Chapter 31
Environmental Politics[1]

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Building on the seminal contributions by Pigou (1920), Coase (1960) and Baumol and Oates (1971), economists have extensively explored the role that economic incentives might play in bringing a more efficient allocation of natural resources. The theory of environmental economics suggests that pricing instruments are an adequate means to internalize external costs. More specifically, there is widespread agreement within the scientific community that from a theoretical point of view pricing instruments are preferable to alternative measures, owing to their efficiency advantages (Frey et al., 1985). However, though economists see pricing instruments as an attractive policy tool, most attempts to introduce economic incentives in environmental policy have failed, and the acceptance of these mechanisms in the political debate is still rather limited (Hahn, 1989; Schneider and Weck-Hannemann, 2005).

There are many possible reasons why incentive instruments as a means to internalize external costs have been rarely applied in the past. It certainly would be too simple just to refer to imperfect information on the part of decision-makers about the advantages of incentive-based instruments. On the contrary, there seem to be good reasons why politicians, voters, bureaucrats, and/or representatives of interest groups are rather reluctant to favor price instruments on a large scale in environmental politics.

It is the purpose of the political economy of environmental policy to point out these reasons by concentrating on the process of political decision-making and the incentives of the political agents to implement alternative environmental instruments. Public-choice methodology can be used to explain the discrepancy between economic theory and political reality also in environmental politics. Though public-choice theory has been applied extensively in politico-economic modeling of popularity and voting functions, in analyzing political business cycles and in explaining rent-seeking behavior and the persistence of protectionism, for example, it is relatively less developed in environmental economics. Originated by the seminal

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study of Buchanan and Tullock (1975), the literature on the political economy of environmental policy has mainly focused on the comparative analysis of alternative policy measures and their chances for implementation, respectively (Dewees 1983; Hahn 1990; Downing 1991; Pearson 1995; Congleton 1996; Dijkstra 1999; Kirchgässner and Schneider 2003; Frey 2003; Schneider and Weck-Hannemann 2005). Besides, the public-choice approach has been applied to analyze international environmental problems (Schulze and Ursprung 2001; Bommer 1998; Kirchgässner 1999) as well as more specific topics as, e.g., the failure to cope with global warming and natural disasters (see, e.g., Congleton 2006; Schwarze and Wagner 2007).

In their initial study, Buchanan and Tullock (1975) argue that direct control measures have better chances to be favored and implemented in the political process than incentive-based instruments like taxes on pollution. More generally, it is argued in the public-choice literature on environmental politics that incentive oriented instruments are neither in the interest of the decision-makers on the supply side nor are they favored by the most influential groups of voters on the demand side in the political market. It is hypothesized that if any instrument of environmental policy is used at all, the main actors of environmental policy have a strong interest to apply command and control measures instead of incentive-based instruments.

More recently, however, ecological taxes as well as tradable permits have become more popular and voluntary agreements have been implemented. According to the Kyoto protocol, market-based instruments are intended to play a more prominent role also in international environmental policy. Kirchgässner and Schneider (2003, p. 372), therefore, conclude that "while we are still far away from general acceptance and widespread application of market based environmental instruments, the situation has changed at least somewhat". Consequently, it has to be asked whether the old diagnosis by Robert Hahn (1989) and the papers in the public-choice tradition still holds, i.e., that the patients do not follow the doctor's orders in that environmental policy is dominated by command and control measures and, if applied at all, market-based instruments deviate from the therapy that economists typically prescribe.

Generally, public-choice theory not only intends to analyze how the agents in the political sector (i.e., in particular, politicians and public bureaucrats) influence the state of the economy but also how the state of the economy in turn influences voters' preferences and thereby the evaluation of policies and parties. The level and structure of public interventions are determined endogenously in the political market for state interventions. In order to analyze the process of environmental policy, it is important to identify the various actors involved and their interests and impact in the political decision-making process, respectively. The usual way is to single out four groups of actors which are examined in more detail, i.e., voters, politicians, public bureaucrats, and interest groups representing the private sector.

