. In fact, successive Spanish governments have put into practice a defensive strategy, making use of the unanimity requirements existing within the European Union in the area of fiscal harmonization. Such behavior undoubtedly reflects the belief that environmental taxes may hamper economic growth in a country still below most EU average economic indicators.

This does not mean that environmental taxation is unknown in Spain, as the fiscal systems of the regional governments have been using these instruments at an increasing pace. Here Spain has witnessed a very interesting federal experience, albeit a poorly coordinated one that has been plagued with institutional tension, mainly as the result of the fiscal restrictions to which the regional governments are subject to by the central authorities.

The aim of this chapter is to analyze and assess the experience of Spain's fiscal system with environmental taxes in the context of the tax reform process that started in the late 1970s. The chapter is organized into six sections, including this introduction. The

next section will provide the context, with a brief review of the foundations of environmental taxation and GTRs. The third section describes how the Spanish central government and the municipalities have reacted to the growth of this alternative environmental and fiscal policy. In the fourth section we review and explain the wide range of regional applications given to these instruments.

All these considerations allow us to extract lessons that can be used to predict the future of environmental taxation in the Spanish tax system, and this is the subject of the fifth section. We believe that the absence of a consistent environmental strategy guiding the regional experience has led to a poor design/use of these measures and it explains why we describe the Spanish experience as a missed opportunity and the cause of numerous current problems. The future holds a reduced role for taxation within European environmental policies, although we should expect intense fiscal actions in the areas of solid waste, transport and tourism. It is in these areas where the regional administrations can and should play a relevant role, putting to good use the new opportunity that is arising. Finally, section six summarizes the main conclusions of the chapter.

The Environmental and Tax Context

The greater regulatory effectiveness of the so-called economic instruments of environmental policy (mainly taxes and tradable emission rights) is well known². Compared with conventional regulations, these mechanisms are more flexible and decentralized, putting decisions regarding how and how much to pollute into the hands of the polluters. In a context characterized by asymmetric information and a large number of involved agents, two factors which hinder conventional regulatory design and functioning, economic instruments have the advantage of emulating market behavior in

their features and effects. In particular, taxes function as a price paid for polluting, which leads polluters to equalize their marginal pollution abatement costs and thus to achieve the new pollution level at a minimum total (social) cost. Such static efficiency is accompanied by dynamic efficiency, since polluters have continual incentives to reduce their emissions and thus avoid payments (Labandeira, 1996).

The relevance of environmental taxes has been clearly heightened by the appearance or worsening of multiple environmental problems, something which has become especially evident in the second half of the past century worldwide. Specifically, the serious harm linked to climate change requires that immediate and effective action be taken to reduce the emissions causing this phenomenon. Since the magnitude of the allocative and distributional effects associated with any control policy is quite evident, market instruments should be made to play a predominant role.

Moreover, since the United States and the United Kingdom put into effect intense reform processes in the first half of the 1980s, practically all developed countries have modified their fiscal systems along these lines. In general, these changes have followed a uniform model characterized by a compensatory scheme in which the reduction of rates and brackets in direct taxation are countered by the broadening of bases, the elimination of preferential treatment and a change in the tax mix in favor of indirect taxation (OECD, 1993; Messere, 1993; Messere, 2002). This reformist model, based on reasons of efficiency and simplicity, has continued since that time, with different elements comprising the compensatory scheme. In fact, in the middle of the 90s environmental taxes started to play the role of broadening tax bases and increasing VAT rates, with the

aim of further leveling the scales of direct taxation (Majocchi, 2000; Hoerner and Bosquet, 2001; Joumand, 2001).

Environmental taxes, in addition to being coherent with prevailing fiscal principles (indirect taxation applied to products and consumption, without concern for vertical equity and having a relatively simple application), could generate further benefits in exchange for direct taxation. This is because, in addition to the gains in efficiency derived from the reduction of maximum rates (fiscal dividend), we must consider the gains of a strictly environmental type, derived from their dissuasive-corrective nature of environmental taxes. All of the foregoing gave rise to what is called the Green Tax Reform model, in which environmental taxation becomes the main actor in fiscal modifications (Gago and Labandeira, 2000). This is only possible with environmental taxes that are powerful and stable from the point of view of revenue collection, and for this reason energy taxes on gases contributing to climate change are made the central axis of GTRs. Table 1 shows that the applied experience with GTRs has grown in both diffusion and diversity.

