

Green Taxes – Saving the Environment

Prabha Kumari *

INTRODUCTION

In the face of major environmental challenges including such problems as urban smog, diffuse source pollution and eutrophication of rivers, it is becoming increasingly clear that reliance on traditional approaches to regulation alone will not ensure continued environmental improvements or allow regulatory agencies to achieve their missions.

A decade ago, most people saw the solutions to environmental problems lying primarily in command-and-control regulation. In fact, significant progress in environmental protection has been achieved through traditional forms of regulation and there will always be a need for a strong regulatory framework. However, the incremental gains from traditional approaches are decreasing and this suggests that we must move beyond prescriptive, end-of-pipe approaches by increasing our use of innovative technologies and policy instruments.

One of the new directions in environmental policy is wider utilisation of economic analysis and market based approaches. Green (Environmental) taxes, charges and levies are one major class of economic instruments that could be used for achieving better levels of environmental protection. They constitute a mechanism for putting prices on the use of the environment. People traditionally think of taxation and the environment as two separate spheres. Government engages in taxation to generate the revenues it needs to function.

Government gets involved in the environment to protect the public interest, usually using regulation. But there is tremendous potential to have taxes do double duty – generate the revenues government needs and help the environment at the same time.

WHAT ARE GREEN TAXES?

The goal of a green tax (or environmental tax) is to make pollution and depletion of natural resources more expensive, while providing incentives for environmental protection. An effective environmental tax policy shifts the tax burden from the general population to the polluter, and changes the behaviour of a society at the same time. It will be useful for both pollution control and the management of a natural source. Green taxes use the tax code to adjust the prices of products or activities. Through taxes, we can increase the cost of activities or products that damage the environment. We can decrease the cost of activities or products we want to encourage for environmental reasons. An understanding of drivers for and barriers to implementation of green taxes is essential to ensure that efforts are directed towards developing effective policy.

DRIVERS FOR IMPLEMENTATION

The major appeal of green taxes and levies to environmental policy makers is their potential to provide the best environmental outcome at least cost. Many of our environmental problems arise from the fact that market prices for products

*IIPM, Lucknow

or activities often do not reflect the environmental costs to society. Economists argue that green taxes can help the environment by adjusting prices to more accurately reflect the real costs of products.

An argument usually put forward in favour of environmental taxes and levies is that they can be used to shift the balance of taxation away from taxing 'goods' to taxing 'bads'. In general, labor, income and savings are 'goods' that make the economy productive, while environmental degradation is a 'bad' that reduces overall economic welfare. Thus, a shift in the burden of taxation away from labor, income and savings towards pollution would provide both economic and environmental gains.

On a more pragmatic but related note, green taxes can influence behavior. In some instances green taxes can influence behavior in a more cost-effective manner than regulation. When we regulate, we are telling people – usually business and industry – that they must meet a certain standard for pollution-reduction, regardless of cost. Businesses that are polluting little may have to pay a high cost for compliance. By using a tax increase, however, we can give people the ability to decide whether it is more economically rational to incur the costs of changing behavior or to pay the tax. If the tax rate is set at the right point, society will still reap the desired degree of change in behavior.

Another fundamental appeal of green taxes is their potential to drive technological innovation. If we tax the old technology, we encourage entrepreneurs to develop new ways of doing business that would not be subject to the tax. Similarly, if we give tax discounts to new technology, we can help consumers over the psychological speed bump of trying new products. Regulations, by comparison, may not

be able to effectively mandate new technologies or shape consumer preferences.

BARRIERS TO IMPLEMENTATION

Probably the greatest barrier to implementation of green taxes is the inherent difficulty of changing the status-quo. Just as new regulation disrupts the status quo by requiring people to assume new costs, taxes change the current equilibrium of prices, creating new "winners" and new "losers".

Introducing change into any system, gaining support for new ideas and developing a constituency are never easy. If existing legal, administrative and institutional frameworks need to be changed dramatically, that would constitute a major barrier to introduction of new economic instruments. In any case, the burden of proof always seems to be greater on the economic incentive programs than the existing regulatory programs.

There is also the issue of resistance from industry groups or lobbyists who oppose environmental taxes on grounds of the cost burden, or because they are reluctant to allow any major changes to the rules of the game. If environmental taxes and charges are perceived as an additional financial burden on top of the costs associated with pollution abatement to meet regulatory standards, industry concerns are greater. Those concerns are further heightened if industry in competitor countries is not subject to the same charges. A parallel issue is that major industrial establishments have developed considerable expertise in dealing with the current regulatory framework and engaging in strategic behaviour to influence its outcomes. A major change in the regulatory framework could render some of that expertise obsolete and would not be viewed as desirable.

One of the difficulties in developing economic instruments in general is the diversity of skills and expertise required. Multidisciplinary teams consisting of environmental specialists, legal specialists, communication specialists and technical and operational staff as well as economists are needed. Some of the skills can be scarce within traditional command-and-control culture organisations, which makes identification and development of potential applications difficult.

Finally, what is politically feasible determines to a large extent whether and which economic instruments are developed. Green taxes are particularly problematic because new taxes are always highly controversial. Even proposals that have a lot of merit from both economic and environmental perspectives will be approached with caution at the political level if they are identified with the 'tax' label. Furthermore, if green taxes are viewed as yet another form of general taxation aimed purely at revenue raising, public and political acceptability will not be forthcoming.

