

A Proposal to Levy Taxes on Polluting Inputs and Outputs

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Executive Summary

1. Environmental pollution is a negative externality. It arises when consumption or production decision of one individual affects consumption and production decisions of other individuals.
2. The externality problem can be solved by regulatory approach or economic approach or a mix of both approaches. Command and control (CAC) regulation gives little flexibility to polluters to find least cost methods of pollution prevention and control. It can be justified when the perceived harm from an activity is very high as in production/use of highly hazardous materials or when the assimilative capacity of a region has reached a threshold level or an irreversible ecological damage would result. The precautionary principle justifies CAC regulations.
3. Economic Instrument (EI) is any instrument that gives a wide range of options to polluters to achieve specified levels of environmental quality at least cost. A tax on polluting output equal to its marginal social damage signals producers and consumers about the social damage of the activity. Creation of markets for pollutants, eco-rating and public disclosures on the extent of environmental compliance can create market/community pressures for compliance and also reduce transaction costs in finding solutions.
4. The pollution control regime prevailing in most countries belong to any one of the these or a mix of the three types: (a) standards and regulation, (b) standards and charges, and (c) standards and permits.
5. There is consensus among economists that CAC regulation does not minimize aggregate compliance costs. Its enforcement is ineffective when penalties for non-compliance with the regulations are unrelated to the compliance costs.
6. Many international agencies have argued the case for use of EIs. The OECD accepted the 'polluter pays' principle in 1972. The World Commission on Environment and Development stressed the need for merging economics and environment in decision making. Agenda 21 of the Rio conference stressed the need for integration of environmental costs into economic activities and to include, wherever appropriate, the use of market principles in the framing of economic policies.
7. The domestic policy support for EIs is also growing. The Tax Reforms Committee (1992) recommended that excise taxes could be an useful instrument in dealing with externalities in the form of social costs. The Supreme Court has accepted the 'polluter pays' principle a part of the basic environmental law of the land. The MoEF Policy Statement for Abatement of Pollution, 1992 recommends 'new approaches for considering market choices to give industries and consumers clear signals about the cost of using environment and natural resources. It appointed a Task Force to evaluate MBIs for industrial pollution abatement in 1995. It organized

an international workshop on EIs in cooperation with the World Bank and CII to appraise the industry about the experiences of developing countries on industrial pollution control. The MoEF Task Force on EIs has recommended the introduction of taxes on inputs and outputs of polluting industries.

8. There are no legal or institutional obstacles to the introduction of taxes on inputs and outputs of polluting industries. Introduction of pollution charges may require an amendment to the Environment Protection Act. Also we need the capacity for measuring and monitoring emissions.
9. The advantages of the environmental taxes/charges are that they not only help in achieving improving environmental quality but also generate additional revenues which could be used for environmental improvement. For non-point pollution, particularly pollution occurring at the consumption stage, a tax on input/output is an ideal instrument for controlling pollution. For point sources, we have to devise taxes/charges with rebates/refunds for units complying with the regulations.
10. International experience in the introduction of the taxes reveals mixed results. For successful implementation, we need legal and institutional capacity, political support, and involvement of the stakeholders. Issues in the design of the taxes are evaluation of the trade-offs between environmental and other goals, choice of the tax base, consideration of existing distortions in prices and taxes, the basis for determination of the tax rates, phasing of the taxes, incentives for compliance and ear-marking of funds for environmental protection.
11. This proposal covers coal, automobiles, phosphate based detergents, chlorine in paper and pulp and rayon industries, pesticides, fertilizers, lead acid batteries and plastics.

Eco Cess on Coal

12. Coal is the most important energy source. About 70 percent of the coal is consumed in the power sector. Indian coal contains 30-40 percent ash and moisture content. Even though the environmental problems in using coal with high moisture content are well documented, there are not adequate incentives for coal washing. Based on estimates of cost of beneficiation of coal upto 30 percent, this study recommends rates of eco-cess on different grades of coal varying from Rs.20 to Rs.50 per tonne of coking coal, and Rs.50 to Rs.70 per tonne of non-coking coal. Eco-cess as percent of final price of coal would be at most 25.0 for non-coking coal and 8 percent for coking coal. A clean coal fund may be created to utilize the revenue from the eco-cess for setting up infrastructure for coal washing, selective mining and R&D to identify activities by gainful utilization of coal ash and safe storage and disposal of the residual ash.

