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IMPLICATIONS OF USING ENVIRONMENTAL PROTECTION MECHANISMS AS INSTRUMENTS OF INCOME REDISTRIBUTION

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Implications of Using Environmental Protection Mechanisms As Instruments of Income Redistribution

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Abstract

In the effort to internalize environmental externalities, the economy has developed various tools that have generated great discussion as to how efficient or equitable they may turn out to be. Despite the great fuss surrounding this discussion, the suggestion is that these tools also work as instruments for the redistribution of wealth. In academia, innovative alternatives have been proposed to overcome these problems, but it has not been possible to completely avoid the incompatibilities between the efficient management of natural resources and income redistribution without affecting the consistency of policy. For this reason, the mechanisms that have been designed for environmental conservation should not be considered outright as instruments for redistributing wealth. The redistribution of wealth should have its own mechanisms independent of and/or complementary to the former mechanisms.

Introduction

Ensuring a sustainable future for the world's population leads society to confront serious challenges. These include overcoming poverty and environmental recovery. For this reason, institutions at all levels have undertaken to design and implement policies to improve the state of natural resources and to overcome poverty.

In recent years, in academic and political debates, there has been a repeated call for the implementation of policies that impose tax burdens on polluting companies and provide incentives for the poorest sectors of society to preserve the environment. Despite the attractiveness of the two proposals and their purpose (to protect the environment and redistribute wealth), we need to evaluate whether such policies are consistent with the criteria of efficiency and equity.

Internalization of environmental externalities

In the teaching of economics, an environmental externality is defined as a situation in which the well-being of a consumer or the production of a company is affected by the action of another agent in the economy, without there being any compensation at all (Mas-Colell et al., 1995). The problem lies in the fact that in the presence of an environmental externality, products harmful to the environment are over-exploited and over-consumed, while environmentally beneficial products are under-produced and under-consumed (Panayotou, 1996).

The teaching of economics also provides a theoretical solution to the problem. If the effect is negative (negative externality), the party causing the damage must pay for it; if the effect is positive, the party generating the benefit should be compensated. This is the condition for the market optimum[1] to become the social optimum.[2] The most well-known economic

[1] Market optimum is understood as equilibrium between demand and supply, regardless of whether or not externalities are considered.

tools for performing this task are those proposed by Pigou in 1920 (Baumol and Oates, 1975) through State intervention in the form of taxes, and by Coase (1960) through the (non-interventionist) allocation of property rights. What is peculiar about the two proposals is that theoretically they both lead to the social optimum.

Nonetheless, there are certain complications when it comes to applying these tools. For example, Coase's proposal has problems when there is imperfect competition, and only applies when the number of participants is small, and it is somewhat difficult to identify the negotiating parties (Pearce and Turner 1990). Boumol and Oates (1988) assert that most of the major problems of environmental externalities affecting society are cases with a large number of participants, and in this case the probability of voluntary negotiation declines, because the administrative costs of coordination are prohibitive. For its part, Pigou's proposal has its own complications, based on the fact that in order to establish the correct value of the tax, the marginal damage curve must be known. Despite advances made in the area of environmental economic valuation, they are not significant when facing thousands of cases worldwide, each with particular and specific elements.

Other problems arise when implementing both economic tools, such as the selection of the base scenario for the state of natural resources and the criteria for allocating property rights. Both political decisions have a considerable impact on efficiency and equity.

State intervention and its implications

The definition of a base scenario is one of the major challenges this approach presents. If we determine that the starting point for the state of natural resources should be their pristine state, then any damage or human alteration to natural resources must be paid for by the agent producing the alteration. The problem is that, now or in the future, any alternative that seeks to improve conditions in the environment must be considered a reduction in damage, which simply results in a reduction in the value of the tax to be paid. Under these

[2] Social optimum is understood as equilibrium between demand and supply that necessarily incorporates the externalities.

circumstances, there would only be negative externalities, and thus even the poorest sectors would have to pay for the externalities generated. In addition, it would be utopian to consider charging past generations for damages caused, or current or future generations would have to be charged, which would present a problem of intergenerational equity.