Political economists view the policy measures that governments and parliaments adopt as outcomes of an exchange process. Elected officials supply the policies that voters and interest groups demand. In exchange for regulation, politicians receive

votes, money, and information. From a political economy perspective, it is useful to think about the negative externalities of private production and consumption as transfers to specific groups which are allowed to make use of resources without bearing the full opportunity costs. The introduction of alternative environmental policies then increases transfers to some groups and decreases the transfers to others. Whether or not it is possible to devise a pricing scheme that will find political acceptance not only depends on the changes in welfare brought about by pricing but also on the relative influence of groups in the political game.

In highly stylized models of political competition with two parties and a single policy dimension, the preferences of the median voter determine policy (Downs 1957). In practice, however, elected officials are not this tightly bound to citizen preferences for a number of reasons: First, voters are rationally ignorant in the sense that they acquire political information up to the point where the marginal cost of acquiring additional knowledge equals marginal benefits. These benefits are low because an individual has only a miniscule impact on policy-making. If voters are unaware of what elected officials do, the latter can deviate from citizen preferences. Second, in representative democracies, voters simultaneously decide a large number of issues when electing their representatives. In contrast to unemployment or general tax policy, environmental issues are not particularly salient during general election campaigns. As a consequence, the influence of voter preferences on policy-making is weaker in the area of environmental policy. Third, the lack of political information on the part of voters allows interest groups to influence policy-making. Even in a competitive political environment, elected officials are willing to distort policies in favor of organized interests because the campaign contributions from these interests allow candidates to increase their popularity with voters. And finally, as voters have little political information, it is often simplest for them to evaluate the relative performance of their elected officials. The resulting "yardstick competition" implies that there is little pressure on politicians to implement effective environmental instruments as long as other jurisdictions do not have successful programs of their own.

Once rational ignorance and the influence of groups are taken into account, the set of environmental policy instruments that is employed in political equilibrium can deviate significantly from the instruments citizens as voters (or, all the more, a social planner) would use. Nevertheless, there is little doubt that voter preferences constitute a significant constraint on political decision making and public opinion is influential in setting policy. Though the sensitivity of voters to environmental issues has increased over the last decades resulting in environmental issues being considered as fairly important by many voters, there is also ample evidence that voters are less than enthusiastic about bearing high costs for better environmental quality. Faced with the trade-off between higher real individual income and the production of better environmental quality that largely is a public good, it is reasonable that in many cases voters care more about their economic short-term well-being than the prospective environmental situation.

Voters also seem to prefer a policy of direct regulations and command and control measures to price incentives. There is evidence that pricing is not considered to

be a fair allocation mechanism neither as a mechanism to eliminate excess demand (Kahneman et al. 1986) nor in public good contexts. As regards the latter, Frey and Oberholzer-Gee (1996) document that willingness-to-pay is seen as the least fair of seven allocation mechanisms using a locally unwanted, but socially beneficial facility as their example. Moreover, there is considerable evidence that the introduction of economic incentives in one area can have negative consequences in others (Lepper and Greene 1978; Frey 1997). Such negative spillovers exist if pricing crowds out intrinsic motivation. This does not imply that price incentives fail to work but they become less effective, and there may be negative spillovers to other areas where no incentives for environmental protection exist. Altogether, these arguments contribute to explain why voters may be reluctant to accept effective environmental policies in general terms and market-based instruments particularly.

According to the public-choice approach, alternative policy measures are supplied by politicians in the political market pursuing their own goals subject to various constraints. Politicians are hypothesized to have self-interest in implementing specific instruments being either in line with their ideology or increasing their discretionary power or their personal income. However, in order to be re-elected they have to take into account voters' interests. The more binding the re-election constraint is, the less discretionary power the politicians have at their disposal in order to pursue their self-interest and the more they are linked to the demand side of the political process.

Given competition among alternative political parties and the re-election constraint being restrictive, politicians have to trade off benefits and costs (in terms of gains and losses in votes) when evaluating alternative policy measures. In political equilibrium, policies match the preferences of well-organized interests better than the preferences of more dispersed groups. In general, smaller groups are easier to organize than larger groups, and associations that find it less difficult to produce a mix of private and public goods ("selective incentives") are more likely to overcome the free-rider problem associated with interest group activities (Olson 1965). If groups are not already organized, it is unlikely that they will exercise decisive influence in any policy debate, whereas existing organizations can be counted on to exert considerable influence. In particular, producer interests (i.e., employers and employees) are better organized than consumers, and industry and business associations are more important players in the political game compared to environmental interest groups. By making campaign contributions and information available to politicians using them in order to attract additional voters, special interest groups can afford to be successful although their preferred policies are not in line with the preferences of the majority of voters.

