

# Fiscal Measures for Environmental Protection Two Divergent Views

## I. Tax Policy and Environmental Objectives

Orlando E. Delogu

## II. Special Depreciation Allowances or Subsidies?

Hermann Soell



---

Published with the Assistance of the Fund for Environmental Studies (FUST)

International Union for Conservation of Nature and Natural Resources

Morges, Switzerland

1976

# **Fiscal Measures for Environmental Protection Two Divergent Views**

I. Tax Policy and Environmental Objectives

Orlando E. Delogu

II. Special Depreciation Allowances or Subsidies?

Hermann Soell

---

Published with the Assistance of the Fund for Environmental Studies (FUST)

International Union for Conservation of Nature and Natural Resources  
Morges, Switzerland

1976



## Contents

Foreword . . . . .	5
The Authors . . . . .	6
<b>Part 1: Tax Policy and Environmental Objectives . . . . .</b>	<b>7</b>
Introduction . . . . .	9
A Key Dichotomy . . . . .	11
Cleanup Subsidies — A Policy Question . . . . .	13
The Form of Subsidies . . . . .	15
A Wider Application of Pollution Taxes . . . . .	19
Some Additional Tax Measures . . . . .	23
Conclusion . . . . .	26
Notes Part 1 . . . . .	28
<b>Part 2: Special Depreciation Allowances or Subsidies . . . . .</b>	<b>59</b>
Introduction . . . . .	61
Issue I: The Polluter-Pays-Principle and Government Aid for Low Pollution Investments . . . . .	61
Issue II: Subsidies and Special Depreciation Allowances . . . . .	64
Issue III: Is the Provision as Planned under Section 7d of the Income Tax Code in Conflict with the Pro- hibition of Subsidies in Article 92 et seq. of the EEC Treaty? . . . . .	68
Notes Part 2 . . . . .	71

## FOREWORD

Much concern has been generated about the types of legal fiscal measures that governments can and should undertake to induce environmental protection and remedial efforts by the private sector. Controversy has arisen regarding the value of present uses of taxation to accomplish such protection and about appropriation systems for this purpose. The present publication reflects two differing approaches to the problem, and it is hoped that by airing these divergent opinions, further thought on the subject will be simulated.

The first paper, "Tax Policy and Environmental Objectives", is by Professor Orlando Delogu of the University of Maine School of Law, USA. He initially presents an overview of existing fiscal programs utilized in various jurisdictions. Professor Delogu is critical of current tax incentive devices as he argues for a combined program of direct subsidies along with a penalty system of taxation to solve environmental problems. He goes on to present a number of suggestions of where and how such a taxation system should be implemented. Throughout, Professor Delogu argues the necessity of a coordinated fiscal approach to deal with environmental problems.

The second paper, "Special Depreciation Allowances or Subsidies?", was prepared by Professor Hermann Soell of the University of Regensburg, FRG. His study is more narrowly drawn than that of Professor Delogu, as he considers the above issues only in the context of German taxation legislation, and within European Economic Community requirements. Professor Soell's outlook is, therefore, more pragmatic than Professor Delogu's, and not surprisingly, their conclusions are markedly divergent. Specifically, Professor Soell is adamantly opposed to the use of subsidies, favoring the promotion of special depreciation allowances and other tax incentives to influence beneficial conduct. The German experience he describes is most enlightening in this regard. In addition, there is continuity between the two works, as, in developing his position, Professor Soell frequently refers to Professor Delogu's thesis to demonstrate areas of disagreement.

This publication is undertaken as a joint IUCN/FUST (Fund for Environmental Studies) project. Research was carried out with the assistance of the IUCN Environmental Law Centre in Bonn. The views expressed are those of the authors, and not necessarily those of IUCN or FUST.

## THE AUTHORS

Orlando E. Delogu received a B.S. in 1960 from the University of Utah, and an M.S. in 1963 and J.D. in 1966 from the University of Wisconsin. He has done studies in various aspects of environmental law, including work on land use, water law, and pollution, and has published numerous papers arising from this work. Professor Delogu is a member of the Board of Environmental Protection of the State of Maine, U.S.A. He has been Professor of Law, University of Maine School of Law, Portland, Maine, since 1966.

Hermann Soell has long been interested in economics matters. He has been at the University of Regensburg since 1971, and in 1975, was elected Dean of the Faculty of Law at that institution. Currently, he holds a chair at Regensburg in Public Law, specializing in finance and tax law. Professor Soell was previously associated with both the Free University of Berlin and the University of Heidelberg.

**Part 1**

**TAX POLICY AND ENVIRONMENTAL  
OBJECTIVES**

Orlando E. Delogu

## INTRODUCTION

It is increasingly apparent that a growing range of environmental problems are acute and must be dealt with by governments if society is to be preserved.<sup>1</sup> The role of government is almost always seen in the context of regulation the establishing of some sort of administrative mechanism to enforce, allocate, and suggest further limitations-all designed to reduce the magnitude of a problem to acceptable levels.<sup>2</sup> We seldom talk in terms of absolute prohibition but we are not content any longer, at least with respect to most environmental problems, to leave it up to individual conscience, free market forces, or private legal remedies to deal with the problems posed. Private decision-making has simply been inadequate and outright prohibition often seems to lead to harsh results.<sup>3</sup>

But regulation too narrowly conceived is also not likely to produce the degree of amelioration of environmental problems that many deem necessary. The literature is full of criticism of environmental control programs which it is claimed have not worked effectively. In many cases the critics are right-some supplementary measures are called for. A regulatory approach that is not often perceived as such but which can and must be brought more fully to bear on environmental problems in addition to the more traditional regulatory processes described above, is governmental tax policy.<sup>4</sup> The purpose of this paper is to point out both some inconsistencies and errors in many present tax policies as those policies affect environmental objectives, to note the remarkable degree to which we have failed to date to use tax policy as a means of solving environmental problems,<sup>5</sup> and to suggest some improvements in tax policy which will facilitate achievement of environmental objectives.

The term "tax policy" as used throughout this paper is intended to suggest a wide range of possible governmental actions: e.g., direct taxation; the imposition of user charges, fees, assessments; exemptions from the foregoing; the expenditure of tax revenues.<sup>6</sup> It should also be noted that the governmental actions recommended by this paper can be undertaken at national, state, and often even at local levels.<sup>7</sup> Indeed, real progress in dealing with environmental problems is unlikely unless and until traditional regulatory processes and tax policies, at all levels of government and among governments, are brought into a much greater degree of agreement and consistency than presently exists. This paper is intended as a contribution and stimulus towards that goal.

## A KEY DICHOTOMY

It is important at the outset to distinguish affirmative or positive incentive pollution control tax laws and policies from what are often called negative incentives (penalty, or pollution taxes).<sup>8</sup> The former are intended to stimulate individual or corporate pollution control expenditures by granting some form of remission or reduction of taxes that would otherwise be due;<sup>9</sup> the latter impose a direct fee or charge on conduct or pollutant emissions deemed harmful.<sup>10</sup> They are both often lumped together under the broad heading of "pollution control tax laws," and their fundamental difference is either ignored or not understood.

So-called positive incentives to stop pollution provide no incentive at all. No rational individual or corporation will invest ten dollars in an unprofitable manner merely because government says it will give back five dollars of the amount spent.<sup>11</sup> The facts are, however, that some pollution control expenditures are today either highly desirable for technical reasons or have become necessary to meet growing public and political pressure. Such expenditures allow valuable materials to be recaptured or recycled, facilitate plant or process modernizations, are good public relations, and in many cases simply can no longer be avoided because of the increased pressure which traditional federal and state regulatory processes are bringing to bear on the polluter.<sup>12</sup> These are the real incentives, not a tax law that returns to an individual or corporation a portion of what it spends. Such tax provisions are nothing more or less than subsidies.<sup>13</sup> The label "pollution control tax incentives" is merely a euphemism--a way in which corporate polluters, who strongly support such tax provisions, can hide the fact that cleanup costs which they should be paying in large part, costs which they heretofore avoided but can no longer avoid, are instead being paid in large part by public funds. This verbal slight-of-hand allows the concept of subsidy--a governmental bearing of the costs of individual or corporate cleanup to be substituted for the professed principle that "the polluter must pay."<sup>14</sup>

If subsidies to individuals or corporations are needed or desired to reduce or eliminate unacceptable levels of pollution, they should be undertaken directly through the process of legislative appropriation, not indirectly and in the largely hidden form of so-called pollution control tax incentives.<sup>15</sup> The reasons for a direct approach to subsidies and the harm inherent in the indirect methods being used will be discussed extensively later in the paper.

On the other hand, so-called negative incentives (penalty or pollution taxes) on effluent emissions or environmentally harmful conduct bite down immediately on the polluter. Such taxes must, of course, be set high enough to be a real deterrent. If set too low, they are simply a bearable fee for a license to pollute.<sup>16</sup> Ideally too, pollution taxes must rise or fall reflecting both the quantity and quality of deleterious conduct or substance emitted.<sup>17</sup> In these circumstances the incentive to alter polluting conduct is real. An individual or corporation will spend five dollars to save ten dollars. Indeed, the rational polluter will incur costs which reduce his annual pollution tax bill (costs stemming from process changes, the installation of pollution control equipment, or an adjustment of the

quantity and type of materials he uses as an input) up to and until the marginal cost per unit of whatever combination of changes he makes equals the marginal pollution tax saving per unit he realizes from such action.<sup>18</sup> The theory being that up to that point each dollar spent to reduce effluent output reduces the pollution tax he would otherwise face by an amount greater than a dollar. In fact, an argument can be made that the rational polluter will incur costs which reduce his pollution tax bill up to the point where the total of these costs (over some period of time, say annually) equals his total (annual) savings in pollution taxes.<sup>19</sup> The details of this analysis are not essential to this discussion. Suffice it to say that not only will rational individuals or corporations spend five dollars to save ten dollars but if the total pollution tax savings possible in a given period is ten dollars they may very well spend up to 9.99 dollars in that period to effect the saving. There is no hidden subsidy here--no indirect shifting of the burden of pollution control costs to government--no de facto abdication of the "polluter pays" principle. For these reasons more than any other, industry has consistently and quite effectively resisted the imposition of direct taxes on pollutant emissions.<sup>20</sup>

## CLEANUP SUBSIDIES-A POLICY QUESTION

Though both private and governmental statements reflect a great deal of support for the "polluter pays" principle, it must today be recognized that environmental problems in some areas have reached a point that absolutely requires the combined technical and financial resources of both the polluter and government if disaster is to be avoided and timely solutions found.<sup>21</sup> The fact that private profit-making ventures give rise to pollution and pollution control costs which must subsequently be borne in whole or in part by the public through government is seen by some as unfair and callous. However, there are several good reasons for (public) governmental financial participation in industrial pollution control.

To begin with, it is not a question of right or wrong, who is at fault, or who caused the pollution. Industry caused it in the pursuit of profit. But the question today is, how do we solve the problem? How do we survive? It does no good to insist "the polluter must pay." An appropriate resolution of the problem may very well require a joint public-private response. Moreover, it is seldom the polluter who ultimately pays, though he may through direct pollution taxes or regulatory programs be made to bear some of the initial costs of cleanup.<sup>22</sup> Ultimately, he merely passes on most or all of these costs (pollution taxes and the costs of control equipment) to the consumers of his products. This seems fair enough until we remember that some polluters' products are essential items and some consumers have very low incomes. Inflexible adherence to the "polluter pays" principle will inevitably weigh most heavily on those least able to afford environmental cleanup costs.<sup>23</sup> A well designed program of direct subsidy can offset some or all of the negative effects which the "polluter pays" principle, if rigidly enforced, would have on the poor.

No one who recommends a policy of direct governmental subsidy to clean up pollution generated by private entrepreneurial activities suggests that these subsidies should completely supplant private cleanup expenditures. What is being urged is a sharing of costs, the creation of a system in which both the private polluter and government pay that portion of total cleanup cost that equity and need dictate.<sup>24</sup>

It must also be recognized and admitted that the environmental problems we face today have been brought about by a combination of industry profit-seeking and governmental as well as public acquiescence.<sup>25</sup> Having directly and indirectly encouraged for years, in the name of full employment or economic growth, the exploitation which now confronts us, it ill behooves either the government or the public to take too self-righteous a position with respect to governmental funding of cleanup costs. Some assistance (subsidy) is justifiable, if indeed not obligatory.

The issue, however, is one each nation must decide for itself. It ought to be widely and openly debated. Other claims on a national budget must be weighed in the balance-perhaps they have greater merit. The type, number, and seriousness of particular pollution problems must be considered as well as the degree of industry culpability. At the very least, either the empty and rather

meaningless rhetoric of "the polluter must pay" should be abandoned or we should stringently enforce regulatory measures and simultaneously enact those direct pollution taxes which will give meaning to the "polluter pays" principle.<sup>26</sup>

Finally, there is nothing to prevent coupling a vigorous program of regulatory enforcement and heavy direct taxation of polluting industries with a program of direct subsidy.<sup>27</sup> Subsidies need not be open to all. They could be limited to those polluters who make great effort, drawing to the extent possible on their own resources, to deal with their pollution problems, to those polluters who face particularly acute problems which demand immediate and joint public-private resolution, to small industries where rigid adherence to the "polluter must pay" principle will result in their collapse and consequent loss of employment<sup>28</sup> or, as previously suggested, to those industries whose products are essential and who ought not to be forced to pass on to low income purchasers the full burden of pollution cleanup costs. Such subsidies need not all be equal either in amount or in duration but could be tailored to the circumstances of individual situations. Here again, the point to be underscored is that if adherence to the "polluter pays" principle is to be modified--if traditional regulation, pollution taxes, and subsidy are to be combined in a mutually reinforcing program, the subsidy should be undertaken directly, after public debate, and in a manner that allows the amount, the duration, and the recipients of subsidy to be known.<sup>29</sup>

## THE FORM OF SUBSIDY

Indirect subsidies in the form of pollution control tax incentives have a number of drawbacks. First, it is not often recognized that remissions from or reductions of taxes otherwise due are in fact a form of governmental expenditure. It makes little difference in an economic or accounting sense whether one takes in taxes due from all taxpayers and pays back a portion of this amount to a class of recipients or whether one simply allows taxpayers to pay an initially reduced sum reflecting in advance payments due them.<sup>30</sup> In either case taxpayers' dollars are being spent. However, the former method, receiving all tax money due and paying a portion of it back out in the form of a direct subsidy, is subject to annual appropriations and budgetary review, usually requiring legislative approval, with all the built-in safeguards which that process entails.<sup>31</sup> On the other hand, provisions of the tax law which allow remissions from or reductions of taxes as an incentive to build or install pollution control facilities are not usually reviewed annually by either the legislative or executive branches of government. Such provisions are usually more technical in form and thus more difficult to grasp than straightforward appropriations measures, and seldom become political issues (as appropriations measures often do) focused upon and carefully watched by government, the public, and the press.<sup>32</sup>

Moreover, the total amount of all such indirect subsidies cannot be known in advance and is not within the control of the legislature. Individual and corporate taxpayers by their own independent actions control the magnitude and timing of this form of governmental subsidy—a strange, unwieldy, and mischievous reversal of good governmental and budgetary practices. There is no governmental ability to cut back quickly or expand such expenditures should such action become necessary. There is no ready ability to keep the level of such expenditures in line with the overall social priorities of government spending.<sup>33</sup> In fact, looking at the American experience, one cannot avoid concluding that the total annual indirect pollution control subsidy now given corporations far exceeds the amount that would be given to them by direct legislative appropriation if they had to compete with other public and private agencies and social objectives for such appropriations.<sup>34</sup>

Indirect subsidies usually introduce a number of distortions into subsidy programs which we are better off without. For example, in a nation with a progressive tax system (one where tax rates increase as income increases) the effect of most indirect subsidies is to give a larger subsidy to rich rather than to poor individuals and corporations.<sup>35</sup> A given remission, reduction, or exemption is worth more to one in a 50% rather than a 25% tax bracket. The higher the bracket (the richer you are) the larger the real subsidy and vice versa. Tax equity suggests an exactly opposite result. If we subsidize anyone we should subsidize poorer individuals and corporations, aiding them to meet desired levels of pollution control, while leaving wealthier individuals and corporations to pay their own pollution control costs.

A further distortion arises in that not all approaches to pollution control are fully considered on their own merit. Only those approaches, usually involving capital investment, that are included within the applicable tax incentive

legislation are seriously considered since they alone are subsidized.<sup>36</sup> A switch to more costly low sulphur fuel might, for example, do considerably more to reduce air pollution than the installation of scrubbers or stack recovery devices. But if the unsubsidized costs of the former exceed the subsidized costs of the latter, the choice that will be made is obvious.

Remissions and exemptions from taxation also have the distorting effect of narrowing the tax base from which general governmental revenues are obtained. This forces the rates on the narrowed base to be kept at artificially high levels in order to maintain the same amount of total tax revenue that was produced at lower rates before the remissions and exemptions were created. In other words, as so-called tax incentives multiply we are forced to tax a shrinking base at higher and higher rates merely to maintain a constant level of total tax revenue. At some point, those bearing these increasing burdens may justifiably complain.

<sup>37</sup>

Finally, because pollution control tax incentive legislation is usually not publicly reviewed and modified annually, as direct subsidies granted by legislative appropriation would be, there is a tendency for them to last longer than is justifiable on the basis of their real impact on levels of pollution.<sup>38</sup> Indeed, as such tax provisions become more widely known and are taken advantage of by a widening circle of individuals and corporations, the total level of subsidy expenditure they give rise to will increase. As the level of subsidy expenditure increases, a distortion is created in the minds of legislators and members of the public who quite naturally equate the level of expenditure with the level of pollution control being achieved in the real world. A feeling is created that we are dealing with the problem. After all, more money is being spent. In point of fact, because pollution control tax incentive legislation almost always stimulates approaches to pollution control involving capital investment, the marginal return (in the sense of reducing levels of pollution) which each dollar of subsidy gives rise to is certainly going to be lower than the marginal returns possible under a program of direct subsidy for pollution control. For example, even if we assume that a scrubber is the most suitable initial approach to a particular air pollution problem, it does not follow that a second scrubber will reduce air pollution twice as much as the first, and a third three times as much. After the first scrubber other approaches to pollution control (which are often unsubsidized) such as switching to lower sulphur fuel or changing other raw material inputs will almost certainly produce a greater reduction in pollution than a second or third scrubber. In any one plant and for the society as a whole, the reality is that more and more capital investment expenditures aimed at pollution control produce less and less real pollution reduction.<sup>39</sup>

In summary, the idea that pollution problems are being or will soon be resolved because we are spending more in the form of indirect pollution control subsidies is erroneous. The real issue which indirect subsidies do not accurately focus on is: what is society actually getting in the form of real pollution reduction for the subsidy dollars it spends? More precisely, what is the marginal amount of pollution reduction for the marginal dollar spent? These issues and questions are seldom raised or dealt with when so-called "pollution control tax incentive" (indirect subsidy) legislation is being considered. They are almost always raised and justification for expenditures is demanded where direct subsidies are sought through the appropriations processes of a legislature. Moreover, the same questions are raised anew in each succeeding appropriations period.

The direct subsidy approach being suggested should not be seen as a means of reducing total subsidies for pollution control. The overall level of subsidy expenditure for pollution control in any nation may be reduced or increased as public policy and national priorities dictate, but direct subsidy as opposed to indirect subsidy faces more candidly the issues of subsidy duration, who is being subsidized, and the amount of subsidy. In addition, direct subsidy more readily enables questions concerning the real pollution control benefits to the society for each subsidy dollar being spent to be examined.

Perhaps in theory, most, if not all, of the drawbacks and distortions of indirect subsidies (pollution control tax incentives) could be dealt with by more precise and carefully drawn legislation and by a combination of administrative and legislative watchfulness over the incentive devices which are enacted. Though possible in the abstract, such an approach would, at the very least, make already complex legislation even more complex. The difficulties of administering such finely drawn legislation would increase. Attendant costs would also rise.<sup>40</sup> Moreover, even if all of the drawbacks associated with indirect subsidies could be eliminated, the total range of governmental subsidy programs aimed at pollution control would remain divided between those handled indirectly via some tax incentive device and those handled directly through annual appropriation. Thus legislative coordination and comparison of these two approaches would remain difficult, if not impossible.

More important, however, one cannot find enacted examples of pollution control tax incentive legislation that has in fact been drafted so as to avoid even some of the drawbacks and distortions mentioned. One suspects this is less the fault of legislatures than of those individuals and corporations who presently benefit from and lobby for the continuation of broadly drawn and largely open-ended indirect pollution control subsidies. In almost all countries, as enacted to date, these subsidies have been generous. They are increasing<sup>41</sup> and they remain largely hidden from public and legislative scrutiny. Finally, in spite of growing political and scholarly criticism, indirect pollution control subsidies appear to have become a permanent part of the tax laws of most nations.<sup>42</sup>

It must be clear at this point that once the decision has been made to subsidize pollution control or cleanup efforts, either generally or only where particularly acute problems exist, the author's preference is for the most direct subsidy program possible. This will usually involve annual legislative appropriations, specific in amount, channeled through an appropriate federal or state agency, or conceivably given directly, to a carefully defined class of known recipients. The initial duration, extent, and magnitude of the subsidy program should be spelled out, though it may well be expanded or even curtailed as need dictates.<sup>43</sup> Eligibility requirements should be clear and not cumbersome. The recipients must be made to account for subsidy funds received, and the accounting mechanism should be designed to facilitate a determination of the ongoing effectiveness of the subsidy program in actually reducing pollution levels in the problem areas being aided.