DESIGN AND IMPLEMENTATION ISSUES

An important issue in designing and implementing green tax and levy schemes is ascertaining the appropriate level of the tax or the levy. Theoretically, knowledge of the pollution abatement and environmental damage cost curves are required in order to establish the optimal level of environmental quality, discharges and fees. However, in practice neither the pollution abatement costs nor environmental damage are known with any great degree of certainty. In the absence of such knowledge of costs, the setting of the unit fee would involve some trial and error in ascertaining the level that will provide appropriate incentive for firms to reduce their

emissions. The fees may also need to take into account variations in the environmental impact of the same pollutant or activity as a result of differences in location or other factors in influencing the sensitivity of the receiving environment. It is specifics such as the physical location of a range of industries, rainfall and wind patterns, flow regimes of rivers, seasonal variability, labor and capital costs, technological options, community preferences, existing institutional and regulatory frameworks etc. that determine whether a particular tax or levy scheme will be a useful and effective policy tool. All these factors need to be taken into account in identifying and developing potential applications.

Administrative feasibility must be taken into account in designing the scheme. If the scheme is too complex, it will lead to excessive administrative costs both for the regulatory authority and industry.

The technical control options that could be adopted by industry in response to the green tax or levy would also need to be considered. If the ability of the industry to react to the tax is limited due to unavailability or excessive costs of better control technology, then the tax might not be an effective policy instrument.

Priority would need to be given to dealing with pressing environmental issues where most of the gains from traditional forms of regulation have already been achieved and there is a need for a broader approach. Issues such as water quality, urban air quality, land degradation, cumulative impacts and diffuse sources of pollution would probably have high priority.

The emphasis should be on identifying clearly the benefits for the environment and the industry. The public acceptance of the taxes and

levies will be encouraged if real tangible environmental benefits are expected to flow from them. The general community would expect improvements in the quality of their local and regional environments. Industry would expect to avoid additional financial burdens and to achieve greater control regarding the choice of pollution abatement technologies to meet required performance targets.

STEPS FOR DESIGNING A GREEN TAX

Although the details of any particular green tax will depend on a number of environmental, economic, political and practical variables, here are a few fundamental steps to keep in mind when designing a green tax.

Step 1: Define the Environmental Goal.

Because the green tax is merely a means to an end, we need to have a clear definition of the environmental goal. Suppose, for example, we are concerned with some of the environmental problems that arise from our reliance on motor vehicles that burn fossil fuels, such as air pollution from emissions and the sprawling land use patterns that consume open space. Our environmental goals are to reduce emissions and to encourage more compact settlement patterns.

Step 2: Target the Behavior that Needs to Change.

Next we need to determine what behavior needs to change to achieve these goals. For example, if we want to reduce emissions and to encourage more compact settlements patterns: Do we want people to drive less? If so, what types of travel do we want to discourage? Do we want people to shop downtown rather than driving to outlying malls, or do we want to make

people think twice whenever they head for the car?

Do we want people to travel the same amount but use alternative forms of transportation, such as public transportation, vanpools, or bicycles, or walking?

Do we want people to drive, but to use different cars? If so, do we want people to use gasoline-burning cars that get high mileage, or do we want people to drive different cars altogether, such as alternative fuel vehicles?

Step 3: Identify the People Whose Behavior Must Change.

We also need to determine whose behavior should change. Are we looking at consumers at the household or commercial level, or the manufacturers of technology? Whose decisions will most likely yield the desired change?

Step 4: Find the Right Tax Signal.

Next we must figure out whether the tax system intersects in a logical way. Can some tax system target the behavior we want to change in a logical, administratively workable manner?

Find the right tax system. Here we have a range of options, such as income taxes, excise or sales taxes, estate taxes, or property taxes. Find the right adjustment to that system. There are also many ways we can adjust these tax systems to create price changes. To decrease the tax cost, we can offer tax credits, deductions or exemptions. To increase cost, we can raise an existing tax rate, eliminate an exemption, or design a new tax altogether. To return to our example, we could a) increase the gas tax to encourage people to drive less, b) choose more compact development patterns, or c) use group

transportation or drive alternative fuel vehicles. Or we could create tax reductions to achieve these purposes by providing tax credits for people who purchase clean fuel vehicles, tax incentives for employees who use public and alternative transportation or reduced tax burdens taxes for downtown properties.

Step 5: Determine the Strength of the Tax Signal.

Having found the right mechanism, we need to determine how much of a tax increase or discount will achieve the desired result. Here the economists play a critical role. They can estimate the size of the tax signal required to achieve specific, short-term results or longer-term results that may require the development of new technology or other significant shifts in the conduct of life.

CONCLUSION

Thus, it would seem that a lot more 'education' and consultation still needs to be undertaken. It is essential to involve all the interest groups in the debate from the start, understand their concerns, address them and foster better appreciation of the ways in which economic incentives can be useful for environmental policy. It is important to frame the debate to identify common ground rather than dwelling on points of contention. For public

acceptance, it is essential that the exact nature of any proposed environmental tax or levy is transparent, there are mechanisms in place to ensure review and auditing of outcomes, and those that will pay are aware of its nature.

From a longer-term perspective, it will be important to emphasise that pollution charges do not necessarily mean additional tax burdens for the economy as a whole. The message that governments can reduce taxes that have the effect of discouraging activities such as labor and the generation of capital, while setting up taxes that discourage undesirable behaviour, such as pollution, needs to be much more clearly articulated. It would also need to be supported by actual examples of schemes designed to appropriate level of detail, clearly identifying the groups that will be beneficiaries as well as those that might stand to lose in the short-term, and any proposed transitional arrangements.

In many instances economic instruments can be powerful complements to direct regulation. Recent developments at various political levels have been in the direction of making wider use of these approaches and exploring the potential for their application in a range of environmental policy issues. A wider use of carefully developed economic incentives can lead to more effective environmental protection, both in terms of attaining environmental goals and in doing so with considerable cost savings.