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Accounting and Social Reporting

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Introduction

The developments we shall be concerned with have been called "social accounting" or "social audit"[1] and may have been accorded other names as well. They have appeared in the economic and social spectrum of national income[2] as well as in individual company reporting and accounting of both external and internal nature. We shall not pursue all aspects of these wide ranging developments but will restrict our focus to company (as distinct from the society-wide) levels. We will use the term "social reporting" for the activities that we will discuss in order to avoid confusion with areas like national income and its social accounting extensions[3] and to reserve the term "audit" for the customary usage that associates it with independent examination and verification (or validation) of accounting reports.

Extensions in accounting can be (and have been) effected in a variety of ways. They have occurred when established practices or principles are extended to such new areas as the extension of double-entry principles to national income accounting. They may also occur when concepts or methods

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[1] See, e.g., R. A. Bauer and D. H. Fenn, Jr., *The Corporate Social Audit*, Social Science Frontiers, No. 5 (New York: Russell Sage Foundation, 1972).

[2] See, e.g., William Nordhaus and James Tobin, "Is Growth Obsolete?", Cowles Foundation Discussion Paper No. 319 (New Haven, Connecticut: Yale University Press, 1971). See also Nestor Terleckyj, *National Goals Accounting* (Washington, D. C.: National Planning Association, forthcoming).

[3] See, e.g., W. W. Cooper, et al; "Social Accounting: An Invitation to the Accounting Profession," *The Accounting Review* (July 1949), pp. 233-264.

are altered or otherwise extended, such as the extension of stewardship reports in a single measure (i.e., a scalar) to multi-dimensional (or multiple metric)[4] uses, as may be found in areas such as cost/benefit analyses in public management. Having effected these distinctions, however, we should also indicate that their separation in practice may be difficult, and even conceptually it may also be advantageous to consider them simultaneously as in, e.g., the portrayal of Figure 1, opposite, taken (with permission) from an article by Leo Herbert.[5]

We have already indicated that both national income and corporate accounting are presently being reexamined and studied for possible alteration and extension to areas that are of concern in this paper. It is useful therefore to commence by observing that both have been restricted, by and large, to the categories of economics and commerce such as sales, investments, and other such expenditures that are (a) market related and (b) measured or evaluated in the dimension of money prices. This was also the main orientation of managers, investors, and other like users of these reports.

It seems natural, at least as a matter of history, to take the foregoing as a point of departure. Thus, we may regard social reporting as being concerned with phenomena that are not adequately (1) reflected in the market mechanisms and (2) directed to audiences that extend beyond those customarily concerned with company reports.

We can observe that this characterization admits possibilities for changing the way social reports are developed and presented over time. Consider, for instance, the case of the FICA contributions associated with the U.S. Social Security legislation, first enacted in the 1930's, and contrast this with the Occupational Safety and Health Act (OSHA) legislation enacted in 1970.[6] The latter may be singled out for special attention in a social report while the former is not.[7] It may be argued that this is entirely proper because the FICA contributions have now "shaken down" into an equilibrium. They have thus become a part of the structure and are considered a cost of doing business by virtually every firm. The OSHA administration, however, is sufficiently recent so that there are large "transients" with attendant differentials in costs in different firms. Some firms may be ahead and others behind in meeting these