This direct approach to subsidizing the reduction of pollution levels has none of the inherent drawbacks and distorting characteristics which indirect (tax incentive) subsidies have. Of course, one cannot guarantee that direct subsidy programs, even those legislatively debated and subject to the appropriations

process, will be free of abuse. One can say, however, that there will be more information, more open discussion about the wisdom of and the ultimate shape of any subsidy program enacted, more ongoing scrutiny and evaluation of the program. In this context, the potential for abuse is reduced and good governmental practices are facilitated.

## A WIDER APPLICATION OF POLLUTION TAXES

As previously suggested, one aspect of tax policy that can and should be more widely used to protect the environment is the imposition of pollution (penalty) taxes. These so-called negative incentives have been widely discussed for years in the form of effluent charges—an application of the underlying principle to water pollution control efforts.<sup>44</sup> But remarkably few actual examples implementing an effluent charge approach, aside from rather traditional municipal sewer service charges, are to be found, in spite of growing world-wide water pollution problems and increasing public support for the idea that the "polluter must pay".

Fewer still are the number of actual programs imposing pollution taxes on other types of harmful emissions or environmentally damaging conduct, outside the water pollution area. There has been some discussion in the United State and elsewhere of air emission (principally sulphur emission) taxes but no legislation has been enacted to date.<sup>45</sup> There are some isolated examples of the use of fees or charges to discourage the use of non-returnable bottles and the mishandling of used automobile (crankcase) oil products.<sup>46</sup> But the failure of governments generally to use pollution taxes is striking and most unfortunate. Outside the areas of water effluent charges and air emission taxes, there is little consideration given to the application of negative incentive (penalty or pollution taxes) principles to the broad range of socially and environmentally harmful conduct that confronts us today.<sup>47</sup> One is at a loss to explain fully this gap. To be sure, powerful individual and corporate interests have consistently opposed legislative utilization of this pollution control mechanism. But scholars and legislators themselves have not pursued these issues. It is to be hoped that this forbearance will soon end.

The first step toward wider use of pollution taxes has already, in a sense, been partially taken. Tax policy in most countries accepts the so-called "benefit" or "user charge" principle.<sup>48</sup> That is, we have no hesitation imposing special assessment taxes, fees, or other charges whenever we perceive that some form of public action confers a benefit on an individual or corporation even when the benefit is unasked for.<sup>49</sup> Thus, we impose charges for municipal water delivery, sewer service, or parking. We charge tolls for crossing bridges, going through tunnels, or using certain highways.<sup>50</sup> We assess property owners a portion of the costs of improving abutting streets and sidewalks even if the abutting owners did not request the improvement.<sup>51</sup> The conceptual step from imposing a charge on an individual or corporation for a benefit received from the public to imposing a charge on individuals and corporations which impose a burden on the public, a burden which can be measured in dollars and which must often be defrayed by an expenditure of public funds, seems small indeed.<sup>52</sup> Once this conceptual step is taken and then translated into public tax policy, a wide range of pollution tax (negative incentive) possibilities is opened up.

For example, just as one may impose charges designed to encourage the reduction of air and water pollutant emissions (charges reflecting both the amount and quality of the respective emissions) so too may one design a charge system covering noise and solid waste emissions.<sup>53</sup> In the case of noise the

charges could reflect decibel level and duration of the noise--whether it is intermittent or constant. The system might provide for charge variations dependent upon the time of the day-nighttime noise presumably being more offensive than daytime--or upon the character of the area near a given point source of noise--noise in areas zoned for heavy industry presumably being less offensive than noise in residential areas. A highly refined noise charge system might even take into account more basic geographic differences. That is, the acceptable threshold level of noise (below which no charges would presumably be incurred) in what are usually quiet rural, farm, or forest areas might be lower than what would be deemed acceptable in generally noisier urban, industrial, or transportation centers.<sup>54</sup>

With respect to solid waste charges, the same principles apply. An initial fixed minimum charge could be levied for the removal of some threshold quantity of solid wastes.<sup>55</sup> Removal of solid wastes in excess of the threshold quantity would then bear proportionately higher charges reflecting both the amount and quality of the materials being discarded--bottles, aerosol cans, plastics, metals, and bulky items would presumably be charged proportionately more than burnable or recyclable paper or cloth products. A solid waste charge system might provide for a reduced scale of rates for those who separate the solid waste materials they discard (providing individual containers for bottles, cans, and paper products) or for those who require less frequent servicing (say, monthly instead of weekly pickup).<sup>56</sup> Separate charge scales could be developed for residential, commercial, institutional, and industrial solid wastes reflecting economies of scale and differences in actual cost to the public.

The principles underlying pollution taxes might be used to deal with a number of environmentally related problems to which the automobile gives rise. For a start, ownership of more than one vehicle per family, in areas already heavily overcrowded with cars, could be made significantly more costly, and thus less likely, by sharply increasing registration fees for second, third, and fourth vehicles.<sup>57</sup> Registration fees could also be set significantly and proportionately higher for cars which by virtue of their size, weight, motor type, accessories, or capacity for speed take up more room, do more road damage, and use more fuel than do lighter, smaller, and slower vehicles. This approach is already being used to some extent in determining truck registration fees, but it needs to be considerably refined. The upper range of charges, particularly for large trucks which put great stress on bridges and roadways, must be raised to reflect the real costs imposed on the public, and all vehicles (not just large trucks) must be subject to such a charge system.<sup>58</sup>

Finally, the problem of ultimate disposal of trucks and cars could be eased if a high disposal charge, transferable with the sale of the vehicle, and partially refundable was levied at the time of initial sale.<sup>59</sup> This charge too would be a function of the type and size of the vehicle. For example, a new medium sized car might carry a disposal charge of two hundred and fifty dollars; the new car purchaser would pay this fee as he does sales or excise taxes and registration fees. If he kept the car until it was ultimately scrapped he would get some percentage, perhaps two-thirds or three-fourths of the disposal charge back when he took the car to an approved junk or scrap dealer. If the car owner merely took the car to a municipal dump, perhaps only one-third or one-half of the charge would be refunded reflecting the slightly less desirable disposal alternative

of which he availed himself. If the owner simply abandons the car in a field or city street (a means by which thousands of vehicles are disposed of each year in the United States) he would, of course, forfeit the full disposal charge. If he traded the car in or sold it, the dealer or the new owner (as the case may be) would be subject to an identical two hundred and fifty dollar charge. When this charge is paid by the dealer or new owner, the original owner would receive a refund of the disposal charge he paid, less perhaps, a small amount to cover administrative costs. The burden then is continually placed on the present owner of a vehicle to dispose of it in a socially and environmentally sound manner.<sup>60</sup> The fund built up by such a charge system could be earmarked to pay the public costs now incurred for removal, storage, and ultimate disposal by junking or scrapping of abandoned or discarded vehicles.<sup>61</sup>

Another activity which could be subjected to pollution tax legislation is advertising. Charges could be highest for advertising which seeks to create market for environmentally unsound products or to induce environmentally unsound consumer behavior, e.g., a wider use of throw-away as opposed to reuseable products (bottles for examples), bigger cars, family second and third cars, more energy consuming household appliances, fur coats.<sup>62</sup> Charges could reflect where and how the advertising presentation is made. Large billboards along rural or scenic roads where the intrusion on the amenity of the landscape is considerable could bear a high charge. Appropriately sized displays in urban or commercial areas would bear lower charges. And well designed informational or utilitarian signs a still lower charge. Pollution tax charges applied to advertising could also reflect the repetitive character of the advertising effort. Unwanted saturation advertising which constantly bombards the public, whether it relies on handouts, use of the mails, radio or television broadcasts, print media, billboards, or some other form could be made to bear heavier charges than advertising which is spaced more reasonably in time or distance, as the case may be, or advertising which is requested by individual consumers. The argument that such tax charges ought to be avoided because of the threat they pose to free speech is unsound.<sup>63</sup> There are some problems in this area, but they can be avoided by carefully drafted legislation which does not attempt to do too much. No suggestion is being made that advertising be prohibited--we are only talking about a system of regulatory charges. Just as we now regulate advertising, to some extent, as to time and place and with respect to accuracy and truthfulness (to insure that advertised claims are verifiable) so we may regulate, using tax policy, to reduce the level of environmental intrusion to which advertising directly and indirectly gives rise.<sup>64</sup>

A further pollution tax could be levied on the overuse or misuse of pesticides and related products.<sup>65</sup> Beyond some nominal level of use, presumably reasonable, which could go uncharged or bear only a minimal fixed charge, the charge system could reflect not only the potential harmfulness of the type of pesticide being used, particularly where less environmentally harmful alternatives exist, but the frequency and strength of application. Charges could also be varied reflecting the purpose of the application--destruction of an infestation presumably being more essential than obtaining the last possible bushel of grain from a given acreage;<sup>66</sup> the location of the land area to which pesticides are applied--overuse or misuse of pesticides in urban areas or in areas immediately upslope from watercourses presumably being more dangerous; and the topographic features of the land--application on steep slopes or on porous soils

again being more hazardous. Here too, the purpose of the charges is not to prohibit the reasonable use of a variety of essential pesticides and related products but to make the environmentally harmful overuse or misuse of these products increasingly more costly and thus less likely. This is accomplished by imposing an economic sanction, in the form of charges which shift the costs of overuse and misuse, formerly borne by the public, back to the pesticide user.

The fundamental principle underlying all pollution (penalty, negative incentive) taxes is imposition of costs on environmentally harmful conduct, which costs rise, as the scope, magnitude, and duration of the harm increases. All the foregoing examples, though briefly described, have this common characteristic. Almost any environmental problem can be approached in this manner using a strong sanction to reduce the problem created.<sup>67</sup> For example, as a deterrent to oil spills, firms handling crude oil and refined oil products could without regard to fault, be subject to a high and steeply progressive system of charges predicated on the amount and type of products spilled. Such charges would encourage both technological innovation and maximum care in handling this dangerous substance, particularly in coastal water and harbor areas.<sup>68</sup> The excessive, often wasteful, use of packaging and wrapping materials by manufacturers and retailers which contributes significantly not only to the cost of products sold but to solid waste problems, ostensibly undertaken solely for reasons of consumer convenience, could also be subjected to a system of charges which would reduce this marketing penchant to more reasonable and realistic levels.<sup>69</sup> The removal of natural tree cover within or in proximity to urban areas or clear-cutting in forest areas could be deterred by a charge system which made such activities more costly and thus uneconomical.<sup>70</sup> The demolition and destruction, rather than the rehabilitation and reuse, of historical or architecturally significant structures could also be reduced by an appropriately designed charge system<sup>71</sup> as could the failure to properly restore and reclaim stripmined land.<sup>72</sup>

All of the environmental abuses alluded to in this paper and sought to be dealt with by some form of pollution tax exist only because, and to the degree that, a portion of the polluter's costs can, either knowingly or unknowingly, be shifted to the public. When this is prevented or made more difficult by imposing a steeply progressive system of charges, economic prudence alone dictates a change in the polluter's conduct--a change that can only bode well for the environment.<sup>73</sup>

## SOME ADDITIONAL TAX MEASURES

A number of unrelated tax measures and fiscal steps could also be undertaken to improve overall tax policy as it relates to the environment. For example, land speculation often leading to the unwise or premature transfer of land from a less intensive use (natural or agricultural) to a more intensive use (residential, commercial, or industrial) exists largely, because the excessive profits which the speculator reaps are grossly undertaxed.<sup>74</sup> In the United States, profits from land sales are usually not even treated as ordinary income but instead are subjected only to lower capital-gains taxation. These tax policies encourage land speculation. From an environmental point of view, they create exactly the wrong incentives. Instead, profitable land transactions involving a change from an unintensive (natural, forest, or agricultural) use to a development (residential, commercial, or industrial) use, particularly those transactions which result in completely unanticipated monetary gains for the landowner or which stem almost totally from governmental actions such as the decision to build a road or amend a basic land use plan, should be subject to a high and progressive excess profits tax.<sup>75</sup> Such a tax could also take into account the character of the vendor (an ordinary citizen might be taxed less than a realtor or developer); how long the land has been held by the vendor (property held longer might be taxed less); the factors giving rise to the increased land value (increased value attributable to governmental actions could be taxed more than gains arising from normal market forces); and conditions, if any, attached to the sale designed to minimize the adverse effects of transferring the land from an unintensive to a development use (stringent conditions might lower the tax otherwise due).

A complementary tax policy, also designed to reduce the likelihood of unwise or premature transfers of unintensively used land to use for development purpose, would permit the imposition of variable property tax rates.<sup>76</sup> The level of property taxation which can be borne by open space, wetland, forest, or agricultural lands is not as high as can be borne by residential property, which in turn is not as high as can be borne by industrial and commercial properties. Uniform property tax requirements often result in the former land uses being overtaxed while the latter are undertaxed relative to their respective present use values and income generating capacities. Unintensively used lands must then be put to more intensive development uses in order to enable the owners to meet the property tax burdens imposed.<sup>77</sup> If such lands are not developed, the alternative is even worse--the lands will simply be overused, its resources will be depleted as rapidly as possible to pay the property taxes and when this exploitation is complete, landowners will often abandon these lands. They may well be forfeited to the state for nonpayment of taxes. Obviously, from a tax equity, environmental, or land management standpoint these are not desirable results. They can be avoided by frankly adopting a property tax system that imposes variable burdens geared to the present use value of land or its income generating capacity. Under such a system, uses of land involving development would bear much heavier absolute property tax burdens than lands which are being used unintensively. The burdens, however, should be relatively equal from the standpoint of income derived from and present use value of the respective land parcels.

Another practice which bears a relationship to polluter costs and to conduct affecting the environment and scarce resources is quantity discounting of the costs of scarce energy, water, and similar resources. There is no incentive for large industrial or commercial users of electricity, for example, to husband their use, reduce waste, or switch to what may be (if viewed in a larger economic frame) a cheaper alternative energy source, if these large users are sold electricity at per unit prices which are continually lowered as the quantity of electricity utilized is increased.<sup>78</sup> There is also a fundamental lack of equity in this rather common practice. The most rapacious users of a scarce resource not only receive an unwarranted price advantage, but they receive it at the expense of more moderate electrical energy users (the general public) who derive no benefit from quantity discount pricing.<sup>79</sup> Moreover, those who most waste the resource (because it is priced so low) are confirmed in an environmentally harmful course of conduct. All such resources should at least be priced at uniform rates which fairly reflect all costs and which deal even-handedly with all consumers. Indeed, an argument can be made that large users of any resource should pay progressively higher (not lower) rates to deter waste, overuse, and to spur research leading either to less use of the particular resource or the utilization of less scarce or less costly alternatives.<sup>80</sup>

Another tax policy, often implemented by numerous complementary provisions in specific tax laws, which can no longer be justified is that which favors the development, exploitation, and use of raw resources (timber, coal, oil, tin, copper, iron, etc.) instead of wider use of recycled materials or renewable energy sources.<sup>81</sup> The use of raw resources is encouraged by tax laws which, for example, provide depletion allowances, favorable depreciation and write-off provisions, capital gains treatment of income, favorable income and loss carry-back and carry-forward provisions, and the ability to expense immediately what normally would be considered capital investment.<sup>82</sup> A number of countries introduced these policies decades ago. At that time the argument that the development of these resources and the industries they support required initial stimulus was, if not correct, at least more plausible than it is today. The retention of these tax windfalls, at a time when the world supply of many raw resources is measured in years or at most decades is ludicrous. One can argue that it is not enough that recycled materials and renewable energy sources receive tax parity with raw products (though this at least should be achieved), but that a wider use of recycled and renewable resources should be encouraged by favorable tax, fiscal, and regulatory policy.<sup>83</sup> Clearly, the industrialized nations are soon going to be forced to rely on recycled materials and renewable energy sources to an increasing extent. Tax and fiscal policies should anticipate this reality, particularly in light of the time lags which economic readjustments and technological innovation require.<sup>84</sup>

A final step is not a tax measure as such, but a fiscal program, which governments (probably at the federal level) can undertake to facilitate environmental improvement, particularly cleanup efforts. It requires that governments become construction lenders of last resort to facilitate the financing of both public and private environmental improvement facilities and equipment.<sup>85</sup> In many countries government is already a lender or loan guarantor in a number of areas, e.g., housing, agricultural production, disaster relief, where it has been shown that public or private borrowing capacity and private lending capacity is unable or unwilling to obtain funds or bear certain

risks.<sup>86</sup> In these circumstances, to facilitate the activity deemed desirable, governments have stood ready to advance funds or guarantee private loans. A similar stimulus on behalf of the environment is suggested here. It is a simple fact that any number of public agencies, usually state and local units of government, and a large number of private firms (usually marginal firms, firms with costly pollution problems, or firms located in heavily polluted areas) simply cannot carry out plans to build, improve, or enlarge pollution control facilities or equipment because their respective tax bases, profit margins, or borrowing capacity will not generate the funds necessary.<sup>87</sup> It is not a question of dilatory conduct or technological lag. It is simply a shortage of dollars. In these cases a stand-by government program should be available either to make direct loans at market or near-market interest rates and with appropriate repayment provisions or to insure (thus removing the element of risk) conventional private loans to those public and private entities who meet eligibility requirements for such a program.<sup>88</sup> These government funds and guarantees should never compete with or be a substitute for conventional revenue generating resources or lending institutions, but should be available as a last resort in circumstances where the only other alternative is to forego the construction or purchase of necessary pollution control facilities or equipment.

Such a program could be coupled with any existing government programs of direct subsidy. Obviously, many of the firms that cannot successfully go into the private money market and raise the necessary funds to build or buy pollution control facilities and equipment would be some of the same firms to whom governmental pollution cleanup subsidies would be given.<sup>89</sup> However, it is not essential that a subsidy program be linked to government becoming a "lender of last resort" for the construction of pollution control facilities. Neither program is required for the success of the other; the two would, however, be useful complements to one another.

## CONCLUSION

The tax and fiscal policies of nations generally reflect the dominant political, economic, and social pressures of the day. Certainly that is the case today in the industrialized countries of the West. We have pursued laissez-faire, growth-oriented economic policies which require the exploitation of resources. Our industries are not above the taking of governmental subsidies, usually hidden, particularly if they can be labeled "incentives", "depreciation", "investment credits", or "depletion allowances". At the same time we have spurned the imposition of those penalty and pollution taxes that have real effect, that would impede not only the increase and spread of pollution and other environmentally harmful conduct, but also the processes of unrestrained (some would say mindless) growth.<sup>90</sup> We bear stoically the hidden but growing costs--the social costs of polluted air and water, ravaged landscapes, and depleted, often misused, resources.

But as the magnitude of these costs increases we must begin--indeed we have already begun--reassessing not only our basic economic policies but our attitude toward use of resources, pollution control, and environmentally related tax and fiscal policy. Useful changes are possible; they can and must be made. The tax system, which for so long has served resource exploitation, can be made to serve pollution control efforts.

A first step would be the elimination of all hidden tax subsidies to individuals and corporations ostensibly for pollution control facilities and equipment. If governmental subsidies for pollution control are needed and desired (as well they might be), they should be undertaken directly, after open and public debate, and by the processes of legislative appropriation. The amount, duration, and actual recipients of subsidies should be known.

As a second step, the now empty rhetoric of "the polluter must pay" should have life breathed into it by the imposition of a wide range of pollution taxes. Without attempting to spell out the details or precise form of such legislation, this paper has briefly outlined a wide variety of environmental problems which could be attacked and significantly improved by the imposition of a charge system (a pollution tax) designed to make environmentally harmful conduct increasingly more costly and, thus, less likely.

Finally, the paper suggests a range of additional tax and fiscal measures, i.e., variable property taxation, excess profits taxation of land speculation profits, the ending of quantity discount resource pricing, the creation of incentives for the use of recycled as opposed to raw resources, and government assumption of the role of "lender of last resort" for the construction of needed pollution control facilities. These examples are designed to show both how present policies are often at odds with sound environmental objectives and at the same time how they may be altered to further our awakening concern for the environment.

A last point to be stressed is that none of the recommendations made in this paper should be seen as a substitute for persistent regulatory efforts to improve the environment or as a panacea which will quickly right all environmental

wrongs. These proposals are at best complementary actions,<sup>91</sup> proposals which, if individually undertaken, will be small steps, but steps in the right direction, toward harmonizing tax policy and environmental objectives.