Central and Local Environmental Taxes in Spain

At the end of the 1980s, the OECD documented the existence of almost 100 taxes with environmental objectives and this figure has only grown since that time (OECD, 2003). However, these initial experiences were not part of an overall scheme involving fiscal change and thus the environmental taxes remained mere appendices added on to fiscal systems; at the same time, policymakers responsible for the fiscal systems remained very skeptical as to their possible fiscal and regulatory advantages. The change in the role of environmental taxes occurred a few years later, as mentioned above, owing to urgent

needs for correction and the fiscal potential connected with the problem of climate change.

Table 1. Principal features of the GTRs applied in Europe

| Country | Year | Taxes reduced or eliminated | Environmental taxes and fiscal changes adopted |
|----------------|-------------|--|--|
| Germany | 1999 | Social Contributions | - Increase of excise duties on gasoline, heating and natural gas - Tax on electricity |
| Austria | 2000 | Social Contributions | - Energy Tax (CO ₂) |
| Denmark | 1994 | PIT, Corporate Tax and Social Contributions | - Energy Tax (CO ₂) - SO ₂ Tax - Landfill Tax - Adaptation of energy excise duties |
| Finland | 1990/1997 | PIT and Social Contributions | - Energy Tax (CO ₂) - Landfill Tax |
| Italy | 1999 | Social Contributions | - Increase of energy excise duties |
| Netherlands | 1996 | PIT, Corporate Tax and Social Contributions | - Energy Tax (CO ₂) - Landfill Tax |
| Norway | 1992/1999 | PIT | - Energy Tax (CO ₂) - SO ₂ Tax - Taxes on fertilizers and pesticides |
| Sweden | 1991 | PIT and Corporate Tax | - Energy Tax (CO ₂) - SO ₂ Tax - Taxes on fertilizers and pesticides |
| United Kingdom | 1996/2001 | Social Contributions | - Landfill Tax - Climate Change Levy |

Source: Gago and Labandeira (2002)

In such a context, it could be expected that the environmental and fiscal responsibilities would be distributed among the various levels of government existing in Spain in accordance with the usual principles and theory of fiscal federalism (Peltzman

and Tideman, 1972). Thus environmental problems of a global type and subsequent tax-related solutions should be referred to the central administration, while the regional and local administrations should deal with problems corresponding to their territorial scope. Basically this would leave the most powerful environmental taxes in the hands of the central government, while the majority of the specific measures would be implemented by the subcentral governments.

However, in Spain so far, both the central and the local governments have chosen to ignore this regulatory and fiscal option. Local governments tended to ignore this option because of their inability to create and/or manage this type of measure, although the field for action in the local sphere is quite large. Even more astounding has been the attitude of the central government, which has not only avoided the creation of environmental taxes and the reform of existing energy taxes, to say nothing of the implementation of a GTR, but has actually gone so far as to torpedo the attempts of the European Commission (EC) to act along these lines.

At the beginning of the 1990s, the EC proposed the creation of a mixed tax on carbon content and (non-renewable) energy, its harmonized application throughout the EU and fiscal revenues for member states, with the recommendation that such receipts be used to reduce pre-existing taxes. However, the response of some EU members (Spain among them) was to block this initiative, which required unanimous approval under the rules established for fiscal matters in the EU Treaty. Their posture centered expressly on disagreement with the relinquishment of part of the fiscal sovereignty of member states in favor of the fiscal power of the EU, but also on the potential negative effects that such a tax could have on economic growth. Spain was unwilling and for the first time set forth

arguments related to its development differences with other EU countries and the incompatibility of economic growth and environmental control.

This failure prompted the EC to change its strategy regarding the use of energy-environmental taxes. Maintaining the objectives of reducing emissions, it directed its political initiative towards a harmonized increase of excise duties paid on the consumption of fossil fuels. For Spain, such a proposal would have implied substantial increments in excise taxes on the consumption of electricity, gasoline and gas oil, as well as the introduction of new excise duties on carbon and natural gas, as illustrated in Figure 1.