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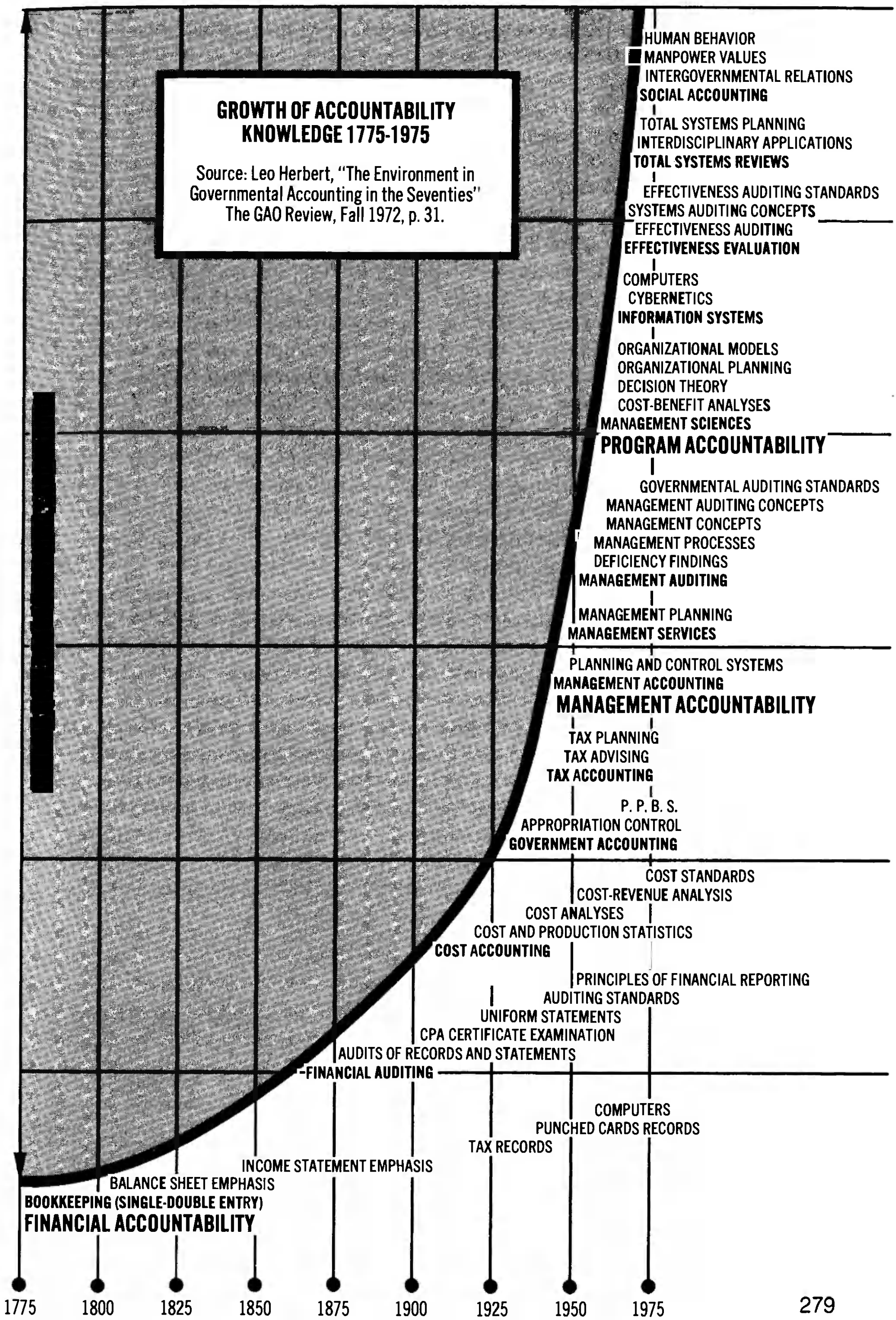
[4] We are not drawing the usual mathematical distinctions between the concepts of "dimension" and "metric"; they also extend to nonmetric and nonlinear spaces, as may be required. See Appendix A in A. Charnes and W. W. Cooper, *Management Models and Industrial Applications of Linear Programming* (New York: John Wiley, Inc., 1961).

[5] Leo Herbert, "The Environment in Governmental Accounting in the Seventies," *The GAO Review* (Fall 1972), pp. 22-32.

[6] Occupational Safety and Health Act, *USCA*, Title 29, Chapter 15, section 654(a): "Each employer—(1) shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees; (2) shall comply with occupational safety and health standards promulgated under this Act. . . ."

[7] Practices vary, as we shall see in some of the examples that follow.