- 1 See, D. Meadows et al., *The Limits to Growth* (A report for the Club of Rome's Project on the Predicament of Mankind) 1972; United Nations General Assembly Document A/CONF. 48/14, *Report of the United Nations Conference on the Human Environment*; FUST, *The Results from Stockholm* (1973); B. Commoner, *The Closing Circle* (1971); *Population and the American Future*; *The Report of the Commission on Population Growth and the American Future* (1972); H. Daly, *Toward A Steady-State Economy* (1973).
- 2 Cf. F. Bosselman, D. Callies, J. Banta, *The Taking Issue* (1973); F. Thomas, *Law in Action: Legal Frontiers for Natural Resources Planning* (1972).

"And since law must constantly arbitrate between competing interests and attempt to settle the immediate and particular problem before it without jeopardizing the greater pattern of unity, law is consequently, an eternal disequilibrium - a balancing act of stability and progress."

*Id.* at 1.

- 3 See, F. Bosselman, D. Callies, *The Quiet Revolution in Land Use Control* (1971) (particularly the Introduction and the last chapter pgs. 314-326); *Barnes v. Hathorn*, 54 Me. 124 (1866):

"...No man is at liberty to use his own (property rights) without any reference to the health, comfort or reasonable enjoyment of like public or private rights by others. Every man gives up something of his absolute right of dominion and use of his own, to be regulated or restrained by law, so that others may not be hurt or hindered unreasonably in the use and enjoyment of their property."

*Id.* at 125-26.

- 4 S. Ratner, *American Taxation, Its History As a Social Force in Democracy* (1942); J. Commons, *Institutional Economics* (1934):

"The American distinction between the taxing power and the police power is, to a great extent, a legal fiction growing out of our system of government, and is unnecessary from the economic and fiscal standpoint . . . . For the police power is none other than the sovereign power to restrain or suppress what is deemed, by the dominant interests, to be disadvantageous, and to promote and foster what they deem advantageous for the commonwealth. Taxation then, is the most pervasive and privileged exercise of the police power."

*Id.* at 820, Delogu, "The Taxing Power As a Land Use Control Device," 45 Denver L.J. 279 (1968).

- 5 This is in large part due to industry opposition to any tax or charge system geared to effluent emission levels and to environmentalist fears that so-called pollution taxes either won't work or will be set so low as to be regarded as licenses to pollute. See, e.g., Lumb, "Fallacies of a Pollution Tax," *Industrial Water Engineering* (Apr. 1971); Kinney, "Effluent Taxes:

Abatement Prods or Budget-Balancers? ," *Industrial Water Engineering* (Apr. 1971); McClosky & Hillis, "Penalizing Polluters Part I: Economic Deterrents," 56 *Sierra Club Bulletin*(No. 9, 1971); Reitze & Reitze, "Tax Incentives Don't Stop Pollution," 57 *Amer. Bar Assoc. J.* 127 (1971); "Should We Now Turn to Effluent Charges," *The Conservation Foundation Letter* (June 1971); "Effluent Charges on Air and Water Pollution, A Conference Report of the Council on Law Related Studies," Environmental Law Institute (1973).

- 6 See, e.g., J. Pechman, *Federal Tax Policy* (1966).
- 7 In fact, innovative and experimental local and state tax initiatives (policies) designed to deal with environmental problems need to be conceived, enacted, monitored, refined and shown to be effective before large-scale, more widespread use of these policies will be politically possible or publically acceptable. In the United States many local governments have successfully used sewer service charges to pay for the capital costs and the operating costs of sewage collection and treatment systems. This experience may be capable of being built upon to deal with other types of pollutant materials or may give rise to a model which will allow a statewide or river basin wide approach to dealing with (paying for) water pollution control. See, Roberts, "River Basin Authorities: A National Solution to Water Pollution," 83 *Harvard L.R.* 1527 (1970).
- 8 Industry often supports so-called positive incentive pollution control tax laws -- why not, these are after all indirect subsidies to industry. See, e.g., Kussmann, "Fast Writeoffs Aren't Enough, We Need Tax Credits Too," *Industrial Water Engineering* (Apr. 1971); McNulty, "State Tax Incentives to Fight Pollution," 56 *Amer. Bar Assoc. J.* 747 (1970). At the same time, industry has consistently and adamantly opposed pollution taxes, see, e.g., Lumb and Kinney articles, Note 5 and comments of industry leaders before U.S. Congressional Committees, 2 *Environment Reporter, Current Developments* 336 (July 23, 1971); 2 *Environment Reporter, Current Developments* 701 (Oct. 15, 1971).
- 9 The reasoning of James E. Kussmann, Note 8 is typical:

"If we're really serious about beating pollution with the least disruption of the price structure and the market place, we ought to use the tax system to encourage industry to make even greater efforts in this field. I refer specifically to a tax credit - a deduction from a tax payment based on a given percentage of the capital expenditures for pollution control facilities -- combined with accelerated amortization.

Operation of these facilities usually does not yield a salable product to offset part of the costs, let alone make a profit. In addition, capital is diverted from production facilities which could yield a profit. Thus NAM's policy is to call for tax relief through accelerated amortization, up to and including immediate writeoff, and other suitable tax devices."
- 10 The rationale of such fees and charges has been stated most succinctly by the Coalition to Tax Pollution in a bulletin "Turning the Tables on Polluters" (1971):

"The purpose of pollution taxes is to make pollution abatement in the self-interest of the polluter, by creating a strong economic incentive for industry to stop polluting. A polluting tax system places financial responsibility directly on the polluter according to the amount of pollution emitted. For the tax to be effective, it must cost the polluter more than the expense of abatement."

*Id.* at 1.

- 11 See, Roberts, Note 7 at 1532; Reitze & Reitze, Note 5.

A report prepared by the United States House of Representatives, Committee on Government Operations, expressing the "Views of the Governors on Tax Incentives and Effluent Charges" while noting the growing use of pollution control tax incentives by the federal government and by state governments was forced to conclude, "The experience of some of the states with tax incentive programs indicates that industry does not always take advantage of this form of encouragement," (House Report No. 1330, 89th Cong. 2d Sess. 1966).

- 12 See, "Tax Incentives and the Environment," 1 *Environmental Law Reporter* 10083:

"For such provisions (pollution control tax incentives) to be effective, the polluter must already be very near a decision to install pollution abatement equipment, either because the costs incurred through state or federal enforcement of pollution statutes are likely to be high (not at present a strong likelihood), because early investment will be cheaper while demand for such equipment is low, or because good public relations, good relations with various levels of government (especially state), or personal commitment to environmental quality all weigh heavily in the taxpayer's decision-making."

*Id.* at 10084.

- 13 Surrey, "Tax Incentives as a Device for Implementing Government Policy: A Comparison With Direct Government Expenditures," 83 *Harvard L.R.* 705 (1970):

"A meaningful comparison between the two techniques (tax incentive and direct expenditure) must also be realistic. Thus, it must recognize that a tax incentive does involve the expenditure of government funds. It is often said that a tax incentive is more useful than a direct expenditure because people do not like or will not respond to subsidies. Such statements always assume that the direct expenditure is the subsidy, whereas the tax benefit obtained in the tax incentive - the lower tax -- is not so regarded. Perhaps we may find that this fiscal illusion has its usefulness, but we should at least be aware of what is the reality and what is the illusion."

*Id.* at 715.

- 14 The idea that the polluter should pay the cleanup costs arising from and made necessary by his activities has had wide popular and political support. Most recently the third International Parliamentary Conference on the Environment meeting in Nairobi (April 1974) unanimously adopted the "polluter-pays principle." Moreover, the conference materials noted that the (EC) European Communities and numerous individual nations, for example, Australia, Rumania, Japan, and the Federal Republic of Germany have, as a matter of stated policy, adopted the principle.

In the United States, former President Nixon, shortly after signing the National Environmental Policy Act, implicitly endorsed the "polluter pays" principle in his "State of the Union" message, Jan. 22 1970; "... the price of goods should be made to include the costs of producing and disposing of them without damage to the environment," (Cong. Rec. 91st Cong. 2d Sess. Vol. 116 Part 1 pg. 740).

- 15 The Surrey article, Note 13, provides thorough and comprehensive arguments in support of this proposition. He concludes by noting:

"What, then, is the balance sheet regarding these two methods of government assistance, direct expenditures and tax incentives? I conclude from the above observations that, as a generalization, the burden of proof should rest heavily on those proposing the use of the tax incentive method. In any particular situation -- certainly any new situation -- the first approach should be to explore the various direct expenditure alternatives. Once the most desirable of these alternatives is determined, if one still wishes to consider the tax incentive method for the same substantive program, the question must be what clear advantages can be obtained by using the tax method. Again, as a generalization, I think it unlikely that clear advantages in the tax incentive method will be found. Moreover, I stress strongly that the advantages must be clear and compelling to overcome the losses that accompany the use of the tax incentive, even the well-structured incentive. The problems of achieving a well-structured incentive are in themselves formidable. Even assuming that such problems as unfairness and windfalls are overcome, there are still the losses and drawbacks we have described: confusion and divided authority in the legislative and administrative processes, difficulties in maintaining budgetary control, confusion in perceiving and setting national priorities, and dangers to the tax structure itself."

*Id.* at 734. Stanley Surrey is one of the foremost tax experts in the United States - a former Assistant Secretary of the Treasury for Tax Policy and a member of the Harvard Law School faculty.

- 16 Many conservationists have opposed pollution taxes because of their belief that politicians could not be relied upon to set charges high enough to be a real deterrent. But as the short-comings of other enforcement strategies have become more apparent, conservationists have reexamined their position, see, Note 5, McCloskey, Hillis, & Moss, "Penalizing Polluters," and "Should We Now Turn to Effluent Charges, ". See also Freeman & Haveman, "Residuals Charges for Pollution Control: A Policy Evaluation," 177 *Science* 322 (1972):

"The 'license to pollute' cliché should be laid to rest once and for all. First, it must be recognized that residuals charges are no more a license to pollute than are the allocation of permits issued under a regulation-enforcement strategy. In both approaches it is recognized that some use of watercourses for residuals absorption is appropriate. In both approaches, the quality standard of the stream will be attained if the policy is properly implemented. The residuals charge strategy will achieve the desired reduction in discharges by raising the polluter's cost of discharging; the use of permits will achieve the desired reduction by enforcing the rules implied by license provisions."

*Id.* at 325.

- 17 See, Delogu, "Effluent Charges: A Method of Enforcing Stream Standards," 19 Maine Law Rev. 29, 39-47 (1967); Proxmire, Introduction of the Regional Water Quality Act of 1970 § 3181, ("Each polluter would be assessed based on the quantity of the waste discharged and also on its relative strength and toxicity," Cong. Rec. 91st Cong. 1st Sess. Vol. 115 Part 26 pg. 35725).
- 18 See, A Freeman, *The Economics of Pollution Control and Environmental Quality* (1971); Roberts, Note 7 at 1551; cf., "Effluent Charges on Air and Water Pollution," ELI Conference, Report Note 5:

"The idea of the economists had been, in part, to equalize marginal control costs for all co-polluters at a level that could be defended by reference either to marginal pollution damages or to an ambient standard representing a presumed equilibrium between damages and costs of avoiding them."

*Id.* at 88

- 19 However, this course of conduct will be undertaken by a polluter only if there are real non-monetary benefits derived by the polluter or the larger society from such conduct and if these benefits exceed the monetary gains which would arise from traditional profit maximizing and cost minimizing polluter motives; see, Freeman and Haveman, Note 16, at 327 and Note 26.
- 20 See, e.g., Lumb and Kinney articles, Note 5, also published testimony of industry representatives and statements of industry trade associations on the question of pollution taxes "Economic Analysis and the Efficiency of Government -- Part 6 Economic Incentives to Control Pollution" given before the Subcommittee on Priorities and Economy in Government of the Joint Economic Committee (July 12 and 19, 1971). Industry in the person of Mr. Lumb, a vice-president of Republic Steel Corp., has gone so far as to assert that pollution taxes would actually harm overall pollution control efforts by preventing corporations from allocating as much as they now do to pollution control capital investment:

"American industry is not interested in a license to pollute. Let me make that absolutely clear. This year, (1971) United States industry is spending 3.6 billion dollars on new pollution control facilities in

addition to hundreds of millions of dollars it will spend every year in operation of billions of dollars worth of pollution control facilities already in place.

The principal obstacle to even greater pollution control expenditures by industry is the generation of enough cash to pay for these non-productive facilities. Taking money away from industrial companies in the name of a tax on pollution would not help -- it would harm the cause of pollution control."

*Id.* at 1261.

- 21 Governmental assistance in dealing with acute pollution problems has been recognized as necessary in most developed nations. Such assistance includes both financial expenditures and technical assistance including government - sponsored basic research, improvement, and development of pollution control technology. See, e.g., Council on Environmental Quality, Environmental Quality, *Fifth Annual Report* (1974) (Appendix G at 564 notes that the United States Federal Government will spend approximately 7 billion dollars in 1975 for programs designed to understand, describe, and predict the environment -- protect and enhance the environment -- and to construct pollution control and abatement facilities). The need for a joint public-private response to environmental problems was recognized and accepted at the United Nations Conference on the Human Environment held at Stockholm in 1972, See Note 1, FUST:

"A point has been reached in history when we must shape our actions throughout the world with a more prudent care for their environmental consequences ....

To achieve this environmental goal will demand the acceptance of responsibility by citizens and communities and by enterprises and institutions at every level, all sharing equitably in common efforts. Individuals in all walks of life as well as organizations in many fields, by their values and the sum of their actions, will shape the world environment of the future. Local and national governments will bear the greatest burden for large-scale environmental policy and action within their jurisdictions."

*Id.* at 18.

- 22 Whether one advocates pollution taxes or strong regulatory measures as the means by which industry is forced to deal responsibly with the pollution problems it creates, the costs, in whole or in part, are ultimately shifted to the consumer. Cleanup costs are quite rightly treated by the polluter as a cost of production. See, *The Coalition to Tax Pollution, Turning the Tables on Polluters* (1971):

"At the present time, goods that are produced in polluting processes are artificially cheap; part of their true cost is expressed in the form of environmental deterioration. Pollution taxes, by locating the cost of pollution and pollution abatement exactly at the source, cause goods, to

reflect more accurately the total costs that go into their production. But any effective pollution control will cause increased cost to the consumer, either in the form of higher prices (as in this case) or higher taxes (as in government-subsidized pollution control). Pollution taxes, in that they encourage the most economical means of pollution control, will cause the least rise in consumer costs consistent with pollution control."

*Id.* at 2. Though the costs of pollution control borne by consumers is high and will rise in the future, the costs of not dealing with pollution problems is also high.

"Although some products will cost more as a result of pollution control, in the case of sulphur pollution, consumers will actually pay less when the pollution ends. At the present level of sulphur pollution, the Environmental Protection Agency estimates that the health and property damage costs society 25 cents per pound of sulphur emitted. This amount, a conservative estimate, is far more than abatement will cost. Unfortunately, the costs of the long-term effects of sulphur pollution, even though they are very high, are hidden costs, and a rise in product cost will be obvious to everyone. In their fight against pollution control, polluters always cite the fact that consumers will have to pay more for their products. What they never mention is that pollution itself is costing the consumer far more than pollution abatement ever will."

*Id.* at 2. A former member of the President's Council of Economic Advisors, Milton Friedman (quoted in the *Conservation Foundation Letter*, May 1971) stated that:

"Pollution control will result in higher prices to the consumer for the products that pollute, but not higher costs to the consumer .... The tendency to say that pollution control will make the cost of living higher is wrong. It will make (the) total cost of living lower by making the cost of the things we buy higher but by making the costs imposed on us involuntarily, lower."

23 See, Roberts, Note 7 at 1548-49; *Proceedings, Third International Parliamentary Conference* (1974) (pg. 36).

24 In the United States private industries' expenditures to deal with pollution problems have been and remain considerable. Estimates of total cost to meet present standards range from 10-95 billion dollars. See, Council on Environmental Quality, Environmental Quality, *First Annual Report* 43, 72 (1970); *The Wall Street Journal*, Aug. 10, 1970 pg. 1; 1 *Environment Reporter, Current Developments* 467 (Aug. 28, 1970); *Pollution Control Expenditure, Economics Dept.* McGraw Hill Publications Co. (May 14, 1971) presented as testimony before the Joint Economic Committee of the Congress and contained in Economic Analysis and the Efficiency of Government - Part 6 Economic Incentives to Control Pollution, Note 20:

"American business needs to spend a total of 18.2 billion dollars to bring all of its existing facilities up to present pollution control standards. Before McGraw-Hill made this survey, this cost was one of

the great unknowns facing our society. The key result of this survey means that it will cost 5 times the 3.64 billion dollars business is currently planning to invest in air and water pollution control this year. Thus, if business were to maintain its present spending rate, it would nearly satisfy current anti-pollution legislation by the end of 1975. But standards are likely to become more stringent with the passage of time, so the total cost could run well above 18.2 billion dollars."

*Id.* at 1274.

- 25 Cf. *Controlling Pollution, The Economics of a Cleaner America* (M. Goldman ed. 1967) (particularly articles by Goldman, Kapp, Friedman, and Hazelton); Working Committee on Economic Incentives, "Federal Coordinating Committee on the Economic Impact of Pollution Abatement, Cost Sharing with Industry?" Nov. 20, 1967. The propriety of government pollution control assistance in light of society's new found environmental zeal and desire to reach ever-rising standards has been pointed out by industry, see Kussman, Note 8:

"It can be argued philosophically that the price of a product should reflect all the costs of producing it, including the charge for controlling attendant pollution. And it would be a sound argument if over the decades there had been clearly defined, constant pollution control objectives and standards....

Today a "crash" program is being called for ....

If the public insists on achieving a high-quality physical environment in a highly industrialized area within an extremely tight schedule, it only seems equitable - in fact, it seems to be the only economic route available -- to have this cost increment diffused, through taxation and increased product prices, among the entire public which benefits."

- 26 Cf. The Surrey article, Note 13, viewing the United States' experience and its seeming preference for indirect subsidy via tax incentives is not encouraging. He sees little open debate and very little rationality in our process. He states:

"But perhaps irrationality will govern; perhaps administrators and legislators ... will spend money through tax incentives that they would not appropriate as direct expenditures."

*Id.* at 732-33. More cynically Surrey notes:

"It may be that legislators and the beneficiaries of tax incentive programs -- businesses receiving accelerated depreciation or percentage depletion, state and local governments receiving tax exemption on their bonds -- fear that once the public is fully aware of the amounts involved and can weigh expenditure costs against benefits received by the nation, the tax incentives will be found wanting in many respects. In this view, the deeper the incentive is buried in tax technicalities and tax terminology, the more it looks like any other technical tax provision,

the more it partakes of the protective coloration of the tax law that can be obtained by such outward similarity to ordinary tax provisions, then the more desirable the tax incentive becomes. The public must dig hard and deep to find the subsidy and evaluate it. But such an approach to government expenditures -- the preference for the hidden subsidy over the open subsidy -- is contrary to all experience with budgets, and to efforts to achieve a rational use of resources. If this is the argument for tax incentives, it should not be accepted."

*Id.* at 733-34.

- 27 Some have argued that government should not under any circumstances subsidize (directly or indirectly) industry clean up - that would be paying industry to accomplish what it is already legally and morally obligated to do, i.e., take whatever steps are necessary to reduce pollutant emissions to those levels embodied in state and national standards. If some marginal plants or firms are forced out of business by having to meet their pollution control responsibilities, advocates of this view feel that this is both fair (the "polluter should pay" and if he cannot, he should get out of business) and essential if long-run environmental objectives are to remain credible and in time, be met. While this position is certainly a tenable one and appeals initially to one's sense of logic and rough justice, it seems to ignore the short-run consequences of these plant and firm closings on the poor generally, the overall economy, and particularly, the employees of these facilities. Cf. Schrans, "National and Regional Aid of Industry under the EEC Treaty" (paper presented Feb. 1973 in Brussels at a conference sponsored by the Bar Association for Commerce, Finance, and Industry and the Commerce and Industry Group of the Law Society). Hoskins, "Let the Pricing System Provide the Incentive," *Industrial Water Engineering* (Apr. 1971):

"Another route might be to let the government pay for keeping pollution down by building major treatment plants and subsidizing the cost. But this method would provide no incentive to reduce pollution; indeed, it would actually encourage it, since firms would pay nothing to dispose of unwanted by-products."

*Id.* at 9. See also, Reed, "Economic Incentives for Pollution Abatement: Applying Theory to Practice," 12 *Arizona, L. Rev.* 511 (1970):

"On balance, however, subsidies - whether in the form of tax relief or outright payments - have major drawbacks. The polluter is imposing a cost on the remainder of society by disposing his wastes in the air and water which everyone must use. To pay the polluter to stop this destruction is nothing less than blackmail. The contamination of the environment is a wrong imposed on all members of society, and it would be egregiously inequitable to pay the polluter to refrain from an act which he has no right to commit."