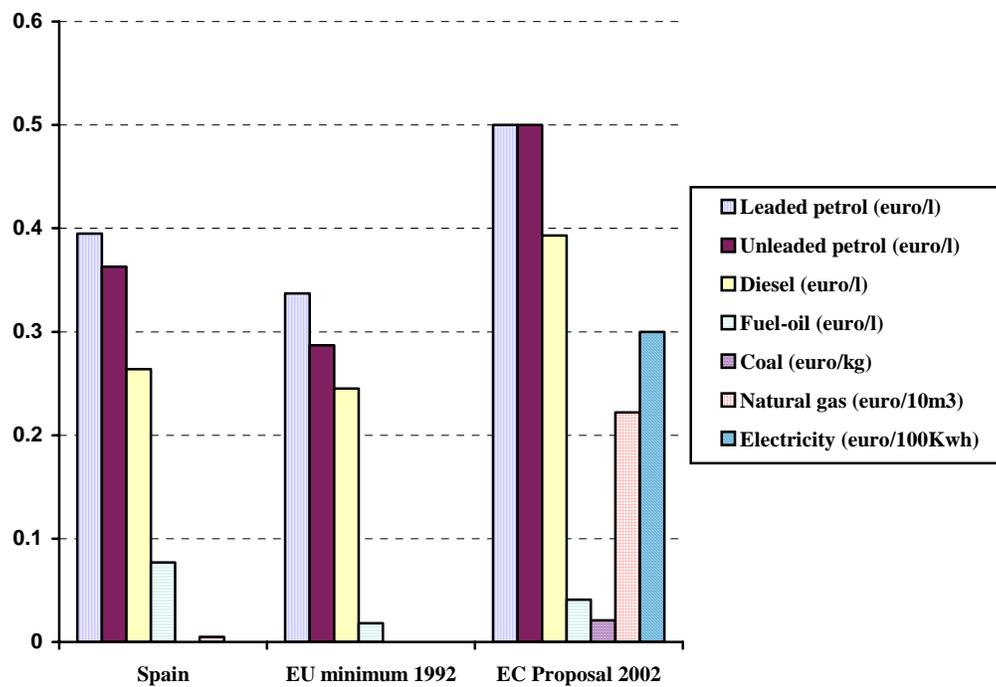


Figure 1. Excise Duties on Fossil Fuels in Spain, in relation to the EU Minimum and the Proposal of the European Commission

Source: Gago and Labandeira (2002)

Once again Spain chose to oppose the new proposal of the Commission, but this time the argument was based much more explicitly on the growth differential issue. Establishing harmonized minimums in excise duties on energy is aimed mainly at avoiding fiscal competition among member states and moving forward with the consolidation into a single market. However, with such a high degree of fiscal diversity as the starting point, the road leading in this direction would, for countries with less intense taxation such as Spain, be very long indeed.

In 2002 Spain finally accepted the directive to harmonize excise duties on energy proposed by the Commission, but it did so in a much broader negotiating framework, consenting to a much less demanding proposal that gave member states more room to maneuver. This sheltered much better the competitive position of less developed countries, albeit at the cost of delaying national programs for environmental protection and, especially, programs designed to fight climate change. In fact, this explains why Spanish greenhouse gas emissions by the year 2000 had already far exceeded the limits set for compliance with the Kyoto Protocol in 2010.

Thus, the attitude of the Spanish fiscal authorities has been a very cautious one with regard to new taxes of an environmental type. Without the pressure of a demanding environmental policy and with the braking effect of the arguments for economic convergence in Europe, Spanish tax policy has not had sufficient independence and strength to promote and impose the GTR criteria. In addition, other environmental actions that could have been developed through fiscal mechanisms implemented by the central government, such as the reduction of certain types of waste, the discharge of liquid waste

into general hydrological areas, etc. have not been considered and the application of taxes already existing in the legal system has even been avoided.