Figure 1


GROWTH OF ACCOUNTABILITY KNOWLEDGE 1775-1975
Source: Leo Herbert, "The Environment in Governmental Accounting in the Seventies" The GAO Review, Fall 1972, p. 31.
HUMAN BEHAVIOR
MANPOWER VALUES
INTERGOVERNMENTAL RELATIONS
SOCIAL ACCOUNTING
TOTAL SYSTEMS PLANNING
INTERDISCIPLINARY APPLICATIONS
TOTAL SYSTEMS REVIEWS
EFFECTIVENESS AUDITING STANDARDS
SYSTEMS AUDITING CONCEPTS
EFFECTIVENESS AUDITING
EFFECTIVENESS EVALUATION
COMPUTERS
CYBERNETICS
INFORMATION SYSTEMS
ORGANIZATIONAL MODELS
ORGANIZATIONAL PLANNING
DECISION THEORY
COST-BENEFIT ANALYSES
MANAGEMENT SCIENCES
PROGRAM ACCOUNTABILITY
GOVERNMENTAL AUDITING STANDARDS
MANAGEMENT AUDITING CONCEPTS
MANAGEMENT CONCEPTS
MANAGEMENT PROCESSES
DEFICIENCY FINDINGS
MANAGEMENT AUDITING
MANAGEMENT PLANNING
MANAGEMENT SERVICES
PLANNING AND CONTROL SYSTEMS
MANAGEMENT ACCOUNTING
MANAGEMENT ACCOUNTABILITY
TAX PLANNING
TAX ADVISING
TAX ACCOUNTING
P. P. B. S.
APPROPRIATION CONTROL
GOVERNMENT ACCOUNTING
COST STANDARDS
COST-REVENUE ANALYSIS
COST ANALYSES
COST AND PRODUCTION STATISTICS
COST ACCOUNTING
PRINCIPLES OF FINANCIAL REPORTING
AUDITING STANDARDS
UNIFORM STATEMENTS
CPA CERTIFICATE EXAMINATION
AUDITS OF RECORDS AND STATEMENTS
FINANCIAL AUDITING
COMPUTERS
PUNCHED CARDS RECORDS
TAX RECORDS
INCOME STATEMENT EMPHASIS
BALANCE SHEET EMPHASIS
BOOKKEEPING (SINGLE-DOUBLE ENTRY)
FINANCIAL ACCOUNTABILITY
1775
1800
1825
1850
1875
1900
1925
1950
1975

"social responsibilities" and hence there may be an interest in distinguishing these features in a "social report."

As another example we may consider an "externality" which occurs because the operation of a factory produces a pollutant that damages third parties (local residents) who do not enter into the market as transactors with this company. One possibility might be to impose a tax in order to deal with this "externality" in a socially acceptable way, and another approach might be to enact a regulation requiring the company to alter its behavior. Suppose, however, that a technological innovation converts the pollutant to a valuable commercial product at some subsequent time. Just as we indicated for FICA, then, one might argue that this situation is adequately reflected in the market and hence ought to make its appearance in the regular manner of ordinary financial statements. Failure to allow for such developments may weaken the dimensions of ordinary financial reporting and could conceivably open the way to a variety of abuses as well.

As we have already indicated, the character of new audiences may also need attention. Such audiences may also shift in time, but in any event, there may be a need to recognize interests whose information requirements are not adequately served by the dimension of financial information and its customary categories. For instance, minorities may be primarily interested in the number of persons employed from their groups, while environmentalists may be concerned with the emission and disposal of certain pollutants and have only an ancillary interest in related economic consequences. However, as we shall indicate toward the end of this paper, it may be possible to relate these different categories and dimensions (or metrics) to their economic consequences (as well as to each other) and to do so in a way that is perhaps more illuminating than simply treating each interest in isolation from the others. This is to say that some experimentation in extending the nature of accounting reports may be in order if we are to effect the indicated extension of accounting to the new areas that are represented by the interests of these groups. Hopefully this can be done in ways that will enhance the intelligence of all concerned, a main purpose of accounting insofar as the information it supplies leads directly or indirectly to actions by the management of these corporate entities.

Background and Assumptions In Accounting Orientations

Under the idealized assumptions of perfect competition, a regime of free market prices is supposed to provide requisite information for dealing with the twin problems of (i) economic coordination and (ii) efficiency. Tied to suitable means for conveying the information which is pertinent to such transactions and related to suitable motivation (income maximization) a certain optimum is supposed to result via the prices that (a) relate each decision to all others which are pertinent, as required for "coordination," and (b) evaluate, or motivate each such decision to proceed toward a least-cost orientation in every case.

This very formal summary from economic theory has also been given reflection in accounting in statements such as this one:[8]

> The social importance of accounting is clear, especially in relating to the income statement, since dependable information about earning power can be an important aid to the flow of capital into capable hands and away from unneeded industries.