Automobiles

13. Vehicular pollution is an important source of air pollution in most cities. It is a non-point source of pollution. Government has taken many measures to improve the quality of automobiles and

auto fuel. The Expert Committee on Auto Fuel Policy has laid down a road map regarding vehicle norms and fuel norms. We recommend resource tax on passenger cars and two wheelers based on their fuel economy. The tax rate as percent of the exfactory price of 2 wheelers ranges from 0.0 percent to 3.0 percent, and of passenger cars/jeeps from 0 percent to 5 percent. We considered an emission tax on diesel cars on the assumption that diesel vehicles are more polluting than petrol vehicles, but after an examination of the available scientific and empirical evidence, we could not reach the conclusion that the overall pollution load from a diesel car is greater than the pollution load from a similar petrol vehicle. Hence we defer the imposition of such a tax. We do recommend a tax on diesel cars to neutralize the price advantage in favour of diesel, if it is not possible to eliminate the price advantage of diesel. For in-use vehicles we recommend (i) an annual emission fee which may increase with the age of vehicle, (ii) introduction of emission warranty programme, and (iii) clean alternatives to be specified and certified for use by the regulator.

Chlorine

14. Chlorine used in pulp and paper and viscose rayon industries results in discharge of organochlorine compounds which are highly toxic. These mills could be encouraged to move towards chlorine substitutes like hydrogen peroxide if the rebate on the Cenvat of chlorine is withdrawn. However, the rebates can be continued for chlorine substitutes (even if they contain small quantities of chlorine) like chlorine dioxide or hypochlorite. The impact of the withdrawal of the VAT rebate on chlorine is likely to be small, since the cost of chlorine is only about 10% of the cost of production. Since switching over to chlorine substitutes will require substantial investments, accelerated depreciation at the rate of 50 percent be provided in such machinery, which will lead to reduction in the use of chlorine.

Detergents

15. Phosphates have been used as 'builders' to soften the water in order to improve the cleansing action. But it contributes to an oversupply of nutrients to water bodies, and hence to the eutrophication of lakes and ponds. The three top brands of detergents are found to contain more than 20 per cent of sodium tripolyphosphate (STPP) by weight while the preferred percentage is 5 or less. In a few countries phosphates in detergents are banned while in a few others phosphate use is restricted. There are alternatives to phosphates e.g. synthetic detergent zeolites. It is recommended that use of non-phosphate detergents like zeolite be encouraged by reducing the Cenvat on them from 16 percent to 8 percent. Non-rebate on VAT on STPP may be reconsidered when we have firm evidence on the contribution of the detergents to eutrophication in Indian waterbodies. Compact detergent powders which save energy and materials may be promoted by decreasing the Cenvat on them to 8 percent. Import of innovative pollution-free detergent technologies may be encouraged by reducing the import duties on such machines.

Pesticides

16. Spraying of chemical pesticides results in residues in drinking water, vegetables, milk, fish, etc. There is also occupational exposure to workers who apply the pesticides. At present use of chemical pesticides is concentrated on a few crops like cotton, rice and pulses, and fruits and vegetables. There is a growing demand for organic farming and organic food. Integrated pest management is also being recommended. At present the market for biopesticides is about 1 percent of the pesticide market. Neem based pesticides dominate the biopesticides market in India. Organic fertilizers are exempt from excise duty, but there is no preferential treatment for organic pesticides. Abolition of the Cenvat on organic pesticides is recommended. The revenue loss would be about Rs.64 crore. This tax concession will make the relative price of organic pesticides cheaper, stimulate organic farming and increase export demand for organically grown agricultural products.

Fertilizers

17. At present there is an imbalance in the mix of fertilizer use in agriculture. With the complete decontrol of price of urea by 2006, the distortion in the pattern of use may not arise. There is a strong case for promoting the use of bio-fertilizers. Government should formulate and implement a fairly comprehensive policy (a) to improve the quality of biofertilizers through capital subsidy for investment in R&D, and (b) to encourage the states to undertake extension work to popularize the use of biofertilizers. The medium and long-term aim should be to raise the use of biofertilizers to the scale implied in the Integrated Plant Nutrient Management System.

Lead Acid Batteries

18. Lead is a toxic material. There is some evidence that lead and lead components are carcinogenic. Recycling of scrap lead, primarily used batteries, and using certified methods is necessary for environmental protection. In order to improve the competitiveness of the licensed recyclers vis-à-vis informal sector smelters, we recommend (a) reduction in Cenvat on production of secondary lead by organized smelters, (b) levy of an environmental cess on the sale of scrap batteries in auctions by the bulk consumers. This cess should be allowed to be set off against the levies on production of secondary lead. Battery manufacturers should incentivize the return of scrap batteries by the dealers to the approved smelters.

Plastics

19. Plastic products like carrybags, beverage containers and thin sheets are causing significant solid waste problems. There is a concern that recycling may not be environmentally safe. We recommend (a) removal of 16 percent Cenvat on biodegradable plastics, (b) a deposit refund scheme at the rate of Re.1 on PET bottles at the time of sale, (c) an incentive scheme to ragpickers, and (d) 50 percent rebate on customs duty on imported upgraded recycling

technologies for use in facilities set up by the recyclers.