Furthermore, the existing Spanish tax system has not made room for mechanisms awarding positive environmental conduct. In fact, it has neither eliminated certain fiscal provisions in the personal and corporate income tax codes which are contrary to the environmental argument (e.g. deductibility of private transport expenses by self-employers), nor incorporated tax credit systems to bring visibility to the principle of receiving benefits for pollution abatement.

This attitude has brought with it another important consequence: Spain has not enacted general laws regulating the energy and tax systems which are capable of setting general guidelines for the definition and use of environmental taxes. This absence is what has made it possible for the tax systems of the autonomous regions (or second level systems) to take action on this type of tax initiatives, although they have had only relative success, as we will see below.

Actually, the only recognizable strategy of the central government has been that of deferral, in the interest of extending the time available to maintain competitiveness in production costs and relaxed institutional requirements, in search of a differential growth path and economic convergence within the EU. Such an approach is clearly questionable given the serious environmental problems that have been generated in 20 years of significant economic growth, to say nothing of the doubtful relationship between lax environmental regulations and economic progress. In fact, in previous papers (e.g. Labandeira and Labeaga, 1999) on the simulated effects of a GTR in Spain, we

concluded that these policies have very positive environmental and energy effects, at a low economic and distributional cost.

A Genuinely Regional Experience

We have already mentioned that the use of environmental taxes has become relatively generalized in the developed world, with experiences in practically all the jurisdictional levels of government. On this subject, the OECD (2003) points to the existence of up to 38 environmental measures of a sub-central nature and 14 countries in which this practice is frequent, with applications in the fields of energy, private transport and the discharge of liquid waste being the most relevant.

In the case of Spain, public finance bodies at the regional level contrast with the practically nonexistent interest shown in these instruments by the other levels of government. Thus, since the beginning of the 1980s, almost all the autonomous regions have approved and put into effect various measures with some environmental objective. The intense action on the part of the autonomous regional governments in this area probably has to do with their financial needs, reduced visibility and good political marketing of these taxes. It is also likely that the tight legislative restrictions on their ability to tax, the non-exportability of the tax burden and, especially, the no duplication with other levels of government, have had some influence in their behavior. In any case, it constitutes an interesting and not very well known experience, to which we will devote special attention by describing the main actions undertaken.

Table 2 shows the different environmental taxes existing in the various autonomous regions. Most of the environmental taxation at the regional level (and the first chronologically) is related to the emissions of liquid waste. These were followed by taxes

on facilities having an environmental impact, the measures implemented being of a revenue-raising nature and zero environmental value, and also plagued by serious legal problems. Some autonomous regions now assess taxes on polluting emissions of an energy origin (based on the design developed in Galicia in 1995). These taxes have a more solid environmental foundation and today represent the most popular form of environmental tax. Finally, taxes on energy products and processes have been developed and, most recently, some which tax the deposit of different types of solid waste.

Table 2. Environment Taxes of the Autonomous Regions of Spain

| | Sanitation/ Water Charge | Liquid Waste Charge | Tax on Air Emissions | Tax on Facilities | Tax on Energy Products | Waste Charge | Tax in Deposit of Hazardous Waste |
|-------------------------------|--------------------------------|---------------------------|----------------------------|----------------------|------------------------------|-----------------|--|
| Andalusia | | 1994 | 2003 | | | | 2003 |
| Aragon | 1997 | | | | | | |
| Asturias | 1994 | | | | | | |
| Basque Country | | | | | | | |
| Balearic Islands | 1991 | | | 1661 ⁱ | | | |
| Canary Islands | | 1987* | | | 1986 | | |
| Cantabria | 2002* | | | | | | |
| Castilla y León | | | | | | | |
| Castilla-La Mancha | 2002* | | 2000 | | 2000 | | 2000 |
| Catalonia | 1981 | | | | | 2003 | |
| Extremadura | | | | 1997 | | | |
| Galicia | 1993 | | 1995 | | | | |
| La Rioja | 1994 | | | | | | |
| Madrid | 1984 | | | | | 2003 | |
| Murcia | 2000 | 1995* | 1995* | | | 1995* | |
| Navarre | 1989 | | | | | | |
| Valencia | 1992 | | | | | | |

Note: * Approved but not applied
ⁱ Declared unconstitutional

Source: Gago and Labandeira (2002)