On the other hand, if the starting point is the current state of natural resources (similar to the mechanism adopted in the Kyoto protocol) another serious problem of equity would arise, since those who have destroyed the environment would be rewarded, and those who have preserved it would be punished. For example, all efforts to improve natural resources in regions that have exhausted them would be compensated, while regions that have preserved their natural resources would be punished for using them.

Non-interventionism and its implications

Besides the limitations on choosing the base scenario, another difficulty should be added – the allocation of property rights. Since this proposal is limited to asserting that in order to achieve the social optimum it is sufficient to assign property rights, regardless of to whom they are assigned, theoretically the assignment of rights has no effect on the result, in terms of efficiency. However, the assignment of property rights becomes a powerful political instrument for the redistribution of wealth. We will see below how the assignment of rights may come to benefit a sector of the economy, but also as the criterion of efficiency, it may not be satisfactory in certain cases.

In the case where property rights are assigned to the party causing the damage, those affected would have to compensate that party for ceasing to cause the damage. This would surely provide an incentive to the party causing the damage to threaten to cause increasingly greater damages. If the affected party has the right to enjoy a healthy environment, the company that wants to produce will be required to answer for damages caused. In some cases, negative externalities could provide incentives for some persons to live near the source of the damage in order to receive compensation. In terms of the redistribution of wealth, it is obvious that the sector that obtains the rights will be the

beneficiary. In terms of efficiency, perverse incentives could be created that would move us away from the desired optimum level.

Despite the attractiveness of the idea of assigning rights to those affected by the damages, it would be necessary to consider some specific cases involving the poorest sectors of society. For poor people in poor countries, natural resources are generally complementary to other goods and services (Dasgupta and Maler 1991); thus, imposing on this sector the responsibility for environmental degradation would mean brining them to indigent circumstances, even when the result would be a social optimum. Clear examples of this case would be additional downstream costs for dams, infrastructure, irrigation, aqueducts, and recreation areas, which would generate deforestation, erosion, and contamination of waters generated from upstream agricultural production, where groups of marginalized and poor producers are generally located.

News points of departure

The academic world has been working on different starting points that seek to overcome the problems of efficiency and equity presented above. For example, it has been suggested that desirable ecological conditions be established, seeking to have agents or regions that fall below the ecological level correct or pay for damages that exceed the level set. In contrast, if they fall above that level, they are compensated or could exploit their resources without any surcharge. The proposal can consider interventionist or non-interventionist mechanisms. For example, the setting of ecological conditions will necessarily have to lie with central agencies, while transactions and prices may be controlled by the market. Thus, institutions and markets could be expected to exist at different levels according to the territorial reach of the environmental externality.

Although this option would make it possible to overcome some problems of equity presented above, and at least overcome the dilemma of assigning rights between those causing damages and those affected by them, other problems would arise. To start, the level of the ecological condition selected would not necessarily coincide with the social

optimum, which entails a problem of efficiency. In addition, all sectors would be subject to complying with the established ecological levels, regardless of whether rich or poor sectors were involved. Another great difficulty is the definition of the ecological condition, given the diversity of individual desires.

Conclusions

Economic tools that seek efficient management of natural resources in one way or another entail threats to some poor sectors of society. Thus, and as unpopular as it may seem, certain poor sectors of society that destroy the environment would have to pay for the damage, and rich sectors that protect it would have to be compensated. If this were true, we would be generating distortions affecting the consistency of policies in terms of efficiency and equity.

Surely in many cases these economic tools help to reduce poverty. However, in some cases the opposite may occur. Thus, it is not advisable to pretend that a tool designed for protection of the environment does not present contradictions when it is evaluated for purposes of a political criterion as different as poverty reduction.

Given that the sustenance of many poor sectors of society is substantially dependent on the use of natural resources and bearing in mind that these sectors would not be in a position to bear a tax burden, redistributive instruments should be designed and implemented that seek to alleviate the poverty situation of these individuals, but independently of and/or complementarily to the mechanisms designed for the preservation of the environment.

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