*Id.* at 519.

28 The formulation of eligibility criteria of this type is common in many types of governmental aid programs. They should be limited to objective factors which can be readily shown by the applicant for subsidy and readily verified by government administrators. Eligibility criteria may reasonably vary with the type of pollution problem being dealt with, geographic and climatological differences, and changes in the overall level of government subsidy available. All such criteria must be subject to ongoing revision as experience and the nature of the problem dictate.

29 See, Surrey Notes 13 and 15.

30 See, Roberts, Note 7 at 1536-37; Reed, Note 27 at 517; Surrey, Note 13:

"This criticism of tax incentives is thus a useful reminder that government funds are being spent, and that therefore whatever degree of scrutiny and care should be applied to direct expenditures should also be applied to tax incentives."

*Id.* at 726 (note particularly Surrey's footnote 31 which quotes United States Senator Charles Percy speaking in favor of a tax incentive program aimed at stimulating manpower retraining - "Such legislation would require no federal appropriations." Surrey asserts and this writer agrees completely that if Percy is saying that government funds are not being used, he is simply wrong. If his statement "is intended to convey the thought that such legislation can be passed more quickly than direct expenditure legislation because no appropriation bill is needed, it is really an attack on the whole process of appropriation bills. If it is intended to convey the thought that the Congress will spend tax expenditure dollars but not direct expenditure dollars, it appears to charge the Congress with being irrational.").

31 See, Surrey, Note 13 at 728-31. Describing the United States' experience, he notes:

"Until 1968, when the Treasury Department published its analysis of tax expenditure programs and a Tax Expenditure Budget, there was no accounting for the existing tax incentives. The necessary data were not available to the public and not comprehended within the Government. No one really knew what was being spent through the tax system or for what purposes.

An additional problem is the difficulty of coordinating the treatment of tax incentives with the overall handling of direct expenditures. For example, when overall expenditure limits are directed by the Congress or when the President decides to cut expenditures it is essentially impossible to apply the restrictions to tax incentives. So far none of the various expenditure control devices, such as those voted in recent years by the Congress, have in any way affected tax expenditures. Yet had these tax programs been structured as direct expenditures, they would have had no such immunity .... (T)ax incentives are not covered by the annual budgetary review process; the Bureau of the Budget doesn't even know about many of them, or how much they cost."

*Id.* at 730. See also Surrey, "Federal Tax and Fiscal Policy: Some Aspects of Future Developments," 48 *Taxes* 49 (1970).

32 Note 26; Surrey, Note 13:

"It is sometimes said that a tax incentive has the advantage of permanency since tax provisions generally are only infrequently reexamined, whereas direct expenditures are usually reviewed annually, and that some programs to be effective require such permanency. However, if, as a general matter, periodic review of government expenditures is considered desirable, no program should be removed from that scrutiny except for compelling reasons."

*Id.* at 730 (Surrey footnote 34).

33 Roberts, Note 7 at 1537; Surrey, Note 13 at 725-31:

"Tax incentives are usually open-ended: they place no limit on how much tax benefit a taxpayer can earn. Hence it is difficult to foretell how much will be spent by the Government through a particular incentive. It is difficult in the nature of things to structure most tax incentives in order to provide a limit on their use."

*Id.* at 726:

"Overall, therefore, a resort to tax incentives greatly decreases the ability of the Government to maintain control over the management of its priorities. This is true both as to the substantive programs to be introduced, modified, or dropped and as to the amounts to be spent in particular programs and areas. These consequences run counter to the whole thrust of our concerns with the ordering of national priorities and with the wise allocation of our resources, which we have come to see as limited and therefore in need of careful management."

*Id.* at 731.

34 Cf., Aaron, *Inventory of Existing Tax Incentives: Federal*, Tax Institute of America, *Symposium on Tax Incentives* (1971); Surrey, Note 13 at 706-11 indicates, relying on United States Treasury Department data, that total 1969 tax incentive expenditures (subsidies) came to 45 billion dollars. No breakdown of just environmentally related tax incentive expenditures is available.

A 1972 corporate tax study prepared under the direction of United States Congressman Vanik, Cong. Rec. 93rd Cong. 1st Sess. Vol. 119 Part 21 pgs. 27305-27328, showed that in a sample of over one hundred of the largest United States corporations the average effective tax rate was reduced from the statutory 48% to 29.6% in 1971 and 29% in 1972. Vanik asserts that this is "dramatic evidence that the federal subsidies provided to giant corporations through the tax code significantly reduce or even eliminate their federal tax obligations" (*Id.* at 27305). He goes on to note, "that these corporations have done nothing illegal in lowering their tax rates - they have

simply taken advantage -- quite effectively -- of the multitude of tax subsidies which have been enacted into the tax laws over the years" (*Id.* at 27306). Vanik is extremely critical of the resulting increase in tax burden borne by small corporations and individual taxpayers.

- 35 See, Aaron, "Tax Exemptions -- The Artful Dodge," *Transaction* (Mar., 1969) at 4; Surrey Note 13, at 720-25:

"This criticism -- that tax incentives produce inequitable effects and upside-down benefits -- is valid as to the general run of tax incentives .... (T)ax incentives make high-income individuals still better off and result in the paradox that we achieve our social goals by increasing the number of tax millionaires."

*Id.* at 722-23. Surrey further asserts that if tax expenditure (subsidy) legislation had to be presented to legislatures as direct expenditure (appropriations) legislation, most tax incentive schemes would never be introduced, let alone enacted - many would be laughed out of the legislative body:

"What (Government official) would suggest a housing rehabilitation subsidized loan program under which a wealthy person could borrow the funds at 3% interest but a poor person would have to pay 7% or 8%? That is the effect of the five-year amortization of rehabilitation expenditures contained in the recent (United States) Tax Reform Act.

*Id.* at 722.

- 36 Roberts, Note 7, at 1532-35:

"Tax incentives of the sort usually discussed are a perfect example of the kind of policy that can cause ... resource misallocation. Suppose, for example, a firm has a choice between two methods of abatement. One method involves purchasing significant amounts of land on which to construct treatment ponds. The other method is to buy a set of mechanical devices. Under current tax law, the investment in mechanical devices would be depreciable, while the investment in land would not. Thus, considering tax breaks, the mechanical approach might cost the firm less than the land-use approach, while the real cost to society, i.e., the cost before taxes, of the land purchase methods, would have been cheaper.

Another tradeoff in abatement processes with respect to which tax incentives bias decisions away from the most efficient result involves methods with high operating costs. Chemical precipitation requires large outlays for chemicals, but when flexibly utilized it may still be cheaper than mechanical treatment before taxes. In addition, it appears that much abatement can be obtained through more careful management of existing facilities. In both these cases tax incentives tend to bias industrial decision makers away from the least expensive method toward methods which make maximum use of the kinds of capital facilities that would be eligible for special treatment under the incentive program."

*Id.* at 1533. See also, Surrey Note 13 at 725.

37 See, Vanik study, Note 34. United States Congressman Vanik notes that as a result of the wide range of tax subsidies available to and able to be taken advantage of most fully by large corporations, these corporations are "becoming freeloaders on the American scene, and smaller businesses and individuals were being forced to increase their share of the federal tax burden," (Cong. Rec. 93rd Cong. 1st Sess. Vol 119 Part 21 pg. 27305).

38 The tendency of tax incentive legislation to remain in force long after the justification which initially gave rise to the legislation has passed has been widely noted. See, Surrey, Note 13 at 725-37; Vanik, Note 34:

"Our tax policy over the years has placed incentives and disincentives into the law hoping to correct specific problems. As the years roll on and the problems come and go, the provisions of the tax code remain, with a constituency and effect that many times has little to do with the original intent of the legislation."

*Id.* at 27306. See also, Tax Reform Act of 1969, Pub. L. No. 91-172.

39 Note 36; see also, Hagevik, "Legislating for Air Quality Management: Reducing Theory to Practice," 33 Law and Contemp. Prob. 369, 375-76; Reed, Note 27.

"Another criticism of subsidies is the fact that they are often payments or incentives for inefficient means of waste disposal. Production changes frequently are a more efficient means of reducing the emission of waste than end-of-line abatement facilities. The subsidy programs which have been enacted are nonetheless limited to incentives for capital investment even though this may result in a Pareto sub-optimum. Such subsidy payments make capital expenditures artificially inexpensive in relation to process changes with the ultimate result being that what may be the most effective means of abatement is actually discouraged."

*Id.* at 519.

40 See Surrey, Note 13:

"Some of these difficulties could be met. Tax incentives could be identified, amounts estimated, and the data incorporated in the budget. Unless this is done, comparisons of tax expenditures and direct expenditures must be comparisons of hidden programs with open ones. But even after such clarification, further difficulties would remain. Perhaps the President could be given authority to treat the tax incentive funds as direct expenditures for budgetary control purposes, and the incentives could be structured as far as possible to have them fall in the controllable rather than the uncontrollable expenditure pattern. Perhaps the tax incentive programs could be given yearly or biannual expiration dates, so that they could be reviewed in the same way as direct expenditures under the appropriation and budgetary procedures.

But these solutions, like those available for the problems of congressional consideration and administrative operation, raise the question: what is gained by turning what would normally be a direct expenditure program into a tax incentive program and then trying to structure the program so that it can nevertheless be handled as a direct expenditure program? Why the detour through the tax system? Why inject the tax system into the program, when the program can be effectively structured without it?

Certainly the tax system does not gain when expenditures are made through tax incentive programs....Moreover, the tax system is complex enough as it is, and to have a large number of tax incentives side by side with the provisions making up the structure of the tax itself can only cause confusion and a blurring of concepts and objectives."

*Id.* at 731.

- 41 Note 34; see also, Kussman, Note 8:

"There is a trend among states to afford tax relief for pollution control facilities -- 37 have adopted one or more provisions in the form of exemptions from property taxes, sales and use taxes, or special treatment under state income or franchise tax laws."

*Id.* at 12. A recent (1971) Economic Commission for Europe (ECE) report, P. Benedek, "The Use and Effectiveness of Economic Incentives for Prevention of Pollution at Source" covering 27 countries also suggests that the use of tax incentives is widespread and increasing. As a result of this first study the ECE Committee on Water Problems committed itself to further and more extensive studies of the problems and complexities connected with economic (including tax) incentives.

- 42 The more or less permanent aspect of tax incentive subsidies has been recognized by most commentators, see e.g., Roberts, Note 7 at 1530-41; Vanik, Note 34 at 27306. In a preface to his report Congressman Vanik sadly concludes that as a result of the increasing number of tax incentive subsidies, "large American corporations will pay less and less in the future in support of our government." See also, Surrey, Note 13 at 726-36. His assessment is most pessimistic:

"During the 1960's, as attention turned increasingly to government financial assistance to meet urgent social problems, almost every problem brought proposals of a tax incentive as the solution; often the tax incentive was the first solution to be advanced."

*Id.* at 736.

- 43 See Notes 13 and 15. The United States' Tax Reform Act of 1969, Pub. L. No. 91-172, while not abandoning tax incentive devices in favor of direct expenditure programs, took some small steps to improve the existing situation which relies heavily on tax incentives, e.g., a range of new tax incentive provisions were enacted with fixed five year termination dates thus

assuring a future review of their utility and effectiveness; some existing tax incentives were narrowed in scope. Moreover, overall scrutiny of all federal tax incentive expenditures has been facilitated by the Treasury Department's decision in 1968 to publish a Tax Expenditure Budget and an analysis of tax expenditure programs.

- 44 See Notes 16 and 17. See also, ELI Conference Report, Note 5; A. Kneese, *The Economics of Regional Water Quality Management* (1964); A. Kneese & B. Bower, *Managing Water Quality: Economics, Technology, Institutions* (1968); V. Prakash & R. Morgan, *Economic Incentives and Water Quality Management Programs* (Water Resources Center, Univ. of Wis. 1969); J. Dales, *Pollution, Property, and Price* (1968); Grady, "Effluent Charges and the Industrial Water Pollution Problem," 5 *New Eng. L. R.* 61 (1960).
- 45 See, "The Proposed Tax on Sulphur Emissions", *Taxation With Representation* (1972); "Turning the Tables on Polluters," Note 10; ELI Conference Report 52-61, Note 5; 2 *Environment Reporter, Current Developments* 1226 (Feb. 11, 1972) and 1333 (Mar. 3, 1972). See also, Pure Air Tax Act of 1972 (a bill proposed by the Nixon administration); H.R. 7123, 93rd Cong. 1st Sess. (a bill to impose an excise tax on fuels containing sulphur and on certain emissions of sulphur oxides); H.R. 5334, 93rd Cong. 1st Sess. (a bill to promote the abatement of atmospheric sulphur pollution by the imposition of a tax on the emission of sulfur into the atmosphere); H.R. 635, 93rd Cong. 1st Sess. (a bill to impose an excise tax on the discharge of pollutants); Comments by Congressman Les Aspin, "Taxing the Profits out of Pollution" Cong. Rec. 92nd Cong. 2d Sess. Vol. 118 Part 5 pg. 6470-72.
- 46 See, Burhenne & Irwin, "A Model Waste Oil Disposal Program in the Federal Republic of Germany," 1 *Ecol. L. Quarterly* 471 (1971) ("Gesetz über Massnahmen zur Sicherung der Altölbeseitigung," 1 *Bundesgesetzblatt* 1419, 1968). Similar legislation was introduced but not enacted in the United States, H.R. 5902 (a bill to provide for the recycling of used oil). Legislation to prohibit non-returnable beer and soft-drink containers has been introduced but not enacted at the federal level, H.R. 1149 92d Cong. 1st Sess. (a bill to help prevent pollution which is caused by litter composed of soft-drink, beer, and alcohol containers by imposing a tax on such containers when they are sold on a no-deposit, no-return basis). Similar legislation, however, has been enacted in several states, e.g., Oregon Rev. Statutes §459.810 *et al.* and Vermont Statutes Ann. tit. 10 §1172 *et al.* See also, Schroth & Mugdan, "Bottling Up the Throwaways: An Improved Bill and Some Thoughts for Future Drafters," 51 *Jour. of Urban Law* 227 (1973); "State & Local Regulation of Non-Returnable Beverage Containers," 1972 *Wis. L. Rev.* 536.
- 47 See Notes 5 and 20.
- 48 See, O. Oldman & F. Schoettle, *State and Local Taxes and Finance* (1974):  

"Special assessments are levies against real property to defray all or part of the costs of specific public improvements such as street paving, sidewalks, and sewer lines .... The distinctive feature of the special assessment is its apportionment according to benefit."

*Id.* at 413. See also, D. Netzer, *User Charge Revenue in Connecticut: Practice and Prospects* (Conn. State Revenue Task Force 1970); Freeman & Haveman, Note 16:

"The practice of imposing sewer (or user) charges on those who discharge wastes to municipal sewer systems is now well established and generally accepted. The municipality accepting the wastes for treatment renders a service and incurs real costs which must be covered by revenues."

*Id.* at 325.

49 Some, however, have argued that all forms of "fees," "tolls," "user charges," "special assessments," etc. ought to be reduced or eliminated because of their highly regressive character. See, Roberts, Note 7 at 1548; FWPCA, United States' Department of the Interior, *The Cost of Clean Water and its Economic Impact* (1969) (3 Vols) at 15-45.

50 A typical example of state legislation enabling charges to be imposed to defray both capital and operating costs of a sewage collection and waste water treatment system is Maine Rev. Stat. Ann. tit. 38 §1202:

"All persons, firms and corporations, whether public, private or municipal, shall pay to the treasurer of any district formed under this chapter the rates, tolls, rents, entrance charges and other lawful charges established by the trustees and approved by the public Utilities Commission for the sewer or drainage service used or available with respect to their real estate....

Rates, tolls, rents and entrance charges shall be uniform within such district, whenever the cost to the district of installation and maintenance of sewers or their appurtenances and the cost of service is substantially uniform....

The sewer rates, tolls, rents and entrance charges shall be so established as to provide revenue for the following purposes: To pay the current expenses of operating and maintaining the sewage, drainage and treatment system of the district; to provide for the payment of interest and principal on the (capital construction) indebtedness created by the district."

51 Though dissenting property owners may be assessed a portion of the costs arising from a street improvement, the usual requirement in most United States local governments is that at least one-half, sometime two-thirds, of the private landowners abutting a proposed project area must agree to its commencement and the attendant costs. See, McQuillin, *Municipal Corporations* (1971) (Vol. 13) §37.48. For a comprehensive review of special assessment law, see Vol. 14 of McQuillin.

52 The Freeman & Haveman article, Note 16 contains a useful explanation of the similarity between "pollution taxes," which they refer to as "residuals charges," and "user charges":

"Some have argued that although user charges are reasonable, residuals charges are not because in the latter case no service that entails cost is rendered.

The argument is invalid. Although there are some differences, the cases of user charges and residuals charges are alike in two essential respects. First, in both cases a service of value is rendered to those who discharge wastes. In one case this service is provided by a system constructed and operated by human beings and employing labor and capital; in the other case the service is provided by a natural system. Second, the use of both systems for waste disposal entails real social costs. In one case, these are the opportunity costs of the labor and capital utilized in treating the wastes; in the other case the costs are imputed damages in the form of recreation opportunities foregone, medical costs incurred, and longevity sacrificed. It is the existence of these costs and the absence of any institutions for imposing these costs on those who use the environment for waste disposal which make pollution a problem for public policy."

*Id.* at 325.

- 53 See generally, Grad & Hack, "Noise Control in the Urban Environment," *1972 Urban Law Annual* 3; Brogan, "The Need for a Noise Pollution Abatement Act," 11 *Nat. Res. Jour.* 721 (1971); Doyle, "We May Yet Have a Quiet Environment: The New California Airport Noise Regulations," 12 *Santa Clara Lawyer* 79 (1972); United States Noise Control Act of 1972, Pub. Law 92-574; Spofford, "Solid Residuals Management: Some Economic Considerations," 11 *Nat. Res. Jour.* 561 (1971); August, "Control of Redeemable Solid Waste: A Proposed National Bill," 5 *Suffolk Law Rev.* 962 (1971); United States Solid Waste Disposal Act 42 U.S.C.A. §3251 (a) (2) (1970) as amended.
- 54 Suggestions for differential charges for noise emissions predicated on the time of day or character of the area in which the noise occurs gives rise to the same sort of debate which air and water emission charge proposals encounter -- fixed national or regional (river basin) charges vs. some form of variable charge reflecting either actual treatment costs or marginal pricing techniques. See, ELI, Conference Report, Note 5; Roberts, Note 7.
- 55 Private solid waste collection and charge systems already exist in many United States municipalities, particularly for bulk commercial and industrial wastes not usually collected by public agencies and in those municipalities where no public collection service is provided at all and the only alternative is a private collector. The suggestion being made merely extends such charge systems generally into the public sector and would have the charges reflect fully the quantity and quality of materials being put out for collection. The present system operating to a greater or lesser extent in many developed countries, i.e., maintaining public solid waste collection out of general tax revenues (usually justified as a health measure) offers no incentive to the person or firm creating the wastes to reduce the volume of solid wastes they generate or to recycle or themselves reuse waste materials.
- 56 See generally, Muchow, "Recycling of Solid Waste: Legal Impediments and a Program for Reform," 59 *Cornell L. Rev.* 440 (1974); Page, "Recycling,

Taxes, & Conservation", *National Parks & Conservation Magazine*, *The Environmental Journal* (Jan. 1973); Statement of Martin J. Bailey, Deputy Asst. Secretary of the Treasury for tax policy on national legislation dealing with solid waste collection, waste separation systems, and recycling (July 26, 1973); H.R. 557, 93rd Cong. 1st Sess. (a bill to provide reasonable and necessary income tax incentives to encourage the utilization of recycled solid waste materials); H.R. 1083, 92nd Cong. 1st Sess. (a bill to establish economic incentives for the return, reuse, and recycling of packaging).

- 57 See generally, "Legal Aspects of Banning Automobiles from Municipal Business Districts," 7 *Columbia Jour. of Law & Soc. Prob.* 412 (1971). Though proposals to limit the number of automobiles per family or in given geographic (dense urban) areas have not yet been seriously advanced, proposals to: limit horsepower; create incentives to improve fuel consumption; and limit exhaust emissions are receiving increasing state and national attention, see, e.g., H.R. 1123, 92d Cong. 1st Sess. (a bill to impose a progressive excise tax on automobiles predicated on horsepower and carbon monoxide emissions); a proposal presently before the United States Congress House Ways and Means Committee prepared by Thomas J. Gallagher (Research Associate, Yale Law School) to amend the United States Internal Revenue Code to provide an automobile fuel consumption efficiency tax; ELI Conference Report, Note 5 at 75-86 ("Federal Excise Taxes on Lead in Gasoline and on Automobiles Emitting Pollutants").
- 58 An example of truck licensing fees predicated on truck weight is found in Maine Rev. Stat. Ann. tit. 29 §246 (Supp. 1974-75). Annual charges run from 15.00 dollars for vehicles with gross weight under 6,000 lbs. to 600.00 dollars for vehicles with gross weight of between 70,000 and 73,280 lbs. Larger vehicles are charged an additional 15.00 dollars per 1000 lbs. of weight in excess of 73,280 lbs. A slightly lower scale of charges is applied to farm vehicles.
- 59 Abandoned automobiles are a problem of growing significance, see generally, Reichert, "Recycling Abandoned Automobiles: Do Present laws Act as Bottlenecks?," 2 *Environmental Law* 105 (1971):

"According to Secretary of Transportation John A. Volpe, old cars are being abandoned in major American cities at the rate of one or more every thirty minutes. On a nation-wide basis, there are between ten million and thirty million junked automobiles lying about the country-side or accumulating in auto graveyards.