This is to say that ordinary accounting accomplishes what is socially desirable, and this relates such decisions not only to a current management and its methods but also to the decisions that affect scales of plants and companies and hence to conditions for future management as well.

Lying behind these considerations is the free trade supposition introduced by Adam Smith—a trade occurs only when all transacting parties gain. Note, however, that this says nothing about third-party effects such as may appear when externalities are present in such transactions. It also says nothing very much about the rules or the general social structure under which such transactions may take place. For instance, even though all parties gain from a free trade, they need not gain equally and a recourse to regulations, taxes,[9] or like devices, may then appear to be necessary, or desirable, in order to deal with the inequities that are perceived to be a consequence of such transactions.

The foregoing characterizations have all been related to economic transactions or at least to economic considerations (such as, resource allocations) which will need to be dealt with in one way or another. Other calls to social action may also be encountered, of course, and these, too, may need to be dealt with, as is indicated by statements like the following:[10]

> In the past year or so, U.S. business leaders have been asked earnestly, and sometimes urgently to take on all kinds of bewildering new burdens which have previously been thought of as the responsibility of government. Companies from AT&T to Xerox have been urged—and in many cases have willingly accepted—the challenges to educate our children, police our streets, clean up our polluted air and water, teach our disadvantaged citizens how to earn a living, rebuild our slums, and even tell us how to run our cities more efficiently.

These kinds of developments have, perhaps very naturally, led to a debate on whether business and accountants should, in fact, undertake any such activities and, naturally also, to some discussion of the nature of the

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[8] From W. A. Paton and A. C. Littleton, *An Introduction to Corporate Accounting Standards*, (Columbus, Ohio: American Accounting Association, 1940), p. 3.

[9] See, e.g., H. Simons, *Personal Income Taxation* (Chicago: University of Chicago Press, 1938).

[10] Hazel Henderson, "Should Business Tackle Society's Problems?", *Harvard Business Review* (July-August 1968), pp. 77-85.

responsibilities (if any) which they might assume along with ways in which they might then be handled and accounted for, etc. David Solomons,[11] for instance, distinguishes between economic efficiency and business efficiency and indicates why profit maximization (and hence purely financial performance measurement) may be "myopic." He concludes that "performance measurement means more than profit measurement, that our [accountants'] responsibilities are not confined to the private sector, that even within the private sector we cannot confine our attention to profit." This broader view of performance measurement is also described by the president of the Bank of America.

> We know we need the social cost budget as well as the conventional economic cost budget. We've taken the beginning step in asking our accountants to attempt to place detailed cost estimates on what management considers its major social responsibilities. We don't know how successful we will be, but we're certain some estimates are better than none. We're certain that they will enable us to make better business judgment and thereby avoid abrupt changes in significant programmes.[12]

At the other end of the spectrum is Milton Friedman, who contends that "There is one and only one social responsibility of business . . . to increase its profits so long as it stays within the rules of the game."[13] That is, social costs and benefits (departures from economic efficiency) should not be cause for concern or a guiding principle of individual managers in the private sector. Hence, accountants should be concerned with business efficiency, not social or economic efficiency and allow for the fact that the latter will ultimately infringe on the former in one way or another.[14]

Evidently, the role of business in achieving social (as well as economic) efficiency remains a source of debate. It is not clear either what role accountants should play in leading or serving such developments. It is also not clear how much choice they will have since responsibilities may be thrust

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[11] David Solomons, "Performance Measurement—A Broader View" (Philadelphia: University of Pennsylvania, The Wharton School of Finance and Commerce). See also David F. Linowes, "Social Responsibility of the Profession," *The Journal of Accountancy* (January 1971), pp. 66-69 and "Accounting for Social Progress," *The New York Times,* Point of View, March 14, 1971, where it is argued that accounting is a tool of all the social sciences and not only economics.

[12] A. W. Clausen, "Toward an Arithmetic of Quality," *The Conference Board Record* (May 1971), pp. 9-13.

[13] Milton Friedman, *Capitalism and Freedom* (Chicago: The University of Chicago Press, 1962).