The ability of groups to overcome free-rider problems is one of the determinants of the level of transfers to different groups. Another is the cost of transfers. The Chicago school of political economy emphasizes that political competition will ensure that the most efficient method of redistribution is chosen (Becker 1983). If ecological taxes or tradable permits are in fact the most efficient means to allocate environmental resources, the Chicago school suggests that interest groups will

prefer this form of transfers to other forms. Thus, given the will to reduce negative external effects with environmental policy, pricing schemes should be a politically attractive policy instrument.

However, the Chicago view of political economy, which emphasizes that lawmakers and interest groups seek efficient ways to make transfers, stands in stark contrast to the Virginia school, which emphasizes that politicians will use inefficient means of transfer if this allows them to hide the cost of redistribution. Tullock (1983), and Coate and Morris (1995) show that inefficient transfers will occur if voters have *ex post* difficulty distinguishing efficient from inefficient policies and if they are uncertain if the elected officials work in their best interest. In many political situations, these assumptions appear to be fairly realistic. Thus, politicians favor policies whose costs are difficult to see. Benefits, on the other hand, should be highly visible. Consequently, it can be stated that environmental policies are less promising than alternative policy issues (as, e.g., employment policies), and regulation policies are more attractive than pricing instruments. Charging drivers, for example, the prices for road usage directly keeps the costs of using roads highly visible, reminding voters of the policy every time they stop at toll booths or look at their electronically generated charges. While the costs remain highly visible, the benefits of the policy—reduced road congestion and better environmental quality—are much less salient (Oberholzer-Gee and Weck-Hannemann 2002).

Public-choice theory applied to environmental politics generally suggests that direct control measures have better chances to be realized than incentive-based instruments though the latter are more efficient. Both, a policy of command and control and incentive-based instruments, involve costs for reducing the emissions. In the case of taxes or tradable permits, however, the polluters have to pay for remaining emissions, which under a policy of command and control is avoidable, resulting in an additional rent (Buchanan and Tullock 1975). Moreover, polluting industries may consider that with direct control measures there is some leeway for negotiations with the environmental protection agency. Polluting industries can make use of their informational advantage in arguing for less strict regulations and exceptions from the rule. Thus, taken together, there seem to be good reasons why regulated industries prefer command and control measures to pricing instruments provided that they are not successful to avoid any environmental regulation at all.

Besides politicians, officials in the public bureaucracy have a considerable influence in the political market by preparing and formulating alternative policy proposals. They also have to implement and to examine the policy measures adopted. According to public-choice theory, public bureaucrats aim to increase their discretionary power and to weaken the budget constraint. In contrast to politicians, they are not faced with a re-election constraint. Their discretionary power arises out of the specific principal–agent relationship between the representatives in the political sector and public bureaucracy. They are expected to favor policy measures that have to be administered explicitly (providing them with discretionary power vis-à-vis government and the private sector) and as a result, they generally prefer direct control instruments and oppose the application of market-based instruments in environmental policy.

Nevertheless, environmental taxes and tradable permits might be attractive means to seek individual rents on the part of the relevant actors in the political debate. Generally, policy makers favor instruments that weaken the government's budget constraint. In this respect, environmental taxes recommend themselves because they generate additional funding. Thus, besides regulatory measures, also pricing instruments may well serve the self-interest of policy-makers provided that the additional resources are at the disposal of policy-makers themselves.

In recent years, economists and lawmakers have considered the option of linking the phasing in of environmental taxes to reductions in taxes on labor, a reform project that is often referred to as an *ecological tax reform*. If the revenues from environmental taxes were used to lower other taxes, it is theoretically possible to reduce the overall cost of transfers in an economy, thereby making such a pricing scheme politically more attractive. While there is little disagreement about the existence of a "green" dividend—ecological taxes are generally expected to increase environmental quality—it is less clear if a "blue" dividend exists, where "blue" refers to a reduction in the overall distortions in the tax system and a subsequent increase in employment (for a survey of the double dividend debate see Goulder 1995).