The Automotive Sub-Council of the National Industrial Pollution Control Council (NIPCC) places the number of junked vehicles at twenty million.

In Chicago alone, two automobiles are abandoned every fifteen minutes. Mayor John V. Lindsay estimated that fifty thousand abandoned automobiles would be removed from the streets of New York in 1969 at a cost to the Department of Sanitation of between 50 dollars and 60 dollars per car."

*Id.* at 105.

- 60 Vehicle disposal charges could be periodically adjusted inversely with scrap metal prices. When the latter are low a high charge is necessary to create a sufficient incentive to dispose of the car in an environmentally sound manner. When scrap prices are high (which may be the case in the future as raw materials become more scarce) this fact alone will create sufficient economic incentive to dispose of the car responsibly when its useful life is ended.
- 61 Note 59. The earmarking of funds, though often politically appealing and justified at the outset of a regulatory program which imposes charges to meet real costs, must be carefully undertaken. Such funds may come to be either too large or inadequate to carry out the assigned tasks. Moreover, new tasks may at some point in the future need to be included and others deleted from the group originally specified. It may even be useful to have the earmarking automatically terminate at some point in the future (allowing the charges to flow into the general fund) subject to renewal for another term of years.
- 62 Cf. Kozyris, "Advertising Intrusion: Assault on the Senses, Trespass on the Mind - A Remedy Through Separation," 36 Ohio State Law Jour., 299, (1975) ("There is also little doubt that advertising as such constitutes a cost of distribution eventually borne by the consumer and, in the view of the critics, this cost is mostly a waste." *Id.* at 300) See also, Allvine & Bloom, "It's Time to Cut Down on Advertising Waste," 1972-73 Business & Society Rev. No. 4 at 9-18; Note, "The First Amendment and Consumer Protection: Commercial Advertising as Protected Speech," 50 Oregon L. Rev. 177 (1971).
- 63 See, Redish, "The First Amendment in the Marketplace: Commercial Speech and the Values of Free Expression," 39 Geo. Wash. L. Rev. 429 (1971); *Valentine v. Crestensen*, 316 U.S. 52 (1942); *Banzhaf v. F.C. C.*, 405 F. 2d 1082 (D.C. Cir. 1968). The Kozyris article, Note 62 at 309 maintains that "historically, there is no indication that the framers of the Bill of Rights considered protecting commercial advertising."
- 64 See e.g., Note, "Corrective Advertising: Orders of the Federal Trade Commission," 85 Har. L. Rev. 477 (1971); Note, "Corrective Advertising - The New Response to Consumer Deception," 72 Columbia L. Rev. 415 (1972); Haiman, "Speech v. Privacy: Is There a Right Not to Be Spoken to?" 67 Northwestern Univ. L. Rev. 153 (1972); Note, "Assault Upon Solitude - A Remedy?" 11 *Santa Clara Law Journal* 109 (1970); Note, "Aesthetic Zoning: An Answer to Billboard Blight," 19 Syracuse L. Rev. 87 (1967); Note, "Zoning, Aesthetics and the First Amendment," 64 Columbia L. Rev. 81 (1964); Leighty, "Aesthetics as a Legal Basis for Environmental Control," 17 Wayne L. Rev. 1347 (1971).
- 65 Cf. Edwards, Langham & Headley, "Pesticide Residues and Environmental Economics," 10 Nat. Res. Jour. 719 (1970):
- "While the comparison of marginal productivity with marginal cost is appropriate for the individual in deciding how much pesticide to use, it may not result in the "best" quantity from a social welfare perspective.

This is because the marginal costs and/or marginal benefits which all the pesticide users experience may not coincide with those which society as a whole experiences. For example, a farmer's marginal cost of pesticides may include items such as the price he must pay for them, the cost of labor and machinery he uses to apply them, and so on. But his marginal cost does not include items like damage to human health and wildlife or reductions in air and water quality. He feels these only indirectly in his alternate role as a member of society. To the extent that these consequences exist, they are partially borne by other members of society."

*Id.* at 730; B. Commoner, *The Closing Circle - Nature, Man, and Technology* (1971):

"The pesticide story is quite similar: increased annual use, at reduced efficiency, leading to an excessive environmental impact. Thus, following the introduction of the new synthetic insecticides such as DDT, the amount of pesticides used in the United States per unit agricultural production increased between 1950 and 1967 by 168 per cent. By killing off natural insect predators of the target pest, while the latter tends to become resistant, the new insecticides become increasingly inefficient. As a result, increasing amounts must be used simply to maintain crop yield. For example, in Arizona insecticide use on cotton tripled between 1965 and 1967 with an appreciable drop in yield -- an agricultural treadmill, which forces us to move ever faster to keep in place. And again, the decreasing efficiency means an increasing release of pesticides into the environment -- where they become a threat to wildlife and man.

....

Nitrogen fertilizer provides another informative example of the link between pollution and profits. In a typical United States Corn Belt farm, a yield that is more than from 25 to 30 bushels per acre below present averages may mean no profit for the farmer. Now as indicated earlier (Chapter 5), present corn yields depend on a high rate of nitrogen application. Under these conditions, the uptake of nitrogen by the crop is approaching saturation, so that an appreciable fraction of the fertilizer drains from the land and pollutes surface waters. In other words, under present conditions, it appears that the farmer must use sufficient fertilizer to pollute the water if he is to make a profit."

*Id.* at 151-52 and 262. See also, *Environmental Defense Fund v. United States Dept. of Health, Education, and Welfare*, 428 F.2d 1083 (D.C. Cir. 1970); *Nor-Am Agricultural Products Inc. v. Hardin*, 435 F.2d 1151 (7th Cir. 1970).

- 66 Any system of monetary charges attached to the general use of pesticides, insecticides, and herbicides would have to defer in every case to situations in which appropriate regulatory agencies either banned the use of certain chemicals or prohibited the use of particular chemicals in certain geographic areas or under certain conditions.

- 67 See e.g., ELI, Conference Report, Note 5; Freeman & Haveman article, Note 16; Kneese and Kneese and Bowerbooks Note 44; Dales book, Note 44.

"Let's put a "market price" on pollution. As a starting point, the pollution control agency for a particular region would calculate the tons of wastes dumped into the atmosphere and water during the previous year. Since some wastes cause more damage than others, an "equivalent ton table" must be drawn up. The control agency would then print up Rights to pollute based on the number of equivalent tons emitted in previous years and require that polluters who wish to use the atmosphere or waterways to dispose of wastes to purchase the appropriate number of Rights.

Population growth and increases in the number of plants operating in the region would drive the price of the Rights up over time. The higher price would provide added incentive to cut down on pollution. For example, if a car owner (driving a particular model that, on the average, emits one equivalent ton of pollution per year) is faced with higher priced pollution Rights, he may choose to change to a model with a lower emission rating, stop driving, or modify his car with a device that will provide a lower emission rating.

Besides providing strong incentives to reduce pollution by imposing its full cost on the polluter and the reduction in the quantity of information necessitated by direct controls, this system would offer a means of choosing the desirable level of pollution for the region. If people desire a lower level of pollution and are willing to pay for it with higher priced pollution Rights, they can make their feelings known by voting. The control agency could be required to allow the public to vote on the equivalent tons of pollutants to be released into the environment that year. A smaller number of tons would mean higher prices for Pollution Rights. One advantage of this method over stronger direct controls is that the costs are explicit, and the higher priced Rights can be directly related to the vote for a lower level of pollution."

*Id.* at 77.

- 68 At state and federal levels of government in the United States more or less traditional regulatory measures are still relied upon to deal with this problem. The only improvement is some movement away from "fault concepts" (a discharger may now be liable without regard to fault) and a stiffening of fine penalties. See e.g., Me. Rev. Stat. Ann. tit. 38 §§541-557; 33 U.S.C.A. §§1001-1016 and §1321 (Supp. 1975). See also, *Portland Pipe Line Corp. v. Environmental Improvement Commission*, 307 A.2d 1 (Me. 1973); *Askew v. America Waterway Operators, Inc.*, 411 U.S. 325 (1973); Hardy, "Maine's Coastal Conveyance of Oil Act: Jurisdictional Considerations," 24 Maine L. Rev. 299 (1972).
- 69 Notes 55 and 56. Particularly noteworthy is H.R. 1083, 92nd Cong. 1st Sess. (a bill to establish economic incentives for the return, reuse, and recycling of packaging). Section 204 of the proposed act provided:

"(a) In furtherance of the purpose of this Act, the Secretary (of the Environmental Protection Agency) and the Secretary of the Treasury shall prescribe such regulations as are necessary to establish and put into effect not later than June 30, 1971, a schedule of national packaging disposal charges for all packaging manufactured or imported into United States, which results, or may result, in solid waste or adverse environmental effects. In determining such charges the Secretary shall consider whether the packaging is made from virgin or secondary materials, the quantity of solid wastes which result from such packaging, the ultimate costs of disposal of such packaging, the toxicity and health effects of such packaging, the degradability of such packaging, and the likelihood that such packaging will be returned, reused, or recycled into the economy.

(b) The purpose of such packaging disposal charges shall be to create economic incentives for the development of degradable packaging and the return, reuse, and recycling of packaging into the economy, to reduce the public costs of packaging and other solid waste disposal, to reduce the quantity of solid wastes, and to minimize the adverse effects upon the public health, welfare, and environmental quality caused by the disposal of packaging."

*Id.* at 3. The bill, unfortunately, was not passed by Congress.

- 70 The removal of natural tree cover within or in proximity to urban areas could be deterred by attaching charge provisions to already existing zoning or subdivision control laws with which land-owners and developers must comply. A charge system to deter clear-cutting in forest areas could be attached to existing state or federal forest practices regulations or could be made a part of the already extensive timber cutting lease arrangements between the federal government and private logging companies.
- 71 A recent article by Stephen Webbe in the Jan. 21, 1974 issue of the *Christian Science Monitor* details efforts to encourage the preservation and rehabilitation of historic structures by granting the same type of tax incentives (criticized earlier in this paper, Notes 8-13, 15, 30-39 and text pgs. 3-5, 11-16) that have traditionally been created to encourage the construction of air and water pollution control facilities. These tax incentive devices are no more likely to succeed in this context than in the latter. See e.g., H.R. 5584, 93rd Cong. 1st Sess. (a bill to provide for rapid depreciation of rehabilitated historic structures); S. 2347, 93rd Cong. 1st Sess. (a bill to prohibit the deduction for tax purposes of the costs of demolishing historic buildings).
- 72 Recent efforts by some states in the United States to impose significant and automatic bonds or fines on stripmine operators who fail to restore mined lands in accordance with required restoration and reclamation plans is an unsophisticated but nonetheless real type of charge system designed to encourage environmentally desired behavior in this area of activity. See e.g., Kentucky 1974 New Laws, pg 1857 Montana 1974 New Laws, Chap. 280; New York new Laws, Chap. 1043; Ohio 1974 New Laws, pg. 603.

- 73 Pollution taxes if widely adopted will also correct existing distortions in market demand patterns. Products that cost less (thus increasing the demand for them) because they can shift a cost of production (the cost of pollution control) onto the public will, with the imposition of a pollution tax, be raised in price to a level that approximates the full costs of production. Thus, less of the product will be taken. See e.g., Delogu, Note 17 at 40; Aspin, Note 45:

"A pollution tax will raise a firm's cost, and the firm will simply pass these increased costs on to the consumer. I agree that a pollution tax will do just that. But the increased cost of the product will be borne by the consumers of that product. At present, many people are buying products which cause a lot of pollution because the price of that product does not reflect the total cost....

Only when all products for sale truly reflect the total cost of production ("external" as well as private costs) will we, as consumers, be able to make intelligent choices as to what to buy. Under this new total-cost pricing system, products which cause pollution will cost more and people may well buy less of them, which is exactly what we want to happen."

Cong. Rec. 92d Cong. 2d Sess. Vol. 118 Part 5 pg. 6471

- 74 Preferential property tax legislation, (lowering the property tax otherwise due) is often sponsored by environmentalists to induce the owners of unintensively used farm, timber, marsh, or open space land to maintain these land uses rather than sell or convert the land to development uses. Such legislation, because it reduces the carrying costs of holding these unintensively used lands, acts as a stimulus to the land speculator. Most such legislation contains recapture provisions designed to recover a portion of the property taxes foregone if and when the land is sold for development purposes. However, these provisions have not deterred the speculator. See e.g., Cal. Rev. & Tax Code §402.1 (Supp. 1967); Fla. Stat. Ann. §193.11(3) (Supp. 1966); *Tyson v. Lanier*, 156 So. 2d 833 (Fla. 1963); Hagman, "Open Space Planning and Property Taxation -- Some Suggestions," 1964 Wis. L. Rev. 628; Stocker, *How Should We Tax Farmland on the Rural-Urban Fringe?*, 1961 National Tax Association Proceedings 463; Michigan State Univ., *Proceedings of Seminar on Taxation of Agricultural and Other Open Land*, Apr. 1971; Note, "Tax Manipulation as a Method of Open Space Preservation-- General Considerations," Univ. of Mass. Ag. Exp. Station Bull. 567(1968).
- 75 The State of Vermont is one of the few states which has fashioned a tax that recaptures speculative land sales profits, Vermont Stat. Ann. tit. 32 §§10001-10010: The tax rate is a direct function of the magnitude of gain from the sale or exchange of land and the length of time the land had been held by the transferor prior to its sale or exchange:

Years land held by transferor	Gain, as a percentage of basis (tax cost)		
	0-99%	100-199%	200% or more
Less than 1 year	30%	45%	60%
1 year, but less than 2	25%	37.5%	50%
2 years, but less than 3	20%	30%	40%
3 years, but less than 4	15%	22.5%	30%
4 years, but less than 5	10%	15%	20%
5 years, but less than 6	5%	7.5%	10%

*Id.* at §10003.

76 See Note 74. The problem with variable property tax burdens which favor farm, timber, marsh, and open space lands is one of unfairness vis-avis the owners of other types of real property. If total property tax revenues in a given jurisdiction are to be maintained, these other properties (homes, industries, commercial properties) must take up the slack to which a reduction in the property taxes imposed on farm, timber, marsh and open space land gives rise. In many jurisdictions the revenue which must be raised via property taxation has in recent years increased to meet rising governmental costs and budgetary needs. This heightens the equity problem still more. The property owners which must bear an increasing portion of an increasing total property burden can almost certainly be counted on to oppose any plan which exempts or grants preferential property tax treatment to some landowners (i.e., owners of farm, timber, marsh and open space lands). The laudable land use objectives of environmentalists, legislators, and tax officials, even if shared by the general property tax paying public, may well be opposed not on the merits but because they are sought to be achieved (funded in effect) in this inequitable manner. See also text discussion pg. 14.

77 The only real alternative, in light of these facts and the equitable considerations outlined in footnote 76, is to significantly reduce overall governmental reliance on property taxation as a revenue source. Taxes and charges geared to income generating capacity, the net income of individuals and corporations and the value of governmental services received (adjusted in a manner that reflects ability to pay) seem an adequate revenue alternative. See e.g., Hawkes, "Forest Taxation in Maine: A Proposal," 21 *Maine L. Rev.* 109 (1969); *Maine Rev. Stat. Ann. tit. 36 §§571-584* (an act establishing a forest lands taxation policy using a productivity approach); Delogu, "Why Not Abandon the Property Tax? ." *Proceedings, Univ. of Maine Property Tax Conference* (July 1969).

78 See, Note, "Inverted Power Rates?," 39 *Resources* 16 (Jan. 1972); 3 *Environment Reporter, Current Developments* 1500 (April 13, 1973) (quantity discount pricing of sewage service charges rejected by EPA); 2 *Environment Reporter, Current Developments* 1191 (Jan. 28, 1972):

"(E)nvironmentalists said they want to see the rate raised for commercial users who get big discounts when they buy large amounts of power. The (Audubon) society said the discount system encourages 'lavish' use of power by industry and penalizes those who conserve

power .... (The society noted there) may have been a time when such discounts were justifiable on the grounds that incentives to use more power helped industry grow. However ... unfettered growth can impose undesirably high social costs and ... it is no longer rational to encourage the lavish use of electricity and other forms of energy. The time has come ... for the utilities and regulatory agencies to face up to this problem squarely and, in the public interest, to use pricing policy to constrain growth."

See also, *New York Times*, Mar. 25, 1975 article by Edward Cowan which outlined United States Federal Energy Administrator Frank Zarb's plans to spend 1 million dollars on research designed to examine whether inverting present utility rate structures (i.e., reducing rates to energy savers - increasing rates to large energy users) will have a beneficial effect on total U.S. energy consumption and conservation efforts.

79 See Note 78. Moderate energy users subsidize large energy users who receive quantity discounts in several ways. They frequently must pay minimum charges even though their consumption may at times be very low. Moreover, the basic rates of moderate energy users are set higher than they would otherwise have to be in order to offset revenue losses brought about by rate reductions made available to large energy users. Finally, the off-peak (and less costly) use of energy by moderate energy users is seldom reflected in utility rate structures. Large users of off-peak energy, however, can often contract for (acquire) this energy on favorable terms.

80 The argument for resource rate structures which increase with the quantity of the resource utilized was recognized in the Note. "Inverted Power Rates? ," Note 78. Such an approach is advanced as a resource conservation measure - put simply, higher resource prices will dampen demand. Such pricing systems are clearly analogous to pollution taxes which also are intended to deter certain types of conduct. The rationale of proponents of rate structure inversion is:

"simply that consumption must be limited and a change to inverted rates is in the right direction for restraining demand. Since pollution damage probably increases more than proportionally as consumption rises, the inverted rates are a kind of proxy for the pollution taxes we have failed to impose. Moreover, an inverted structure would not encourage use during peak periods as the present one does."

*Id.* at 16-17. Cf., *United States v. SCRAP*, 412 U.S. 669 (1973) (note particularly Justice Douglas' dissenting opinion).

81 See generally, Notes 55, 56 and 69: also Muchow Note 56. ("There is growing evidence that both rail and ocean freight rates discriminate against the movement of recyclable materials and favor the movement of directly competing virgin materials." *Id.* at 444); Hearings on the Economics of Recycling Waste Materials before the United States Congress Subcommittee on Fiscal Policy of the Joint Economic Committee, 92d Cong. 1st Sess. (1971), Page article Note 56; *United States v. SCRAP*, 412 U.S. 669 (1973). (Justice Douglas' remarks in his dissenting opinion state the underlying policy issue most clearly):

"These cases present important environmental problems. They concern ratemaking for the shipment of litter for recycling. Paper, glass, and metals are the main items in today's garbage. As indicated by the Bureau of Mines in Appendix I to this dissent, America's method of disposing of garbage is either to use it for landfill or to put it first through incinerators and then to bury the residue. Sorting and recycling have several environmental impacts: (1) reduction in the use of incinerators lessens air pollution; (2) establishing or encouraging removal of litter from the landscape; (3) recycling saves both renewable and nonrenewable resources. As respects the last, the tons of paper that are recycled, rather than burned, can be translated into the number of standing trees that need not be cut for pulp the next year; the metals recycled protect our remaining non-renewable supplies of ore, and so on.

Rates fixed so as to encourage vast shipments of litter are, therefore, perhaps the most immediate and dramatic illustration of a policy which will encourage protection of the environment against several erosive conditions."

*Id.* at 699-700.

82 See, Page article, Note 56:

"The percentage depletion allowance is perhaps the best known advantage given extractors of virgin material. The allowance permits a firm to decrease taxable income by an amount equal to a fixed percent of the sales value of the mineral product extracted. The percentage allowed varies with the type of mineral. Decades ago when percentage depletion was introduced many firms decreased taxable income to zero by using this generous tax provision. To prevent firms from escaping tax free, Congress limited the allowance to no more than half of net taxable income (profits)."

