

## ACCOUNTING FOR POLLUTION: A REVIEW NOTE

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Daniel Bell, of Columbia University, proposed the first form of accounting for pollution (what he call 1 «fotal social accounting» ), under which we would tot up the cost of a problem such as pollution, and charge each company for its share of causing it, almost like a sewer taxi. Thisis presently done in West Germany, where companies are charged a fee for each ton of waste material they damp in the river Rhine.

Gerald Ross proposed<sup>2</sup> the reporting of an index in the construction of which : (i) The accountant should ensure that disclosure is made of the designated pollutants that are included, as well as those excluded from the index and whether or not such omissions are material—i.e., would they make the index look more or less unfavourable, (ii) The accountant has a vital role to play in ensuring that adequate criteria for maximum permissible level of pollution are established and that measurements are consistently reported against these criteria, (iii). The accountant can be effective in aiding qualified scientists to establish an informative measurement of pollution levels— one that best reflects public exposure and communicates an honest measurement of the situation. Furthermore, he thinks that with pollu-

1. «Notes on the Post — Industrial Society», *The Public Interest*, Spiring **1967**. For an implementation of this method see *The Wall Street Journal*, «Sometimes the Facts Aren't What People Really Want to Hear, »Dec. **16,1971**.
2. **G.H.B.** Ross, «Social accounting: measuring the unmeasurables c » *Canadian Chartered Accountant*, July 1971, p. 54,

tion, annual figures are probably not the most informative and he proposes some possible reporting periods which might be relevant for different purposes.

Floyd Beams and Paul Fertig propose «accrual accounting for pollution». Its application suggests that outlays for pollution control that result in a maintenance of existing environmental conditions are current expenses. Outlays to re—establish the environmental quality of a deteriorated site are capital expenditures provided that the earlier deterioration was charged to expense or to production<sup>3</sup> Pollution control outlays to provide for future site maintenance should be capitalized and spread over the period of expected benefit.

Beams and Fertig indicate that cash-basis accounting will make the income statements of delinquent firms appear more favourable than statements of firms which are voluntarily assuming responsibility for pollution control. According to them accounting needs to apply accrual accounting procedures to pollution costs in order to obtain comparability in published reports.

The impact of air and water pollution is dependent upon air and water conditions which are determined by variations in the weather. While there may be a degree of regional stability to these conditions in the sense that variation between regions is greater than variations within, efficiency tolerance for some pollution does not endanger health for short periods of time. Moreover, it may be less costly to shut down a plant during a few days each year when conditions are unusually unfavourable than to equip it to meet a standard for emissions that implicitly assumes those conditions exist most of the time.

Therefore it may be appropriate to recognize the probabilistic nature of these external conditions and employ, for example, a 90 percent confidence level in evaluating potential impact of alternatives for controlling pollution or other externalities with this characteristic<sup>4</sup>.

Accounting for pollution is closely connected with accounting for the use of

3. The Journal of Accountancy, «Pollution Control Through Social Cost Conversion, Nov. 1971 pp. 40 - 42. According to it costs associated with repairing environmental damage resulting from activities of prior - periods should be accounted for as a correction of prior periods' income.
4. Robert E. Kohn, «A Cost - Effectiveness Model for Air Pollution Control with a single Stochastic Variable», Journal of the American Statistical Association, 67, no. 337 (March 1972) 19 - 22.

resources and the corresponding social costs.<sup>5</sup> It seems that there is not any integrated approach to the issues which have only been briefly mentioned here. A more systematic research project needs to be undertaken by an interdisciplinary team, therefore, in this area of public policy which attracts a great portion of the current societal concern.<sup>6</sup>

5. Kilpatrick Clarkson William, *Accounting for the Total Physical Costs of Resource Use: The Model, The Test, and The Implications*, Ph. D., University of Illinois at Urbana—Champaign, 1972.