Bovenberg and DeMooij (1994) show that environmental taxation can in fact reduce employment and economic welfare. Their argument, based on optimal taxation theory, is that taxing a broad base (e.g. labor) will induce lesser distortions than taxing a narrow base (as, e.g., energy or CO_2). If the environmental tax is ultimately borne by labor, this narrow-based tax will finally lead to larger distortions than the broad-based labor tax.

Altogether, theoretical and empirical work does not support the idea that an ecological tax reform will bring about notable efficiency gains that help establish environmental taxes. Keeping in mind a political economy perspective, however, an ecological tax reform may still bring about additional benefits for two reasons. First, by definition, a narrower tax base allows citizens to more easily substitute away from the taxed activities, making tax increases less attractive from the perspective of a revenue-maximizing politician and keeping the size of government more limited (Brennan and Buchanan 1980). Secondly, unlike taxes on labor, proportional (indirect) taxes have the advantage of not automatically increasing with labor productivity (Kirchgässner 1998).

While these arguments may be appealing for voters, politicians are not attracted by ecological taxes for these reasons. Their concern is neither to tame *Leviathan* nor primarily to improve the natural environment. Rather, they may be concerned about the situation on the labor market and the reduction of the unemployment rate in order to weaken their re-election constraint, or they are interested in taxes creating additional revenue at their discretionary disposal. Thus, in contrast to the previously dominant view in public-choice theory, governments may argue in favor of environmental taxes and by this way aim at improving the environment but "for the wrong reasons" (Kirchgässner and Schneider 2003, p. 383).

In addition, if pricing revenues are returned to citizens, politicians can try to channel these funds toward their own constituencies. Pricing revenues could also be

used to compensate those who lose when economic incentives are introduced. Well-organized groups can be expected to support pricing measures provided that the revenues are used to finance infrastructure and services being in their own interest. On the other hand, they are assumed to be less in favor of pricing measures given that the purpose is explicitly and exclusively to internalize external costs combined with lump sum transfers or a reduction of other taxes. In effect, this is an argument to target revenues from environmental taxes to projects that benefit polluters. There is some empirical evidence that taxes can be introduced if they are channeled back to those opposing the price measure. Kimenyi et al. (1990), for example, show for the United States in general that, in comparison to general fund financing, earmarking leads to increased tax revenues. Hence, given the re-election constraint to be decisive, pricing instruments may even so have a chance if they are introduced in such a way that well-organized groups are benefited most and the costs are spread to less influential and latent interest groups. Earmarking of revenues in this case may be an essential feature to achieve the respective aim on the part of politicians and most powerful interest groups.

Beyond that, the opposition to environmental taxes by main polluters may be mitigated by accepting exceptions and tax allowances (Hahn 1989). If emission taxes are fixed at a relatively low rate and therefore avoidance costs in the case of emission standards exceed the tax burden, this solution is in effect favorable for polluters. If, likewise, exemptions are made for the most polluting sectors, e.g., the energy-intensive producing industries in the case of CO_2 taxes (Ekins and Speck 1999), this implies that the resistance of those producers who produce most emissions can be weakened. However, this also reduces the environmental impact of such a policy significantly.

Likewise, tradable permits may be implemented in such a way that those groups mostly affected get an additional rent (Hahn 1989; Kirchgässner and Schneider 2003). If the permits are auctioned, there is additional revenue for the government, which can be used either in their own interest or to the benefit of taxpayers or to the advantage of effectively lobbying interest groups. If, on the other hand, grandfathering is used, the existing firms get the pollution rights for free and are put in a position to sell them. Moreover, grandfathering creates a barrier to entry against new firms because these have to pay for all the permits they need or the permit market may be so much restricted that no significant trade occurs and newcomers are kept away by this way. It follows that existing firms may well favor the grandfathering of tradable permits. And, indeed, according to Svendsen (1999), the position of private business interest groups seems to have changed in the United States from less advocating a command and control policy in favor of a grandfathered permit market. Likewise, for reasons of political feasibility, the implementation of tradable allowance systems (as, e.g., the SO_2 allowance trading scheme under the Clean Air Act in the United States, or the EU trading scheme for carbon emissions from energy-intensive installations) has been linked to a free initial allocation of emission allowances (Böhringer and Lange 2005).