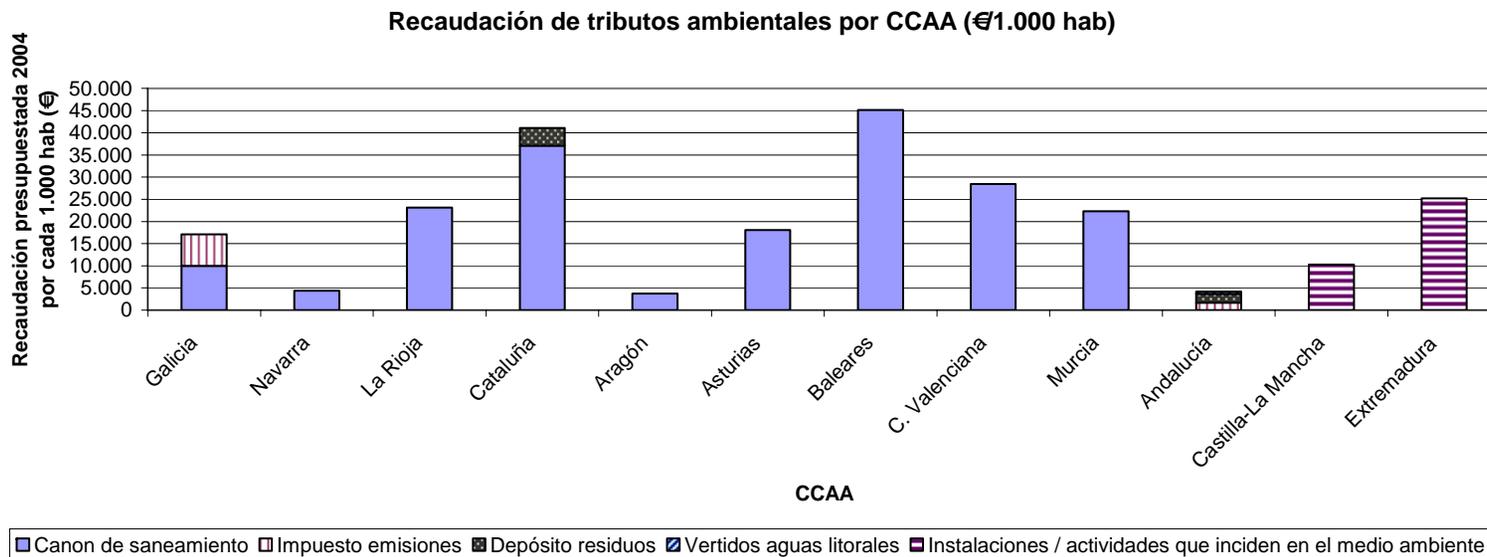


Figure 2. Revenue from environmental taxes at regional level in 2004

Source: Authors Computations

Figure 2 shows the per capita receipts of the environmental taxes in each autonomous region for the year 2004. The high receipts obtained by the regions of Catalonia and the Balearic Islands contrast with the limited receipts of Navarre, Aragon and Andalusia. The differences in the revenue collection capacity of the sanitation charges result from the variable tax rates and the various industrial sectors (i.e. wastes) existing in each autonomous region. The revenue derived from such charges makes up the largest part by far (82 percent) of the income generated from all the environmental taxes. In any event, the revenue obtained from all the environmental taxes is of little significance in relation to the total tax receipts in each autonomous region (given the high degree of devolution of central taxes to the autonomous regions), although it is very relevant within the taxes corresponding to the autonomous region itself (over which these levels of government have total autonomy).

Sanitation and Water Charges

Sanitation charges constitute the most representative environmental tax measure in the Spanish autonomous regions, as they are used by more than two thirds of these governments. Their objective is two-fold: to regulate the discharge of sewage and in general to fund expenditures in the investment and exploitation of the infrastructures necessary for sewage treatment. Thus it is a tax in which the revenue collected is earmarked.