*Id.* at 20. A useful numerical illustration of how percentage depletion works is found in Muchow, Note 56:

"Assume the taxpayer mines domestic tin for sale to a manufacturer of tin cans. The gross income derived from the mining of such tin for a particular taxable year is 1 million dollars. Taxable income, after allowable deductions (excluding any deduction for depletion) is assumed to be 500,000 dollars. The depletion deduction would be determined as follows:

Gross income	1,000,000 Dollars
Deductions (Other than depletion)	- 500,000 Dollars
Taxable income	500,000 Dollars
50% Limitation	250,000 Dollars
22% X 1,000,000 Dollars =	220,000 Dollars Depletion Allowed

If the taxable income of the taxpayer had been 400,000 dollars, rather than 500,000 dollars, the 50% limitation would have applied and the depletion allowance would have been limited to 200,000 dollars. In fact, the depletion deduction of most large mining concerns is reduced to 50% of taxable income."

*Id.* at 461. The Page article, Note 56, also contains a useful illustration showing how United States tax laws relative to capital gains favor extractive industries:

"Suppose a mining corporation prospected eleven times: the first ten were losses costing 5 dollars each, whereas the last was successful but also cost 5 dollars. The corporation sells off its successful discovery for 105 dollars, realizing a net gain of 100 dollars on the successful venture. Total expenses are 55 dollars; total income 105 dollars; net income 50 dollars. With a 48 percent corporate tax rate the tax would be 24 dollars, right? Wrong, because of the capital gains provisions.

With a 30 percent rate on capital gains, we might expect the tax to be  $.30 \times 50$  dollars = 15 dollars. But a mineral corporation can often do still better. Instead of calculating its tax on the aggregate total cost of 55 dollars and the win of 105 dollars, it can often deduct its losses from other income and increase the amount of capital gains taken. Suppose the corporation has 1000 dollars of other taxable income. By deducting the cost of the ten losses (50 dollars), the corporation lowers the tax on ordinary income from  $.48 \times 1,000$  dollars = 480 dollars to  $.48 \times (1,000 \text{ dollars} - 50 \text{ dollars}) = 456$  dollars. With this accounting the capital gain is the win minus the cost of the successful exploration by itself. The capital gains tax on this gain (105 dollars - 5 dollars = 100 dollars) is  $.30 \times 100$  dollars = 30 dollars. The effects of the eleven ventures on the corporation's tax bill are an increase of 30 dollars from capital gains and a decrease of 480 dollars - 456 dollars = 24 dollars from loss offsets. The total effect is a modest tax increase of 30 dollars - 24 dollars = 6 dollars on a total profit gain of 105 dollars - 55 dollars = 50 dollars. In other words, the effective tax rate on the package of eleven explorations is  $6/50 = 12$  percent."

*Id.* at 21.

- 83 The development of programs and policies favoring the use of recyclable materials is certainly Douglas' and Muchow's objective, Notes 81 and 56 respectively. See particularly Muchow's discussion and footnotes on recycling tax deductions at pages 462-65 of his article. Though his approach relies on the sort of indirect subsidies criticized earlier in this paper, (Notes 8-13, 15, 30-39 and text pp. 3-5, 11-16) it is nonetheless interesting because of its scope and the direction in which it points us. Meadows' book, *The Limits to Growth*, Note 1, also touches on these issues. It asserts that if catastrophe is to be avoided society must find, among other things:

"(N)ew methods of waste collection, to decrease pollution and make discarded material available for recycling; more efficient techniques of recycling, to reduce rates of resource depletion; better product design to

increase product lifetime and promote easy repair, so that the capital depreciation rate would be minimized; harnessing of incident solar energy, the most pollution-free power source; (and) methods of natural pest control, based on more complete understanding of ecological interrelationships."

*Id.* at 177.

- 84 See generally on this point Meadows, Note 1 and Commoner, Note 1.
- 85 Though such steps have not yet been taken at the federal level in the United States, they are under serious consideration, see, e.g., H.R. 3220, 93rd Cong. 1st Sess. (a bill to create a public facilities loan and loan guarantee program); H.R. 907, 93rd Cong. 1st Sess. (a national environmental financing act); S. 2050, 93rd Cong. 1st Sess. (a bill to establish a domestic enterprises bank). Provisions of the type suggested are not uncommon at State levels, see, e.g., Kentucky 1974 New Laws, pg. 953; South Carolina 1974 New Laws, pg. 173; Vermont 1974 New Laws, pg. 301. See also, such legislation as Maine Rev. Stat. Ann. tit 38 §411 which commits the state to pay a significant portion of the cost of constructing pollution control facilities. Cf. Dickens, "Tax-Free Financing of Pollution Control Facilities", 22 *Jour. of the Air Pollution Control Assoc.* 13 (Jan. 1972) (suggests that private pollution control facilities be financed by using tax-exempt governmental bonding power without regard to other private sources of funds).
- 86 See e.g., 12 U.S.C.A. §1811 *et al.* (establishing a federal deposit insurance corporation protecting the savings of depositors in state and federally chartered banks); 12 U.S.C.A. § 1709 *et al.* (establishing a federal home mortgage insurance and guarantee program); 15 U.S.C.A. § 692 *et al.* (establishing a series of federal aids, loans, and guarantees for small businesses).
- 87 A factor in state and municipal bond financing of pollution control facilities is the existence (widespread in the United States) of bond indebtedness limitations. Such limitations may leave little for environmental control facilities in that available borrowing capacity must be spread over a much wider range of necessary public capital improvements. See e.g., Maine Constitution Art. IX §14; Maine Rev. Stat. Ann. tit. 30 §5061 (Supp. 1975); Illinois Constitution Art. 9 §12; Kansas Stat. Ann. tit. 10 §§301-305 (Supp. 1974).
- 88 A growing body of industry economists are becoming concerned about the general availability of investment capital at interest rates which can be afforded by industry. Should these fears prove correct, the financing of pollution control facilities, which certainly is a lower industry priority than the financing of in-plant technological improvements or expansions of plant capacity, would suffer. See e.g., Needham, "A Bicentennial Tax Policy", *Newsweek* (Sep. 1, 1975). Arguing for governmental programs and tax policies which will make capital more readily available Needham states:

"(O)ur most vexing national economic problem today is one that some people fail to recognize and others refuse to acknowledge: the prospect that American business will not have enough investment capital to

expand and keep the economy moving forward.... (A) major shortage of investment capital in the years ahead threatens to thwart long-term solutions that can help create the millions of permanent new jobs needed... (and will make it impossible) for America to achieve self-sufficiency in energy and excellence in environmental control."

89 See text at pg. 10 and Notes 28 and 85, particularly the Dickens article.

An argument made by many industry and some governmental economists and spokesmen is that governmental assistance in financing the construction of pollution control facilities is warranted because these are after all unprofitable (or at best very low profit) undertakings which deprive the firm or industry involved from realizing the normal rates of return which alternative capital investments would produce. If these profits are to be foregone, the argument asserts, some governmental quid-pro-quo must be forthcoming. This reasoning misses the point of whose duty it is to clean up pollution, who has caused and who profits from existing pollution levels. It assumes a right to pollute. The suggestion made in this paper that government under certain circumstances assume the role of "lender of last resort" does not rely to any extent on this specious reasoning.

90 Without attempting to state a definitive position on the "growth", "no-growth" controversy it is safe to say that continued (indefinite) growth in a finite world, a world of limited and expendable resources is not possible. The Club of Rome, sponsors of the Meadows book *Limits to Growth*, Note 1, in a closing commentary noted that:

"For the first time, it has become vital to inquire into the cost of unrestricted material growth and to consider alternatives to its continuation."

*Id.* at 191. The point being made is that the issues of growth, pollution control, and tax policy are inextricably bound together. Policy-makers in each nation are compelled by events to examine these issues anew. See, e.g., Daly, Note 1; Hartke, "Toward a National Growth Policy," 22 *Catholic L. Rev.* 231 (1973); Kinkier, "Non-Growth's Planning Alternative," *ASPO Planning Advisory Service*, Rpt. No. 283 (1972); Hearings on National Growth Policy, before Committee on Banking and Currency, 92nd Cong. 2d Sess. (pts. 1 and 2, 1972); the United States Congress Subcommittee on Housing of the House, United States Senate Committee on Government Operations, *Toward a National Growth and Development Policy: Legislative and Executive Actions in 1970 and 1971* (Committee Print, 1972); S. 1286, 93rd Cong. 1st Sess. ( a bill to establish national growth policy planning) submitted by United States Senator Hartke, the legislation and its underlying rationale is discussed in the Cong. Rec. 93rd Cong. 1st Sess. Vol. 119 S. 5038-5051, Mar. 19, 1973.

91 See text at pgs. 2-3. It may be useful to remember Commoner's thesis, Note 1, "everything is connected to everything else" and that in dealing with the environment (as with most other complex public policy issues) there are no definitive answers as such, only a series of successive approximations which must be modified as experience is gained and new data emerges and which must be meshed with other competing and complementary public policies.

The International Union for Conservation of Nature and Natural Resources (IUCN) is an independent international body, formed in 1948, which has its headquarters in Morges, Switzerland. It is a Union of sovereign states, government agencies and non-governmental organizations concerned with the initiation and promotion of scientifically-based action that will ensure perpetuation of the living world - man's natural environment - and the natural resources on which all living things depend, not only for their intrinsic cultural or scientific values but also for the long-term economic and social welfare of mankind.

This objective can be achieved through active conservation programmes for the wise use of natural resources in areas where the flora and fauna are of particular importance and where the landscape is especially beautiful or striking, or of historical, cultural or scientific significance. IUCN believes that its aims can be achieved most effectively by international effort in cooperation with other international agencies, such as UNESCO and FAO.

The World Wildlife Fund (WWF) is an international charitable organization dedicated to saving the world's wildlife and wild places, carrying out the wide variety of programmes and actions that this entails. WWF was established in 1961 under Swiss law with headquarters also in Morges.

Since 1961, IUCN has enjoyed a symbiotic relationship with its sister organization, the World Wildlife Fund, with which it works closely throughout the world on projects of mutual interest. IUCN and WWF now jointly operate the various projects originated by, or submitted to them.

The projects cover a very wide range, from education, ecological studies and surveys, to the establishment and management of areas as national parks and reserves and emergency programmes for the safeguarding of animal and plant species threatened with extinction as well as support for certain key international conservation bodies.

WWF fund-raising and publicity activities are mainly carried out by National Appeals in a number of countries, and its international governing body is made up of prominent personalities in many fields.

**Part 2**

**SPECIAL DEPRECIATION ALLOWANCES  
OR SUBSIDIES?**

**Prof. Dr. Hermann Soell**

## Introduction<sup>2</sup>

It was envisaged in the draft of the Third Tax Reform Act in the Federal Republic of Germany that taxpayers should be able to claim special depreciation allowances for those depreciable movable or immovable business assets forming part of their fixed assets which help to protect the environment. With specific provisos, depreciation allowances were to be permitted as follows: up to 60 percent of initial or manufacturing costs in the business year in which the asset was purchased or manufactured; and up to 10 percent in each following business year until the asset is completely written off<sup>1</sup>).

Thus the goal was pursued of preserving the possibilities already existing in income tax law with regard to special depreciation allowances for low pollution investments<sup>2</sup>) and of expanding them with regard to both the prerequisites and the rates of depreciation<sup>3</sup>).

The Commission of the European Communities intervened at this point, opposing the bill. In its letter of 27 March 1974<sup>4</sup>) addressed to the Minister for Foreign Affairs, the Commission claimed that the planned special depreciation allowances came under the prohibition of assistance as laid down in Article 92, para. 1 of the EEC Treaty, and it therefore saw itself obliged to initiate the procedure in accordance with Article 93, para. 2 of the EEC Treaty.

Thereupon, the 3rd Tax Reform Act was passed without the contested provision, since final clarification could no longer be awaited. This event and the present state of abeyance have prompted efforts to clarify the following policy issues:

I. Is it practicable — i.e., in accordance with general preferences expressed in environmental protection policy — to infringe, or at least to mitigate and limit, the polluter-pays-principle as the most important basic factor in the charging of those costs<sup>5</sup>) resulting from the long unpaid for utilization of the environment (social costs) by having the community help bear these costs in the form of reduced tax liability?<sup>6</sup>)

II. If this be granted, would not subsidies — i.e., direct government financial aids — be more appropriate than special depreciation allowances? The discussion in Germany on this financial point has by no means been concluded, nor in the USA either.

III. Provided there be sufficient reasons supporting a decision in favour of special depreciation allowances, is the prohibition of subsidies under Article 92 of the EEC Treaty incompatible — as the European Communities Commission seems to assume — with the provision as planned in Article 7d of the Income Tax Code?

### **Issue I: The polluter-pays-principle and government aid for low pollution Investments**

1. As the 1974 expert opinion on the environment of the Council of Experts for Environmental Questions also recognized<sup>7</sup>), the limits for application of the polluter-

pays-principle are, on the one hand, to be found in the solution of the "problems of identification, appraisal and charging", and, on the other hand, in the "political acceptability" of the resulting shifts in prices and demand.

- a) Even if inclusion of the environmental burden among the costs of production appears possible in principle — which, however, where harm to the environment already has occurred, frequently cannot be expected because of the fact that ecological relations of causality are still unclarified in many respects<sup>8</sup>) — accuracy in charging such costs would still vary.

— Therefore, the charging theory provides for both so-called reality and probability yardsticks.

— Similarly, the catalogue of ways of charging costs in accordance with the polluter-pays-principle ranges from the accurate assessment of an emissions source to the attribution of roughly estimated costs to some regional unit<sup>9</sup>).

If, however, charging of costs involved is not possible, even after approximate considerations of plausibilities, then costs must be reduced in accordance with the "sharing-of-burdens" principle<sup>10</sup>), i.e., costs will be discharged by the public budget, with the further consequence that these costs will be passed on in the taxation process.

- b) The sharing-of-burdens principle will have to be applied to a yet greater extent where application of the polluter-pays-principle would inevitably lead to the politically undesirable forfeiture of other governmental goals"). The following come to mind:

aa) The monetary effects of environmental protection measures, be they in the form of levies or charges, which may — particularly over a short-term period — come into conflict with the aim of price-level stability<sup>12</sup>).

bb) The diminution of, or threat to, the international competitiveness of German industry, producing a conflict with the aim of maintaining the balance of payments in external trade, is also conceivable. In the present situation, however, this danger can be disregarded to a considerable extent<sup>13</sup>).

cc) Furthermore, on a regional or sectoral basis the target of full employment can be affected as a result of environmental protection measures<sup>14</sup>).

dd) Application of the polluter-pays-principle, e.g., by levying emission charges (more or less along the lines of the Waste Water Charges Act), can in the long run produce negative effects with regard to the setting of goals under a distribution policy which aims at establishing a fairer distribution of income and wealth. The side effects of emission charges have, admittedly, not been sufficiently explored. We can, however, assume that the effects of levying such charges will resemble those in the case of excise duties<sup>15</sup>). Thus they will tend to burden lower income groups more heavily<sup>16</sup>).

2. A policy along the lines of the polluter-pays-principle therefore resembles a "balancing act between further threats to the environment, the successful charging of additional social costs and economic depression"<sup>17</sup>). This is because severe impositions in the non-technical sense — under which I also include emission charges because of their economic effect — can result in costs for industry which can hardly be coped with within the framework of the normal course of business. This means

that the danger of the occurrence of crises in the national economy — or at least in some branches of industry — cannot be excluded. In addition to weakening international competitiveness, such crises can also have repercussions — particularly for a country dependent to a great extent on exports - in all other sectors of the national economy<sup>18</sup>). Furthermore, heavy impositions weaken the "allocation of resources of the national economy"<sup>19</sup>), so that the possibility of negative effects on the realization of additional environmental protection measures cannot be excluded.

A meaningful environmental protection policy may not, therefore — as the Council of Experts for Environmental Questions rightly emphasizes — merely be oriented to the necessity of a harmonious environment, but must attend equally to the necessities of economic defensibility<sup>20</sup>).

The economic cost for total net investment under the Federal Government's Environment Programme is estimated for the years 1971 to 1975 as being of the order of between DM 70.5 thousand million and DM 140 thousand million, of which industry and private households will have to bear just under 45 percent. This means that their ratio of the burden would amount to between 0.82 and 1.64 percent of the cumulative gross national product<sup>21</sup>). Thus, levels are reached in Germany which in any case place a considerable strain on the liquidity of industrial enterprises.

It is already clear from the reasons recited so far that it appears still necessary to supplement the polluter-pays-principle over a prolonged time by applying supporting measures from the armory of the "sharing-of-burdens" principle, i.e., by financial aid on the part of the government. Thus the process of adjustment may be organized in an acceptable manner also defensible with respect to distribution policy. This fact is also recognized in principle by the Council of Experts for Environmental Questions<sup>22</sup>), as it was previously by the Ackermann opinion.

3. There is yet another aspect from which it would appear practicable to supplement the polluter-pays-principle by financial incentives. Long-term environmental planning and environmental protection are not possible without the participation of those affected by planning measures, i.e. in particular, the participation of industry<sup>23</sup>). Wholehearted willingness to participate can, however, only be expected if the government is inclined to consider economic defensibility and social acceptability of specific solutions in addition to their ecological benefits and efficiency, i.e., to include considerations in the planning process for which the polluter-pays-principle alone is inadequate<sup>24</sup>). In other words, when engaged in environmental planning, the government must also decide on the extent to which it is prepared to help ensure economic defensibility and social acceptability through its own financial commitment<sup>25</sup>). This is all the more justified since up to now environmental protection has been very much neglected both by government economic policy and by the responsible supervisory authorities, "partly out of a lack of insight, partly out of political weakness, partly in favour of other objectives and, not least, in favour of a rapid economic growth and full employment"<sup>26</sup>).

4. It has already been indicated repeatedly that the promotion of environmental protection investments by financial aid on the part of the State can only be considered as an ecological supporting measure. Thus, only if environmental protection facilities have in any case to be provided owing to the requirements of police regulations, can the financial help of State promote investments for environmental protection, i.e., at all events, accelerate them<sup>27</sup>).

This also applies where emission charges are levied according to the quality and quantity of the noxious substances released; for the interplay of both tools intensifies the commercial incentives for accelerated investment activity. Above and beyond this, emission charges and government aids for adjustment can strengthen the competitiveness of environmentally compatible productive enterprises against the ecologically irresponsible<sup>28</sup>).

## Issue II: Subsidies and special depreciation allowances

1. There are two methods by which the government can provide financial aids to firms in the process of adjustment:

- a) **Subsidies**<sup>29</sup> are, one can say<sup>30</sup>), **payments** by the government to agencies outside government administration in order
- to maintain production or performance in enterprises or branches of industry, or to adapt them to new conditions;
  - to promote the increase of productivity and the expansion of enterprises or branches of industry.

This definition corresponds closely to the definition of financial aid to be found in section 12 of the Law to Promote Economic Stability and Growth, and includes only **direct payments**. In this paper I cannot and do not wish to become involved in the financial controversy as to whether indirect transfers are also to be counted under the heading of subsidies, nor, for instance, to distinguish among general subsidies, subsidies for a particular activity, subsidies for forbearance from an activity, and so forth, which more or less correspond to the distinction between direct and indirect subsidies<sup>31</sup>). The often observed attempt also to include tax concessions — in particular special depreciation allowances — under the definition of subsidies is connected with a certain degree of comparability between both instruments of providing assistance with regard to

- their effects on the budget (less revenue!<sup>32</sup>)
- and their consequences for individual enterprises (a strengthening of financial capacity)

and is, in addition, supported by the broad definition of aid under Community law as set out in Article 92 of the EEC Treaty.

If I now proceed to include only direct payments under subsidies, this is justified not only from the legal point of view, because the legal foundation and the implications of the basic law of finance are utterly different in the case of special depreciation allowances and subsidies, but because — as will be seen — significant differences can be noted from the economic point of view as well<sup>33</sup>).

- b) The second method to be considered and which has been selected in the draft of the Income Tax Act is the granting of **special depreciation allowances**, i.e., governmental support for environmental protection investments by means of the tax law.

Like subsidies, special depreciation allowances affect the financial capacity of an enterprise. Whereas, however, in the case of subsidies, it is a question of an increase in equity capital analogous to a contribution to capital, special depreciation allowances work their effects primarily with regard to possibilities

for self-financing. In the year in which such special depreciation allowances are claimed, the result is a comparatively lower taxable profit. For example, a 60 percent special depreciation allowance in the first year — as envisaged under section 7d of the Income Tax Code — leads, in contrast to the 10 percent normal depreciation allowance, to an approximately 50 percent reduction of the taxable profit, i.e., to an actual tax relief of about 25 percent, if we assume a tax rate of 50 percent<sup>34</sup>). As a result, the funds available for self-financing purposes will be increased. After the asset has been completely written off on the books, the "financial aid temporarily granted" must, however, be gradually written back over the following years on a pro rata basis until the facility in question can no longer be used, with the result that profits will be increased, i.e., the opposite effect will then occur. In the case of proportional rates of tax, therefore, we can speak of tax deferral<sup>35</sup>). In this respect it must, of course, not be overlooked that the writing back of the financial aid granted "to be charged against profits" can be compensated for by the interest earned by the postponement of tax<sup>36</sup>).

2. We will now proceed to a consideration of the arguments brought in support of granting subsidies instead of tax concessions (by way of depreciation allowances), and to a critical analysis of such arguments.