[14] For a slightly different counter argument to Friedman, see Henry C. Wallich and John J. McGowan "Stockholder Interest and the Corporations' Role in Social Policy," *A New Rationale for Corporate Social Policy* (New York: Committee for Economic Development, 1971), pp. 39-60, where it is argued that corporate diversification has now proceeded to a point where undertaking such activities is now worthwhile from a stockholder's point of view.

upon them by government as well as business. Witness, for instance, the often quoted opinion of Judge Henry Friendly in the Continental Vending Machine case. In at least some interpretations[15] this decision has been interpreted to mean that it is full and fair disclosure which is controlling in an accounting report rather than adherence to generally accepted accounting principles.[16] Such interpretations can, in the temper of the present times, also be extended to situations such as are envisioned in the following quotation extracted from a statement by (then) SEC Commissioner William J. Casey:[17]

> We will require disclosure of any material litigation against an issuer under various air, water, and other antipollution laws. More than that, in the examination of filings made with the Commission, we will look to the nature and character of the business to see if significant capital outlays are likely to be required in order to eliminate pollution of streams or atmosphere, or if significant product redesign seems likely to be called for to meet antipollution standards. The same kind of inquiry will be made with respect to the impact of safety standards on a company's product line. Where these problems potentially exist, the burden should be put on the company to represent that they do not exist, or that they do not materially affect the capital needs or earning power of the business.

Scope

With this background in mind, we may now outline the scope of this paper as follows: We do not propose to enter the debate on whether business

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[15] See, e.g., *Business Week* (April 22, 1971), p. 55. See also D. B. Isbell, "The Continental Vending Case: Lessons for the Profession," *The Journal of Accountancy* (August 1970), pp. 33-40 and "AICPA Brief in Continental Vending," *The Journal of Accountancy* (May 1970), pp. 69-73.

[16] Analogous positions have also been advocated by others. For instance, in the critical "Comments of Leonard Spacek," p. 57 of Maurice Moonitz, *The Basic Postulates of Accounting*, Accounting Research Study No. 1 (New York: CPA, 1961), the following constructive suggestion is also offered:

> My own view [i.e., Spacek's view] is that the one basic postulate underlying accounting principles may be stated as that of fairness—fairness to all segments of the business community (management, labor, stockholders, creditors, customers and the public), determined and measured in the light of the economic and political environment and the modes of thought and customs of all segments—to the end that the accounting principles based upon this postulate shall produce financial accounting for the lawfully established economic rights and interests that is fair to all segments.

In further confirmation of the same point as the one examined by Judge Friendly, Spacek then goes on ". . . to confirm the necessity of recognizing this postulate as the only one on which pronouncements on accounting principles can be based if such principles are to serve the needs of the public. . . ." See also *The Postulate of Accounting—What It Is, How It Should Be Determined, How It Should Be Used* (New York: Arthur Andersen & Co., 1960), pp. 25-26.

[17] *The Wall Street Journal*, June 8, 1971, p. 2.

firms should undertake responsibilities for achieving social (as well as economic) efficiency. We propose only to examine some of the practices that have been developing along with possible guidelines and pitfalls. By and large, we shall also restrict our attention to the role of the accountant as it bears on issues of disclosure in reporting socio-economic events that have significant financial consequences for the firm. Admittedly, this position is only a first step, but it is at least consistent with the goal of "profitability reporting" and the goal of improving the economic judgment abilities of businessmen and investors.

We shall not confine ourselves to practices that have already been evidenced but shall also examine some of the characterizations that have been provided for guiding such developments. Also, we shall subsequently indicate possibilities that we (among others) have suggested for extending such characterizations and for broadening the kinds of reports that have thus far been presented. In particular, we shall suggest extending such reports into multi-dimensional accountings that can be used by minority groups, environmentalists, or others besides those (investors and businessmen) who have been the customary recipients of corporate accounting statements.