The administrative processing of the sanitation charges is usually carried out by autonomous bodies which could generically be called water agencies. These bodies implement the policies on the sanitation of sewage in each autonomous region and, in general, perform all activities related to hydrological planning. The companies or utilities

(whether public or private) that supply water are obligated to invoice and transfer the revenue from the sanitation charge to these bodies, acting as substitutes for the taxpayers and thus facilitating the processing of the tax.

The taxable event is the discharge of sewage into the environment, whether it takes place directly or through the sewage networks. A definition like this one brings with it significant problems of an administrative nature due to the technical difficulties of measuring the discharge and the high management cost of the tax. It is therefore common for the public administration not to tax the discharge directly but rather to do so indirectly, by taxing the consumption of water from any source. Thus there is assumed to be a link between the consumption of water and sewage discharge.

The tax base is constituted, generally, by the volume of water consumed, measured in cubic meters or, if this is unknown, by the volume of water estimated by means of different indicators or signs. In addition, most autonomous regions consider the possibility of determining the base of the tax for industrial uses by estimating or directly measuring the pollution load. Determining the tax base in this way allows two important objectives to be met: (i) it adjusts the tax base to the environmental damage produced or, where appropriate, to the costs of treatment and purification of the substances discharged, thus putting into practice the “polluter pays” principle, and (ii) it provides incentives for the reduction of polluting emissions.

There are various alternatives in the design of the tax rates, the most common practice being to differentiate between the rates applicable to domestic uses and those applicable to other uses. In some cases the tax breaks down into a fixed component and a variable component which depends on the volume of water consumed. In addition, the

variable part of the tax liability can be modulated taking into account different factors, such as the pollution load, the population of the municipality, monthly water consumption, etc.

The first conclusion we can draw from the sanitation charges collected by the autonomous regions is that direct incentives aimed at the reduction of polluting emissions are limited. This is due, in the first place, to the flaw in the aforementioned concept linking the consumption of water to the production of waste. And, secondly, it is also due to the ineffectiveness associated with the low elasticity of consumption of water, which requires very high rates to be able to significantly affect consumption and the discharges.

The second conclusion is that the sanitation charges are principally a tax instrument for funding public sewage treatment services. The design of the tax reveals that greater weight has been given to taxation management principles, such as simplicity and efficiency, than to principles such as environmental effectiveness. In fact, the earmarking of the revenue collected for certain purposes is a good indication of the true objectives of the tax.

Taxes on Atmospheric Pollution

In 1995 the regional government of Galicia approved a tax on atmospheric pollution which at the time constituted the most environmentally-based tax measure applied in Spain. For several years it was the only tax of its type, although recently very similar taxes have been created in Castilla-La Mancha (2000) and Andalusia (2003). It is interesting to note that these regions are among the less developed and those with comparatively larger emissions in Spain, which probably explains their leading role in the issue.

The Galician tax is levied on emissions of sulfur oxides and nitrogen oxides, pollutants related to the burning of fossil fuels and a primary cause of acid rain. Its appearance probably has to do with the great significance of the emissions localized in the periphery of Spain, where many large contaminating facilities are found. It uses a tax rate that varies according to the level of emission (progressive) and calculates the assessment base through either direct control or indirect estimation systems, while maintaining low administrative costs. The revenue collected is partially earmarked for a contingency fund for environmental catastrophes.

The taxes levied by the autonomous regions on atmospheric pollution share quite a few features, but they also have important differences. Although all of them have a clear environmental purpose, the scope of the tax in Andalusia is considerably greater, in that: (i) it is applied to a high number of industrial facilities, regardless of the volume of emissions, while the other two have very high tax-exemption minimums (in the case of Galicia this means that only six large polluting firms have to pay taxes on their emissions); (ii) it also taxes carbon dioxide emissions; (iii) its tax rates are notably higher, each additional ton being taxed at a higher rate, and it thus approaches the real environmental damage caused by the contaminating emissions.

In short, it can be said that the Andalusian tax represents a modernization and a correction of the main problems of the taxes implemented in Galicia and Castilla-La Mancha. Nonetheless, all three taxes can be criticized from the perspective of jurisdictional allocation of responsibility, since the scope of the damage they hope to avoid transcends the territories in which they are applied, especially in the case of carbon dioxide emissions. Their effectiveness is debatable, as the tax rates are relatively low and,

furthermore, the internalization process is hampered by the institutional arrangements existing in the Spanish energy sector³.