At the present time, there is a strong trend in the literature, especially pronounced in the sector of environmental protection, favoring the provision of government financial aid, to the extent that such assistance appears necessary, in the form of subsidies<sup>37</sup>).

In the main, the following arguments are made in favour of this preference:

a) In the first instance, special depreciation allowances are considered detrimental for reasons related to the tax system, since they would contribute greatly to making the German law on the taxation of profits more difficult to understand and more complicated<sup>38</sup>). But the Tax Reform Commission itself concedes that, in "exceptional cases", special depreciation allowances will be inevitable in the future, too, as measures of providing assistance under economic policy. I consider that environmental protection is to be regarded as one such exceptional case of particular importance.

b) **Efficiency**

Doubts are voiced now and then<sup>39</sup>) as to whether special depreciation allowances can make an effective contribution to environmental protection at all. That contention could, at most, only be plausible if isolated aspects of the issue were studied. If, however, consideration is given to the fact that special depreciation allowances primarily should serve to support the objectives of police regulations, then serious doubts as to the suitability and efficacy of this tool for such purpose can hardly be entertained<sup>40</sup>). In general, the impressive success achieved with the various provisions of section 7 of the Income Tax Code (particularly with regard to housing and shipbuilding)<sup>41</sup>) as with section 36 of the Investment Aid Act should be called to mind<sup>42</sup>).

c) The **imprecision** of special depreciations

In the American literature<sup>43</sup>), it is maintained that special depreciation allowances encourage improper technical responses to environmental problems.

This contention is not convincing, since it is both quite possible, and, indeed, was envisaged in section 7d, para. 2 of the Income Tax Code, that proof of the suitability of a facility for protecting the environment be required as a pre-condition for a special depreciation allowance. The fear that special depreciation allowances favour<sup>44</sup>) only those technical possibilities known at the time the law was passed is equally without foundation, where this procedure is followed, for "suitability" is assessed according to the technical level achieved in each case. The latter must be taken into consideration by the authority issuing the certificate.

d) A further argument closely connected with the foregoing is the point that investments for environmental protection are only sensible in the case of productive investments<sup>45</sup>). This is probably intended to cast doubts on the investment-promoting effect of special depreciation allowances for environmental protection facilities<sup>46</sup>). This can be countered by the fact that special depreciation allowances even on non-productive facilities can constitute investment incentives<sup>47</sup>) so long as the enterprise makes a profit, because in this case, too, the taxable profit diminishes in comparison in the year such allowances are claimed, as does also the amount to be paid as profits tax. This again can result in an increase in the funds available for self-financing.

e) **Marginal enterprises:**

First of all, those enterprises are to be disregarded which in any case make a profit for part of the time, for in such cases liquidity can still be improved by means of the special depreciation allowances together with the possibility of a loss deduction in accordance with section 10d of the Income Tax Code<sup>48</sup>).

The situation of marginal enterprises which no longer make any profit whatsoever is, of course, different. Here the special depreciation allowance tool can no longer bring about the desired effect, even if considered in connection with the possibility of a five-year carryover of loss deductions (section 10d, Income Tax Code). This fact constitutes a further argument for those who give preference to subsidies.

It is said that, on account of their modest earning capacity, marginal enterprises neglect to protect the environment in a particularly serious manner, and that they therefore are in especially urgent need of government aid in order to cope with environmental problems<sup>49</sup>). In reply, it can be argued that the support provided by the government can fundamentally only constitute a measure of support for **adjustment** to the requirements of environmental protection, i.e., "help to encourage self-help".

The principle generally applying where structural policy is concerned<sup>50</sup>) must also be observed in formulating environmental protection policy. Government assistance should as a matter of principle not serve to preserve enterprises which are no longer competitive. To the extent that, in an exceptional case, such assistance appears necessary for reasons of social policy, this has nothing to do with environmental protection and therefore cannot determine the choice of methods of providing government assistance for environmental protection.

There is yet another consideration in this respect: In the case of marginal enterprises, government promotion of environmental protection investments would often require not only full financing of acquisition costs, but also

continuing subsidy towards operating costs, if such assistance is to have its intended effect. It will often be the case that the operating costs of environmentally compatible facilities will be so high that the marginal enterprise will not be able to bear them even if the acquisition costs are borne entirely by the government<sup>51</sup>). For this reason, where marginal enterprises are concerned, we can no longer talk of supporting measures in the sense of help to encourage self-help, even when we recommend subsidies as a means of assistance.

- f) A certain disadvantage of special depreciation allowances in tax law is also seen in the fact that enterprises making high profits derive greater advantages from this method of governmental assistance than enterprises with low profits<sup>52</sup>. For, in the case of progressive rates of tax, the amount of tax savings — that is, the amount of liquidity aid received — when special depreciation allowances are employed depends upon the average rate of tax and thereby upon the amount of taxable profits which would result in the case of normal depreciation allowances. In other words, deductions from the tax base before application of the tax schedule — and such is the effect where special depreciation allowances are employed — have the result that the amount of tax relief is influenced by the progression of income tax rates; meaning, therefore, that such relief may vary in amount<sup>53</sup>).

This reservation does not, however, apply to the greater number of corporations, for the simple reason that in accordance with the corporate tax law basic proportional rates of taxation apply to distributed profits at different levels (15 percent and 51 percent respectively), and a progressively graduated rate is applied only in the case of the retained profits of so-called personal subscription corporations (personenbezogener Kapitalgesellschaften). As has already been mentioned, where proportional rates of taxation are applied, however, the tax savings at the time the special depreciation allowance is employed and the comparable tax increases in succeeding years are absolutely equal, so that economically one can speak simply of a tax deferral<sup>54</sup>).

The possible differences in the effect of special depreciation allowances therefore remain confined to those cases falling within the area to which the progressive rate provisions of the income tax law apply. But consistently equitable treatment is also by no means a matter of course with respect to the granting of subsidies. As is well known, the guidelines for granting subsidies frequently leave a wide margin for decision-making, for the simple reason that such subsidies can then be more "selectively" employed<sup>55</sup>). This, however, again raises the problem of equitable treatment, and we all know just what difficult questions are raised by the equality clause in the law of subsidies<sup>55a</sup>).

In this regard, therefore, I can see no persuasive advantage to subsidies as opposed to special depreciation allowances.

- g) Finally, the point is cited in favour of subsidies, that owing to the necessity of periodic budgetary approval, long-term legal commitments — as in the case of tax credits — are avoided"); moreover, no legal right to the granting of subsidies exists. In contrast, however, stands the considerable disadvantage that enterprises are exposed to elements of uncertainty with respect to their planning and decision-making<sup>57</sup>). These uncertainties can have a negative

effect on the inclination toward long-term investments — which is often the case with respect to facilities for environmental protection<sup>58</sup>).

3. The critical analysis of the chief arguments advocating subsidies rather than special depreciation allowances as a means of governmental promotion of investments for environmental protection leads to a negative result. Those in favour of subsidies are unable to state convincing reasons showing that special depreciation allowances constitute a less suitable, or at all inappropriate, instrument of governmental financial assistance with respect to investments for environmental protection.

I am of the opinion that two considerations argue against the application of subsidies in the field of environmental protection.

First, attention must be drawn to the danger that subsidies can easily switch from an adjustment aid to a survival aid, i.e., they can delay economically necessary structural changes without guaranteeing really efficient encouragement with regard to environmental protection for those marginal enterprises which do not make a profit in the long run — unless the government were prepared to bear a considerable share not only of the acquisition costs, but also of the operating costs.

Moreover — and for me this is even more decisive — the costs to the government at least **tend** to be higher in the case of subsidies than when special depreciation allowances are permitted.

— For, as has been shown, special depreciation allowances are effective only if the enterprises concerned make a profit at least part of the time.

— In addition, reduced revenues can be partly compensated for through increased tax collections at a later date, namely by drawing on the hidden reserves made possible by special depreciation allowances.

— If, on the other hand, subsidies are the chosen means and normal depreciation allowances are retained, then this method of financial aid cannot be equalized later on by increased tax collections resulting from the cessation of possibilities for depreciation allowances. This can be put into mathematical terms for an individual case whereby — with certain simplifications — figures are derived which reveal an extra burden of up to 30 percent on the tax authorities, calculated for a period of 10 years, if instead of special depreciation allowances an equal amount of financial aid is provided in the first year<sup>59</sup>).

I am therefore of the opinion that, from the perspective of revenue policy as well, special depreciation allowances appear more effective than subsidies<sup>60</sup>).

### **Issue III: Is the provision as planned under section 7d of the Income Tax Code in conflict with the prohibition of subsidies in Article 92 et seq. of the EEC Treaty?**

1. This is maintained by the Commission in the already mentioned letter of 27 March 1974 to the Federal Minister for Foreign Affairs, and thus constitutes another in the long succession of the Commission's attempts to prevent those tax concessions not specifically dealt with in Articles 95 et seq. of the EEC Treaty from being awkwardly harmonized by the Council, and to make them subject to the assistance provisions of Articles 92 et seq. of the EEC Treaty, with their effective powers of intervention (cf. Article 93 of the EEC Treaty)<sup>61</sup>).

This endeavour to achieve by means of EEC Treaty Article 92 the broadest possible approximation of a competitive initial position for all the members of the Community in the sector of taxation as well as elsewhere is certainly understandable, but it finds **no** support in the Treaty itself.

2. The wording of Article 92, para. 1 of the EEC Treaty is, indeed, couched in broad terms when it refers to "any aid ... granted ... in any manner whatsoever." This could also include tax aids, to the extent that their effects are as described more precisely in Article 92, para. 1 of the EEC Treaty.

3. The structure of the Treaty is enough to demonstrate, however, that EEC Treaty Articles 95 et seq. regulating the granting of aid do not merely pretend to be **special** regulations, but also comprise an exhaustive and conclusive treatment of the subject of competition-distorting tax concessions<sup>62</sup>). For the draft of the EEC Treaty, which, both in the sector on grants of aid and that on taxes, is still strongly influenced by the idea of freeing **international** trade from competitive distortions, direct taxes lie outside the sphere of those means of protection, such as customs duties, quotas, subsidies, turnover and use taxes, which are **directly** related to the actual amount of exports and imports, and therefore are the subject of special Community regulations<sup>63</sup>).

4. Moreover, it was already known when the Treaty was concluded that the various national taxation systems — and in particular the income and corporation taxes — contained a variety of tax concessions motivated by economic policy. If the Treaty **does not deal** with the tax concessions — despite their relevance to competition — then it can be concluded that the intention (for the time being) was to tolerate this situation<sup>64</sup>) and, in the interest of member state sovereignty in fiscal matters, to be content with the instrument of harmonization. The theory of the applicability of Article 92 et seq. of the EEC Treaty to tax concessions, particularly to special depreciation allowances, which the Commission persistently advocates, has thus received strong opposition, for good reason<sup>65</sup>).

5. This is not to say that the Treaty's provisions regarding grants of aid would have **absolutely no importance** for the law of taxation. Indeed, a special regulation has been drawn up for typical cases of tax protectionism. Specific practices which amount to flagrant evasion of Article 92 of the EEC Treaty can, however, end up by being subject to the application of the Treaty's provisions with regard to the granting of aid, even when clothed in the guise of a tax regulation.

— This applies to some extent to methods of assistance which have only superficial formal connection with the taxation sector because by their nature they are purely concerned with performance subsidies<sup>66</sup>).

The following examples are cited in the literature:

Investment premiums<sup>67</sup>) or investment allowances, which can be awarded by deduction from **tax liability**, or which can be granted by the competent tax office out of the general receipts from corporate or individual income tax.

— The granting of privileges in the purchase of domestic goods (e.g., temporary tax exemption on cars of domestic origin<sup>68</sup>).

— Special levies on certain goods for the maintenance of "equalization" or support funds, the yield of which are used solely for the benefit of the domestic production concerned<sup>69</sup>).

In the case of special depreciation allowances for the purposes of environmental protection, however, it is not a question of a specific method for evading Article 92 et seq. of the EEC Treaty, but rather of a typical means of providing assistance under the taxation system which serves aims of structural policy and which, moreover, was already known and widely applied prior to the conclusion of the Treaties of Rome.

If, therefore, special depreciation allowances per se do not fall under Article 92 et seq. of the EEC Treaty, then this result cannot be called into question<sup>70</sup>), even with reference to the generality, i.e., the **lack of "sectoral or regional specificity"**, in the planned provision of the Income Tax Code. Likewise, the assumed deviation from the polluter-pays-principle cannot justify the application of Article 92 et seq. of the EEC Treaty to the case in question<sup>71</sup>).

- For one reason, the support for ecological protection provided by governmental assistance is both sensible and necessary;
- and secondly, I ask myself where in Article 92 of the EEC Treaty an equivalent requirement of factual findings is to be found.

I consider, therefore, that the Federal Government should emphatically oppose the opinion of the Commission — which cannot substantiate its theory convincingly under the law of the Community — and should, if necessary, appeal to the Court of Justice.

## Notes

1) The text of section 7d of the Government bill regarding the 3rd Tax Reform Act 1974 according to the wording proposed by the Federal Ministry of Finance (1st reprint of 8 February 1974) and selection 168 (BT-Drs. VII/1470) read as follows:

(1) Taxpayers who calculate profits on the basis of normal accounting methods in accordance with § 4, para. 1 or § 5, may, in the case of those depreciable movable and immovable business assets forming part of their fixed assets which fulfil the prerequisites laid down in para. 2 and which were either purchased or manufactured subsequent to 31 December 1974, notwithstanding the provisions of § 7, claim a depreciation allowance of up to 60% during the business year in which purchase or manufacture was effected, and during the following business years until the asset is completely written off of up to 10 % of the initial or manufacturing costs.

Accelerated depreciation allowances not claimed may be claimed at a later date. In this connection, subsequent initial or manufacturing costs may, notwithstanding the provisions of § 7a, para. 1, be treated as though they had occurred during the business year in which purchase or manufacture was effected.

(2) Accelerated depreciation allowances in accordance with para. 1 may be claimed only if

1. the business assets of a domestic enterprise owned by the taxpayer are directly and exclusively, or almost exclusively, designed so as to protect the environment, and
2. the agency designated by the government of the respective Land certifies that
  - a) the business assets are both intended and designed to serve the purpose described in 1 above, and
  - b) purchase or manufacturing of the business assets is required in the public interest.

(3) Business assets promote environmental protection if they are used for the following purposes:

1. To prevent, remove or reduce
  - a) the amount of effluents or
  - b) damage caused by effluents or
  - c) water pollution by substances other than effluents or
  - d) air pollution or
  - e) noise or vibration, or
2. to remove wastes in accordance with the principles of the Waste Removal Act.

(4) Paragraphs 1 to 3 are to be applied accordingly where subsequent manufacturing costs are concerned in the case of those business assets serving the interests of environmental protection and which have been either purchased or manufactured prior to 1 January 1975, it being understood that in the business year in which the subsequent manufacturing work was concluded accelerated depreciation allowances up to the full amount of the subsequent manufacturing costs of depreciable business assets within the meaning of paragraph 2, assets which do not protect the environment, subsequent manufacturing costs are incurred as a result of alterations carried out exclusively for reasons connected with environmental protection. Sections 79, 82 and 82e of the Income Tax regulations cannot be applied in the case of subsequent manufacturing costs in connection with which accelerated depreciation allowances in accordance with paragraph 1 are claimed.

(5) Accelerated depreciation allowances in accordance with paragraph 1 may already be claimed for down payments on initial costs and for partial manufacturing costs. Section 7a, para. 2 is to be applied with the understanding that the amount of such accelerated depreciation allowances may not exceed 60 % of the total installments or partial manufacturing costs paid up to the end of the business year in question. Sentence 1 shall apply analogously in the cases cited in paragraph 4.

(6) Taxpayers who calculate profits on the basis of normal accounting methods and who, subsequent to 31 December 1974, by way of a grant towards the financing of the initial or manufacturing costs of depreciable business assets within the meaning of paragraph 2, acquire a right to use such business assets, may, by the exercise of this right notwithstanding the provisions of § 7, claim accelerated depreciation allowances in accordance with paragraphs 1 or 4, sentence 1. Such allowances may be claimed only if the recipient -

1. employs the grant immediately and directly for financing the purchase or manufacturing of business assets or for subsequent manufacturing work done upon the business assets, and
2. confirms to the taxpayer that the prerequisite under 1 has been fulfilled and that a certificate in accordance with paragraph 2, 2 has been issued for the business assets or for the subsequent manufacturing work.

(7) Accelerated depreciation allowances in accordance with paragraphs 1 to 5 shall be permitted on condition that the prerequisite under paragraph 2, 1 is fulfilled —

1. in the cases cited under paragraph 1, at least 5 years after the purchase or manufacture of business assets,
2. in the cases cited under paragraph 4, sentence 1, at least five years after completion of the subsequent manufacturing work.

Sentence 1 shall apply analogously in the cases cited in paragraph 6.

(8) Accelerated depreciation allowances in accordance with paragraphs 1 to 7 may not be

claimed for business assets which are purchased or manufactured within the framework of the re-establishment of firms or business premises. The relocation of firms or business premises is not regarded as re-establishment if the authority named in paragraph 2. 2 confirms that such relocation is required in the public interest for reasons connected with environmental protection.

- 2) Cf. Income Tax Code (EStG) § 51 (Beck 1974); Income Tax Regulations (EStDV) §§ 79-82 (Beck 1974).
- 3) In which connection, of course, a series of other improvements are conceivable with regard to the group of those benefiting by depreciation allowances, the treatment of business assets, and of firms and business premises. I have explained this in greater detail in the expert opinion of 22 April drawn up for Frau Huber, member of the German Bundestag and of the IPA (Interparlamentarische Arbeitsgemeinschaft) for the discussions within the Finance Committee. That paper also includes the proposal that such low pollution investments be examined as to their operational efficiency.
- 4) No. 74/22 915.
- 5) In connection with the charging of "environmental harm to the costs of production", cf. the expert opinion drawn up by the Council of Experts for Environmental Questions (Gutachten des Sachverständigenrates für Umweltfragen) (1974), (hereinafter cited as Umweltgutachten 1974), at 10 et seq., (Rn. 36 et seq.).
- 6) Cf. id. at 155 (Rn. 567).
- 7) Id. at 155 (Rn. 567); cf. also Soell, Rechtsfragen des Umweltschutzes, WiR 1973, at 72 et seq. (78 et seq.). In particular, with regard to the importance of the polluter-pays-principle from a jurisprudential viewpoint, see above all E. Reh binder, Politische und rechtliche Probleme des Verursacherprinzips (1973), in which the author rightly objects to the regarding of this principle as absolute (p. 176). See also Salzwedel, Studien zur Erhebung von Abwasser-gebühren (1972), at 52 et seq.; Bullinger, Rechtsfragen des Verursacherprinzips beim Umweltschutz, in Das Verursacherprinzip und seine Instrumente, vol. A 24 of the "Beiträge zur Umweltgestaltung".
- 8) references in Soell, supra note 7, at 80 together with notes 39 and 40.
- 9) Cf. Umweltgutachten 1974, at 155 (Rn. 567); see also in this connection the references in Bullinger, Rechtsfragen, supra note 7, at 81.
- 10) Umweltgutachten 1974, at 155; Bullinger, supra note 7, at 81. In this connection, the Commission of the European Communities adopts a firm attitude: "Should it prove impossible or too difficult, and therefore arbitrary, to trace the actual polluter, especially in the case of "polluter chains" or "cumulative environmental burdens" the costs of controlling environmental pollution would in each case have to be internalized at that point in the chain of pollution or in the cumulative burden on the environment, and with those legal and administrative means, which offer the best solution economically and administratively." Cf. Statement made by the Commission to the Council regarding the charging of costs and intervention by government authorities in the case of environmental pollution, ENV/20/74-D, at 2.
- 11) The Commission itself considers government financial aid justified —
  1. during certain transitional periods in order to facilitate the adjustment of enterprises to the effects of the charging of costs (cf. working document III/2 138/72-D re Article 92 et seq. of the EEC Treaty and aid in the interests of environmental protection, at 7);
  2. in order to avoid adjustment problems arising for economic, technical or social reasons;
  3. when policy in other sectors (regional, social or research policy) interferes with environmental protection policy.Nevertheless, in such cases the Commission is prepared to regard only sectoral or regional aids as permissible (ENV/20/74-D, supra note 10, at 5-6).
- 12) Umweltgutachten 1974, at 11 (Rn. 45), 170 (Rn. 627), and 171 et seq. (Rn. 633).
- 13) As long as there is a considerable surplus on the current account balance of payments, this danger will, of course, play no great role. Cf. Umweltschutzgutachten 1974, at 171 (Rn. 630).
- 14) The Umweltschutzgutachten 1974, at 11 (Rn. 45) and 170 (Rn. 626), also recognizes this fact where the regional sector is concerned. The threat to full employment can, however, apply to specific sectors, namely in branches of industry which, for a number of reasons, are in any case struggling with employment problems.
- 15) Also stated in the Umweltschutzgutachten 1974, at 12 (Rn. 47). In contrast, the Commission of the European Communities neglects this aspect entirely. It sees merely the functions of providing an incentive and redistribution in the sense that the charges levied will amount to the total costs of depollution. Cf. ENV/20/74-D, supra note 10, at 4.
- 16) See also Delogu, above at p. 13, with regard to the passing on of burdens arising from the polluter-pays-principle and to the danger that those lower down on the income scale will particularly feel the effect of the costs of environmental protection measures.
- 17) Umweltschutzgutachten (1974), at 167 (Rn. 614).