Thus, all in all, the dominant interest groups are expected to orient their lobbying activities toward preventing any effective policy measures. As far as alternative

environmental instruments are concerned, they most likely accept direct control measures but, nevertheless, incentive-based instruments may also have a chance to be implemented if the following conditions hold: the less pronounced the incentive effect of the pricing measures turns out (i.e., moderate changes in prices with only a limited incentive effect); the more likely it is for special interest groups to realize exceptions from the rule (e.g., when those groups particularly affected by these measures are exempted or at least admitted a reduced rate or a transitional arrangement); the more likely it is to shift the burden on to latent interest groups or groups without voting rights (as, e.g., foreigners); and if the link with a rebating scheme (like grandfathering of tradable permits) or earmarking of emission tax revenues ensures that there are not only costs but also benefits (e.g., when revenues from pricing instruments are earmarked to the use of maintaining and improving the infrastructure of services which benefits the producers, operators, and users of the corresponding services).

Recently, another instrument that is also often labeled as a market-based instrument is increasingly used. Yet, voluntary agreements are in no way such an instrument but instead the main purpose of their support is to prevent the use of effective instruments of environmental policy. As Kirchgässner and Schneider (2003) emphasize, the only possibility to make voluntary agreements effective is to combine them from the beginning with the threat that the government will intervene if the negotiated results will not be reached. But, in this case the voluntary agreement is actually superfluous and just a kind of symbolic policy.

Also, in international environmental policy the willingness to introduce market-based instruments, such as internationally tradable permits or "joint implementation" or "clean development mechanism" projects, might be of a more symbolic nature: in demanding to introduce such instruments, of which it is obvious that the distributional problems bring about that their implementation has no real political chance, may be an effective way to prevent the implementation of more effective and enforceable policy measures (Kirchgässner and Schneider 2003). In the case of the Kyoto Protocol, Böhringer and Vogt (2004) argue that the concessions made essentially reduce it to a symbolic treaty that codifies business-as-usual emissions and makes compliance a rather cheap deal.

Altogether, considering these new developments, the moderate increase in the use of economic instruments of environmental policy does not invalidate the arguments put forward by the public-choice approach. There is still only limited support of the use of incentive-based instruments, and their application in many respects deviates from the ideal therapy. The synopsis given by Kirchgässner and Schneider (2003, p. 384) seems to be well targeted when they state that economic instruments, at best, "will be introduced for other (non-environmental) reasons and/or in a way which is not very helpful for the environment. But, on the other hand, it is a step in this direction and one might hope that over time citizens become more familiar with such instruments and their advantages which might—in the long run—increase their acceptance in the electorate."

One might also think about adequate institutional conditions contributing to improve the chance that incentive-based instruments as the most efficient means

in environmental policy have a better chance to be implemented in the political decision-making process. Referring to a process-oriented approach, it can be argued that the political process itself has to ensure that all relevant arguments have an equal chance to enter into the discussion resulting in efficiency to be reached endogenously, i.e., via the process and not via the evaluation of alternative outcomes (Weck-Hannemann 2006). Ideally, all the pros and cons have to enter in the political process without distortion. This is best guaranteed if voters have a direct say in political matters and can act as agenda setters, as well as if the principle of fiscal equivalence and institutional congruence is realized. With the institutions of direct democracy and the right of initiative and institutional congruence, it can be expected that politicians are forced to be more responsive to voters' interests than in a system of representative democracy with spillovers of external effects.

At the constitutional level, the decision makers do not know their specific individual position but the social consequences of alternative policy programs. This "veil of uncertainty" enables that fair and efficient rules are adopted. However, in order to elicit such fair and efficient rules, the "veil of uncertainty" has to be sufficiently strong. This might be approximated in the following ways (Kirchgässner 1994): if rules are discussed with respect to uncertain future events, if individuals decide for their descendants, and if the time span is long enough between the decision about the rules and the coming into force of these rules. Consequently, the acceptance and implementation of pricing instruments in environmental policy might be furthered by assigning them as long-term general measures instead of discussing the issue in a predominantly short-term and concrete context.

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