Other Taxes

Starting at the beginning of the 1990s several fiscal measures were approved in Spain to tax, either directly or indirectly, the production and transport of energy (see Table 2). This is the case of the Balearic Islands (the tax was in effect from 1991 to 2000, the year in which it was repealed by the Constitutional Court because it was considered a case of duplication in taxable matters) and Extremadura (in effect since 1997), with slight variations on the Balearic design but also challenged by the central government in the Constitutional Court.

Unlike the taxes on emissions, these measures represent options which are much more dubious from a theoretical point of view. Here the legislative body apparently assumes the objective of recovering environmental costs generated by certain activities, but the narrow definition of the taxable events and the uncertain environmental connection of some of them cast doubt on this intention. In particular, the taxes in the Balearic Islands and Extremadura use asset-related information for the calculation of the environmental tax base, which makes one wonder about their true environmental nature. On the other hand, the Castilian tax on the production of nuclear energy (in effect since 2000) generates no type of environmental incentive, since nuclear-fired generators are continuously in operation due to the extremely large costs associated with switching them on and off.

Finally, several recently-created regional taxes are levied on the deposit or storage of certain solid wastes (radioactive in the case of Andalusia and Castilla-La Mancha, and

ordinary solid waste in Madrid and Catalonia). As is the case with the emissions taxes, the environmental connection of these measures is quite clear, since they directly tax the sources of pollution. In any case, an appropriate definition of the tax rates would make it possible to recover the social costs derived from the production and recovery of the waste, which has become a large and growing problem in recent years.

In the light of experiences from around the world, taxes levied on waste offer great potential. Furthermore, they correspond with the jurisdictional profile of the governments of the autonomous regions. Not everything, however, is positive, since the possible reaction by the taxpayers may be quite small due to the limited possibilities of waste reduction, especially in the case of radioactive waste, and the tax may turn into a mere revenue instrument.

The Future of Environmental Taxation in Spain

The considerations set forth above make it clear that the Spanish experience with environmental taxation contains both high points and low points. Beginning with the positive features, there are interesting applications which are technically correct and innovative in the field. In these cases, an efficient alternative has been put in place for the internalization of environmental deterioration and this has been made possible within a fiscal federalism framework.

The low points are also abundant, however. For example, the central government has maintained a contrary attitude and there have been many difficulties (both legal and practical) in applying these kinds of taxes at the local level. This has brought about a marked environmental deterioration and serious problems in fulfilling the international agreements related to climate change. Additionally, the lack of coordination is evident,

since environmental taxes vary considerably from territory to territory and they generally do not correspond to the environmental responsibilities that can be allocated to a sub-central government.

In this context, our reflections and recommendations for the future can be organized into four large areas: (i) coordination; (ii) actions in energy taxation; (iii) the possibility of GTRs; (iv) other potential fields.

As for coordination, in the first place we think that a more efficient jurisdictional allocation would be advisable. Thus, taxes on global problems should be allocated to the central government, while the sub-central governments are put in charge of taxes pertaining to a more reduced spatial area. Secondly, a certain territorial harmonization appears to be called for, perhaps in the form of a law on territorial powers that gives a great deal of autonomy to sub-central units, so that the conflict currently existing between the different levels of government is limited. Thirdly, it is necessary to avoid excess of fiscal and environmental regulation on certain sectors which already withstand considerable control measures (e.g. through the emissions trade market recently created in the EU).

The role of conventional energy taxation must also be considered, firstly, because of the high correlation between the consumption of these products and contemporary environmental problems; and secondly, because of the relatively low level of such taxes as compared to those existing in countries around Spain, which makes immediate action necessary. In addition, these are taxes in which the territorial governments have quite a lot of say, as they are the object of partial devolution and various taxes of this type are already assessed by some autonomous regions. In general, the environmental argument

should be incorporated as an assessment criterion in these measures, their rates should be raised considerably, and a jurisdictional allocation should be implemented which gives partial autonomy to the subcentral units and limits the creation of regional taxes which may distort the markets.