- 18) Id.
- 19) Id.
- 20) Id. With regard to the optimal concept of environmental protection policy, cf. also Rehbinder, supra note 7, at 41 et seq., 85, 158, 176; Bullinger, supra note 7, at 79.
- 21) Cf. Umweltschutzgutachten 1974, at 163 et seq. (Rn. 601 et seq.), with regard to the differences in costs estimates between the "Gutachten zur Gesamtbelastung der Volkswirtschaft durch das Umweltprogramm der Bundesregierung" (Ackermann, Geschka and Karsten) and the DIHT-Umfrage (Survey), its analysis and evaluation.
- 22) Cf. Umweltschutzgutachten 1974, at 12 (Rn. 48); see also Bullinger, supra note 7, at 79. Emphasis is rightly laid on the tendency of government grants to ease conflicts. Cf. in this connection Umweltschutzgutachten 1974, at 372 (Rn. 568); cf. also Hansmayer, Subventionen in der Bundesrepublik Deutschland (1963), at 17 et seq., for general comments on the alleviation of temporary hardship by government financial assistance and on the compromise character of such aid.
- 23) Rightly emphasized in the Umweltschutzgutachten 1974, at 12 (Rn. 49).
- 24) Cf. Soell, Rechtsfragen des Umweltschutzes, supra note 7, at 80.
- 25) Cf. also Bullinger, supra note 7, at 105.
- 26) See id. and, by the same author, VersR 1972, at 606; cf. also Delogu, supra note 16, at 13, where the author stresses the co-responsibility of the public concerning environmental problems in view of the economic policy pursued in the past and the unsatisfactory performance of government supervisory authorities.
- 27) For no rational economic entrepreneur (to put it simply but graphically as in Delogu, supra note 16, at 11 et seq.) will without necessity pay with DM 10 merely because the government will reimburse him for DM 5 of the additional expenditure.
- 28) Cf. the reasons put forward by the Government with regard to the Waste Water Charges Act, 1st reprint, as of July 1973, at 3.
- 29) Section 12 of the Law to Promote Economic Stability and Growth speaks of government financial aid (staatliche Finanzhilfen) in order to include in the broader concept that financial aid which is granted to private households.
- 30) Cf. also the Second Report on Subsidies (2. Subventionsbericht der Bundesregierung) (1970) BT-Drs. VI/391, at 2.
- 31) For comments on the tangle of definitions, see, for example, K.-H. Hansmeyer, Finanzielle Staatshilfen für die Landwirtschaft (1963), at 25 et seq.; and, by the same author, Subventionen in der Bundesrepublik Deutschland (1963), at 12 et seq.; both works provide further references. See also H.-G. Koppensteiner, Das Subventionsverbot im Vertrag über die Europäische Gemeinschaft für Kohle und Stahl (1965), at 84 et seq., 103 et seq.
- 32) See also Delogu, supra note 16, at 15: In any case, the taxpayer's money foots the bill, whether taxes are imposed on all taxpayers and part of the resulting funds are paid to specific recipients, or whether taxpayers are permitted from the outset to pay smaller sums in taxes than is normally allowed.
- 33) The nature of the subsidy was, for example, also hotly contested by the Federal Minister of Transport and the Federal Minister of Finance in connection with the previous wording of section 7d of the Income Tax Code (special depreciation allowances for shiobuilding). In this connection, cf. K.-H. Hansmeyer, Subventionen in der Bundesrepublik Deutschland (1963), at 61, 67 et seq.
- 34) According to future law (Income Tax Act 1975 and Corporation Tax Law 1976), the maximum tax rate for partnerships — taking into consideration the tax surcharge, the church tax, and the tax on trade profits, as well as the fact that the church tax can be deducted as a special expenditure and that tax on trade profits can be deducted as a business expense — will amount to 64.20%. The actual tax relief produced by a special depreciation allowance of 60% will therefore amount to 35.51 % in the first year. In the case of corporations, the future maximum tax rate will amount to 44.34 % in the event of maximal distribution of profits, and in the case of a restricted 50% distribution, 54.64 % In that case, if a 60% special depreciation allowance is claimed, actual tax relief amounts to 24.38 % or 30.05 %, respectively, during the first year. In this connection see Eggeling-Lange, Wie hoch ist der Subventionswert aus steuerlichen Sonderabschreibungen auf Kläranlagen als weiterer Anreiz zur Reduzierung der Gewässerbelastung im Zusammenhang mit den Instrumenten des geplanten Abwasserabgabengesetzes?, expert opinion (Gutachten) prepared at the request of the Federal Minister of the Interior (1974), at 23 et seq., with tables 5.1.2.1.; 5.1.2.2.; 5.1.4.1. and 5.1.4.2. in the Appendix thereto.
- 35) Cf. e.g., John HWStR, "Sonderabschreibungen", at 942; Eggeling-Lange, supra note 34, at 33, 37, 45.
- 36) What remains in the final analysis, therefore, is the effect upon interest. Cf. Eggeling-Lange, supra note 34, at 37, 39 et seq.
- 37) Advocated in the Umweltschutzgutachten 1974, at 12 (Rn. 48), 155 (Rn. 568). No precise definition is given, however, of what is understood by "subsidies", and no further reasons are stated for the choice of this method. Cf. also Karl-Bräuer-Institut des Bundes der Steuerzahler, Der Weg zu einem zeitgemäßen Steuersystem (H. 20. 1970), at 234 et seq. Of the

articles published in America. I cite only the following: A. Reitze & G. Reitze, *Tax Incentives Don't Stop Pollution*, 57 Am. B. Ass'n J. 127, 129 (1971); F. Millet, Jr., 8 Wake Forest L. Rev. 535 (1972); K. Reed, *Economic Incentives for Pollution Abatement Applying Theory to Practice*, 12 Ariz. L. Rev. 511, 519 (1970). Delogu (supra note 16, at 15 et seq.) also is one of those who, in the final analysis, prefers subsidies to special depreciation allowances.

In general, the expert opinion submitted by the Tax Reform Commission (Gutachten der Steuerreformkommission, 1971) also favours the "allowance principle" instead of special depreciation allowances. Cf. ESt, LSt II F, at 65 (Rn. 14).

- 38) The objections raised by the Tax Reform Commission and the reservations expressed by the Karl-Bräuer-Institut particularly incline to this view. See note 37 supra.
- 39) Cf. Reitze & Reitze, supra note 37, at 128. See also the written report of the Ausschuß für Wirtschaft und Mittelstandsfragen (Committee dealing with issues concerning small and medium-sized enterprises) concerning the draft introduced by the Federal Government for the Law to Promote Economic Stability and Growth, BT-Drs. V/1 678, at 4, where the opinion is expressed, referring to the findings of a consultation of experts, that increasing depreciation allowances is an ineffective tool for encouraging investment by private enterprises in the event of a recession.
- 40) To this extent, a considerable difference exists in the case of special depreciation allowances for environmental protection investments vis-a-vis the use of this tool within the framework of economic policy.
- 41) For comments with regard to shipbuilding, see, for example, the report by H.-R. Büssgen in: K.-H. Hansmeyer, *Subventionen in der Bundesrepublik Deutschland* (1963), at 61 et seq.
- 42) Cf. also BT-Drs. V/1 678, at 4-5.
- 43) Reitze & Reitze, supra note 37; see also Delogu, supra note 16, at 15 et seq.
- 44) A view particularly expressed by Delogu, supra note 16, at 15 et seq. Delogu's further objection that special depreciation allowances do not favour those facilities which are designed for the production of low pollution products (e.g., benzine with a low sulphur content) is not really aimed at the tool as such, but at its legal implementation. As is known, the Bundesrat (Upper House of the German Federal Parliament) also suggested that at least those facilities be included which manufacture low-emission fuel (BT-Drs. VII/1 470, No. 29 concerning Article 1, § 168, para. 3). The Federal Government opposed this with the argument that such an extension would result in numerous demands for the support of further facilities for the production of environmentally compatible products. Cf. BT-Drs. VII/1 470, supra, for the contrary opinion.
- 45) Reitze & Reitze, supra note 37.
- 46) For General comments in this respect see also John, supra note 35, at 942.
- 47) In Germany, there has up to now been a considerable lack of empirical studies on this subject. Initial surveys, indeed, have not yet been able to establish that noticeable incentives for environmental protection investments result from special depreciation allowances. However, the surveys carried out so far cannot be regarded as very reliable, because of their restricted regional scope (the district of Nuremberg). In addition, it has been revealed that owners of enterprises often were unaware of the possibility of availing themselves of a special depreciation allowance. Cf. in this connection Heigl, *Fördern Steuervergünstigungen den Umweltschutz?*, in *Umwelt*, vol. 3 (1974), at 58-60.
- 48) Especially as § 7d, para. 1 of the draft of the Third Tax Reform Act (§ 168, BT-Drs. 7/1 470) also provided for the possibility of claiming special depreciation allowances subsequently.
- 49) Cf., e.g., P. McDaniel & A. Kaplinski, *The Use of the Federal Income Tax to Combat Air and Water Pollution: A Case Study in Tax Expenditures*, 12 Boston Coll. Ind. & Comm. L. Rev. 360 (1971).
- 50) Cf. *Strukturbericht 1969*, issued by the Federal Government, BT-Drs. V/4 564, at 27.
- 51) Cf. Reitze & Reitze, supra note 37, at 129. Reference is made to the example of high operating costs in the case of "electrostatic precipitators".
- 52) Cf., e.g., John, supra note 35, at 942; expert opinion of the Tax Reform Commission, supra note 37, at 65 (Rn. 13).
- 53) Likewise Delogu, supra note 16, at 15. He considers that this effect would run contrary to the purpose of providing aid. Logically, more aid would have to be given poorer enterprises, so that they can attain the desired environmental standard. Rich firms should bear their costs themselves. That possible differences in the effect of special depreciation allowances remain within limits will be shown more precisely forthwith. It has already been established that, in accordance with principles of structural policy, it is not a task for governmental promotion in the sector of environmental protection to maintain enterprises which are no longer competitive.
- 54) Cf. John, supra note 35, at 942.
- 55) This is regarded as a particular advantage of the subsidy device. Cf. BT-Drs. VI/391 (2. Subventionsbericht), at 6; Strickrodt, *HwStR*, "Subvention", at 1082.
- 55a) Cf., e.g., 30 BVerwGE 191 et seq.; BGH, 1966 DB at 1232; OVG Lüneburg, 1969 DVBl at 875; Gotz, *Recht der Wirtschaftssubventionen* (1966), at 36 et seq., 263 et seq., Ipsen, 25 VVDStRL (1967), at 296.
- 56) Cf., Strickrodt, supra note 55, at 1082 et seq. Delogu (supra note 16, at 15 et seq.) infers from

the necessity of approving subsidies periodically that better control with full safeguards is achieved, counteracting the tendency to retain subsidies longer than real need for them exists, because the usefulness of subsidies is examined at regular intervals and their justification called into question. This argument is not convincing. Financial practice teaches that subsidies tend to become permanent and to grow in number (cf. for example U. Berthold, zur Theorie der Subventionen, ein Beitrag zur mikroökonomischen Analyse der Subventionswirkungen und ihrer wirtschaftlichen Beurteilung, Bern 1967, at 112 et seq.), that they develop a certain force of their own (J. Räder, Subventionen als volkswirtschaftliche und finanzwirtschaftliche Erscheinung, 1965, at 94) and are often irreversible because the subsidized sectors press for their subsidies to be "written into law" (c.f. in this connection Hansmeyer, Subventionen, supra note 31, at 27 et seq.).

Delogu (supra) also underestimates the influence exercised by lobbyists on the system of granting subsidies. See, for a contrasting example with respect to the agricultural sector, Hansmeyer, Finanzielle Staatshilfen, supra note 31, at 69 et seq.

The public benefit from environmental protection investments can also be examined where special depreciation allowances are concerned. Section 7d, para. 2, of the third Tax Reform Act, for example, included the provision that accelerated depreciation allowances could only be claimed if the agency designated by the respective Land government certified *inter alia* that the purchase or manufacture of the economic goods is "required in the public interest".

- 57) Also recognized by the 2nd Subventionsbericht (Report on Subsidies) of the Federal Government. BT-Drs. VI/391, at 6.
- 58) Delogu (supra note 16, at 16) considers it also disadvantageous that special depreciation allowances are "better known" than subsidies, and that full use is made of them by a large number. Whether the facts bear out this statement may still be uncertain. In any case, I cannot regard this as a disadvantage from the aspect of ecological objectives. Moreover, in contrast to subsidies, which are included as fixed items in business calculations, special depreciation allowances must first be earned. To my mind, this fact constitutes a considerable advantage from the point of view of economics and financial policy.
- 59) It is often emphasized that the importance of special depreciation allowances is merely their utility for tax deferral, for, after the time at which the asset is completely written off on the books, the "financial aid temporarily granted" is to be written back on a pro rata basis and charged to profits during the following years until the facility can no longer be used. (Cf. for example Sandig, WPg, vol. 5 [1952], at 509.) This statement must, however, be seen in the proper perspective, since the interest earned from tax deferral must also be taken into consideration. As calculation shows, the writing back of the "financial aid charged to profits" is more than compensated for by the interest earned.

1. Example:

A plant with a useful life of 10 years, 50% tax on trade earnings, 10 % rate of interest and special depreciation allowances pursuant to § 7d of the draft of the Income Tax Act.

Year	I Financial aid from special depreciation allowance (= tax savings)	II Interest income from I	III Financial aid written back through smaller depre- ciation allowance	IV Loss of interest resulting from III	V Special depre- ciation allowance	VI Normal depre- ciation allowance
1st	25%				60%	10%
2nd		2.5%			10%	10%
3rd		2.75%			10%	10%
4th		3.025%			10%	10%
5th		3.327%			10%	10%
6th		3.662%	5%		—	10%
7th		4.02%	5%	0.5%	—	10%
8th		4.42%	5%	1.05%	—	10%
9th		4.86%	5%	1.655%	—	10%
10th		5.34%	5%	2.325%	—	10%
	25%	33.904%	25%	5.530%		
		I + II = 58.9%		III + IV = 30.53%		

**Result:**

The tax savings in the first year and the interest yield calculated over 10 years amount to:

58.9 %

The additional taxes of the past 5 years and the loss of interest therefrom amount to: 30.53 %

A balance remains in favour of the enterprise of:

28.37 %

That is yet 3.37 % more than the saving on taxes in the first year.

If, now, instead of the special depreciation allowance, a subsidy is granted at the same rate (25 %), then this financial aid is equally increased by Interest to 58.9 %. But here, while the depreciation allowance is only commensurate with the useful life of the enterprise, the asset depletion effect of the last five years (additional taxes as a result of smaller depreciation allowances = writing-back of hidden reserves and interest earned thereon) does not occur, so that the enterprise is left with the full 58.9%. The result is similar if the facility is sold before its useful life expires.

2. Example as above, except that sale is effected after the fifth year, the proceeds amounting to 50 % of the original costs.

Year	I Financial aid from special depreciation allowance	II Interest from I	III Taxation as a result of sale	IV Financial aid written back	V Loss of interest resulting from IV	VI Special depreciation allowance	VII Normal depreciation allowances
1st	25%					60%	10%
2nd		2.5 %				10%	10%
3rd		2.75 %				10%	10%
4th		3.025 %				10%	10%
5th		3.3275 %	25%			10%	10%
		11.602 %					

**Result:**

Tax savings during the first year and taxes incurred upon sale balance each other out. The enterprise is left only with the interest income. (If the advantageous rates of § 34 of the Income Tax Code are applied, the result is more favourable.)

If, in place of the special depreciation allowance, a subsidy is granted in the same amount, no profit on sale, and therefore no tax liability, results, since the book value of the facility as adjusted for a normal depreciation allowance still amounts to 50 percent after 5 years.

In addition to the interest income from the "financial aid", the enterprise also retains the subsidy of 25 percent in so far as this was not granted on a special condition. Of course, such conditions requiring repayment within a fiscal time limit are, as a rule, conceivable only if a profit is gained on the sale; much to the contrary, if such a sales profit does not arise.

- 59a) This position has been adopted by the European Council on Environmental Law in a resolution of 10. 2. 75. The resolution recommended that EEC member States harmonize State aid systems, and in doing so, promoted the use of special depreciation allowances. For full text see Volume A 33, **Beiträge zur Umweltgestaltung**, Erich Schmidt Verlag, 1975, p 64
- 60) I therefore consider the contrary opinion held by Delogu, supra note 16, at 15 et seq, incorrect.
- 61) Cf. in this connection the report in Selmer, *Steuerinterventionismus und Verfassungsrecht* (1972), at 374; Götz, supra note 55a, (1986), at 122.
- 62) Correctly stated by Selmer, supra note 61, at 375; Götz, supra note 55a, at 123-24; likewise, in the final analysis, R. Sprung; *Wohlfahrt-Everling-Glaesner-Sprung, Kommentar, Vorbemerkung vor Art. 95 EWGV*, note 9 (at the end of the note).
- 63) Götz, supra note 55a, at 124.
- 64) Selmer, supra note 61, at 375.
- 65) Cf. the references in id., at notes 85, 87 et seq.
- 66) Correctly stated by Selmer, supra note 81, at 386, with examples.
- 67) *Steinkohleanpassungsgesetz* § 32 (BGBl. I, at 365) and the decision of the Commission in this respect of 17 February 1971, (ABl. No. 257 of 10 March 1971, at 19).
- 68) Cf. 1961 EEC Bulletin, no. 11, at 47.
- 69) Cf. EuGH Rs. 47/69, decision of 25 June 1970, EuR 1971, at 136 et seq., with notes by Scheuing.
- 70) The Commission, however, does just this at page 2 of its abovementioned letter of 27 March 1974. See also Guy Schrans, *National and Regional Aid to Industry under the EEC Treaty* (paper presented at a conference held by the Association Beige des Juristes d'Entreprise, the Law Society's Commerce and Industry Group and the Bar Association for Commerce, Finance and Industry, 22-24 February 1973), 10 *Common Market L. Rev.* (No. 2) at 174 et seq. (May 1973), where the author points out that aid according to the sense of Article 92 of the EEC

Treaty must give preference to specific projects or the production of specific goods. This implies that economic measures directed in the same manner to all investors in a specific country (not in a specific region of a country), regardless of where they choose to invest, are not affected by the prohibition under Article 92, para. 1 of the EEC Treaty, so long as all investors — and not merely certain persons among them — profit from such measures. If such measures have a direct influence on the Common Market, or if they create distortions of competition, then the relevant national regulations must be harmonized on the basis of Articles 100 and 101 of the EEC Treaty. Similarly, infrastructural improvements and projects for public use (e.g., roads, plants for the removal of industrial effluents) normally favour everyone without distinction and do not come within the objective of Article 92, para. 1.

71) As contended by the Commission, see note 4 supra.

The International Union for Conservation of Nature and Natural Resources (IUCN) is an independent international body, formed in 1948, which has its headquarters in Morges, Switzerland. It is a Union of sovereign states, government agencies and non-governmental organizations concerned with the initiation and promotion of scientifically-based action that will ensure perpetuation of the living world — man's natural environment — and the natural resources on which all living things depend, not only for their intrinsic cultural or scientific values but also for the long-term economic and social welfare of mankind.

This objective can be achieved through active conservation programmes for the wise use of natural resources in areas where the flora and fauna are of particular importance and where the landscape is especially beautiful or striking, or of historical, cultural or scientific significance. IUCN believes that its aims can be achieved most effectively by international effort in cooperation with other international agencies, such as Unesco and FAO.

The World Wildlife Fund (WWF) is an international charitable organization dedicated to saving the world's wildlife and wild places, carrying out the wide variety of programmes and actions that this entails. WWF was established in 1961 under Swiss law, with headquarters also in Morges.

Since 1961, IUCN has enjoyed a symbiotic relationship with its sister organization, the World Wildlife Fund, with which it works closely throughout the world on projects of mutual interest. IUCN and WWF now jointly operate the various projects originated by, or submitted to them.

The projects cover a very wide range, from education, ecological studies and surveys, to the establishment and management of areas as national parks and reserves and emergency programmes for the safeguarding of animal and plant species threatened with extinction as well as support for certain key international conservation bodies.

WWF fund-raising and publicity activities are mainly carried out by National Appeals in a number of countries, and its international governing body is made up of prominent personalities in many fields.