And it is precisely the use of stable environmental taxes with powerful revenue capacity (e.g. excise duties on energy or taxes on waste) which allows us to consider the application of GTRs at different jurisdictional levels. We have already indicated that sufficient empirical evidence exists to justify their application in Spain: low inflationary effects, improvements in employment and economic growth, few distributional concerns, etc. Surprisingly, no Spanish government has introduced a compensatory package of this type (more environmental taxes in exchange for fewer income taxes and social contribution obligations), even though there are legal possibilities for its application at both the central and the regional levels.

Lastly we come to the question of the fields for potential action. We have already mentioned the case of solid waste and excise duties on energy, which are very good examples of where environmental taxes can be applied or raised, at practically all the jurisdictional levels. In the case of the latter, greater taxation on transport would be of special interest, since transport causes a very large part of the constant increase in Spanish emissions of greenhouse gases. Also, the Spanish tourism industry causes (and is in turn affected by) serious environmental deterioration, and therefore constitutes a preferential area of action. However, it is important to avoid looking for a mere exportation of the fiscal burden to nonresidents. Efforts should instead be aimed at

correcting environmental problems through public revenue, without discrimination among the agents involved.

Another wide-open field is the necessary reform of the conventional taxes belonging to all the public administrations. This should take place through the incorporation of new environmental incentive mechanisms, mainly to clean up the old structure of key taxes such as the personal income or profit taxes, but also to introduce new specific fiscal benefits in other cases.

Conclusions

In this chapter we have described the developments observed in environmental taxation in recent decades in Spain. In general, we have seen how the Spanish fiscal system as a whole appears to be an island within the tendencies prevailing in modern fiscal systems with regard to environmental taxation. The absence of GTR processes and the lack of interest on the part of the central and local governments in these matters explain our choice of the phrase “missed opportunity” in the title. This passive, and even negative, attitude of a large part of the public sector has given rise to accelerating environmental deterioration and an energy sector which is inefficient at best (as well as very dependent on imports).

A certain interest in the use of these mechanisms has been observed only in the regional governments. We have indicated that this has much more to do with financial concerns and the difficulties these governments face in imposing taxes of their own, and much less to do with environmental objectives. This situation has led to rather erratic actions, with measures that are often technically defective, and to considerable territorial variability within the country. Especially worrying is the lack of correspondence between

certain taxes and the jurisdictional scope of these governments, something very evident in the case of climate change and acid rain.

Standing out among the experiences in environmental taxation at the level of Spain's autonomous regions are the generalization and revenue-collection capacity of sanitation charges. These generally constitute taxes on the consumption of water (as an indicator of the level of emissions) and are earmarked for sanitation activities. Also important are taxes on emissions into the air of certain pollutants, generally caused by the burning of fossil fuels.

Doing a bit of forecasting, we would say that in the future, environmental taxes on transport, tourism and solid waste will take on a certain importance. First, this is so because the need for intervention is becoming more and more acute due to the negative evolution of these emissions in recent years. Also, these sectors are relatively free of environmental regulation through market instruments and the existing levels of taxation are very low in EU terms. Finally, these are sectors that can be regulated by practically all the jurisdictional levels and they represent a possible source of stable and significant income.

In this context, it is to be hoped that the various levels of the Spanish government do not let these opportunities go by once again, and instead apply credible fiscal policies which contribute to the very necessary efforts made in environmental protection. The central government will probably have to renounce the ability to introduce taxes against climate change, since there is a European emissions trade system, but it can make its conventional taxes more environmentally friendly and increase energy taxes. The subcentral governments also have quite a few possibilities for action, although they must

work to avoid the problems currently plaguing this field. A neutral introduction of these taxes, within the framework of a GTR process, could further reduce the economic problems often associated with these measures and therefore constitute a worthwhile pursuit for all levels of the Spanish government.

Notes

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2. See e.g. Bovenberg and Goulder (2002) for a theoretical and comprehensive perspective and European Environment Agency (1999) for a summary of actual applications.
3. Nowadays the price of energy for large consumers is set by the marginal generator, which means that this tax is likely to have no effects at all unless it particularly affects this unit.

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International Studies Program Andrew Young School of Policy Studies

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