En route to these developments we shall also treat other topics, such as human resources accounting, as a part of social reporting even though, from some standpoints, they may have been regarded as being only pointers toward better utilization of such information by members of the business and investment community. Other treatments, however, including those of a multidimensional nature can also be accorded to these human resources and developed in ways that are of potential value to these groups (i.e., the business and investment community) and others as well. We shall find a background discussion of human resources accounting useful in assessing these alternatives. But, of course, even this does not end the matter since still further extensions are possible which include recourse to disclosures of a budgetary (future projection) as well as an accounting (historical) variety.[18] Pursuit of such additional topics, however, is not in order for a paper such as this, which is intended to stay fairly close to existing practices and past concepts from the literature of accounting.[19]

Audits of Social Reports

The social accounting literature contains occasional references to a social audit in the sense of review by an independent agent who attests to

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[18] Only a few synoptic comments will be made about such possibilities in this paper. A more detailed discussion may be found in C. Colantoni, W. W. Cooper, and H. J. Dietzer, "Budgetary Disclosure and Corporate Social Reporting," *Proceedings of a Conference on Social Accounting* (Seattle: Battelle Research Center, 1973).

[19] The idea of budgetary disclosure has been discussed in the literature, of course, but mainly with reference to the usual dimensions of financial accounting. See, e.g., W. W. Cooper, N. Dopuch, and T. F. Keller, "Budgetary Disclosure and Other Suggestions for Improving Accounting Reports," *The Accounting Review* (October 1968), pp. 640-648.

or ascertains the state of the social environment or the social consequences of particular actions. In some cases, the referent is the entire social scene, as when the quality of life in a society is the topic of interest.[20] In other cases the center of attention is, as in the present paper, the reports of private corporations.[21] Even in the latter class of cases, however, there is some question not only about the content of such reports but also about who should perform the reporting and attest functions.

Historically, an audit has been performed so that the stockholders or other investors[22] might have an objective opinion concerning the condition of their investment. Hence, one would expect these same stockholders and investors to be the prime audience for an audited corporate social report, at least if such audits (and reports) are developed from the context of present accounting practices. To some extent this is the point of view taken in the present paper but, of course, other points of view and approaches are also possible. In this view, a social audit would be designed to provide information which might affect stockholder and investor behavior. The resulting information is not meant to be a public relations document used to smooth opinions within the community or a government—although it may well serve this purpose too—but, in any case, an auditor or accountant would attest to social measurements and information deemed relevant and significant.

What are these events and how should they be measured? In an address at the Northeast Regional Meetings of the AAA, Professor Lee Seidler presented three effects caused by an economic transaction which are capable (in theory) of being measured.[23] These are (1) the direct effect, (2) the social effect, and (3) secondary or other effects. This is to say that there are two "direct" effects: (1) the one with which accountants have been customarily

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[20] See, e.g., A. Charnes, W. W. Cooper, and G. Kozmetsky, "Measuring, Monitoring and Modelling Quality of Life," *Management Science* (June 1973), pp. 1173-1188. See also N. Johnson and E. Ward, "Citizen Information Systems," *Management Science* (December 1972), pp. P-21–P-33; and Nestor Terleckyj, *National Goals Accounting* (Washington, D.C.: National Planning Association, 1973, forthcoming) or "Measuring Progress Toward Social Goals: Some Possibilities at National and Local Levels," *Management Science* (August 1970), pp. B765-B768.

[21] R. A. Bauer and D. H. Fenn, Jr., *The Corporate Social Audit,* Social Science Frontiers, No. 5 (New York: Russell Sage Foundation, 1972). See also Raymond A. Bauer, *Social Indicators* (Cambridge: MIT Press, 1973).

[22] They have also been performed on government agencies and programs. See, e.g., *Standards for Audit of Governmental Organizations, Programs, Activities and Functions,* by the Comptroller General of the U.S. (Washington, D.C.: U.S. Government Printing Office, 1972), p. 1: ". . . The interests of many users of reports on Government audits are broader than those that can be satisfied by audits performed to establish the credibility of financial reports. To provide for audits that will fulfill these broader interests, the standards in this statement include those prescribed by the AICPA and [also] additional standards for audits of broader scope. . . ."

[23] Lee Seidler, "Toward an Accountant's Concept of Social Profit." Paper presented at the Northeast Regional Meeting of the American Accounting Association, Garden City, New York, April 1972.

concerned as it might be measured by the dollar value of exchanges between transacting parties and (2) the social effect, which involves people who don't participate in the transaction. An example of the latter involves the physical well being, say, of persons who live in the vicinity of a highly polluting production facility. The secondary effects, which form Seidler's third category, are also concerned with effects that indirectly influence persons who don't participate in the transaction. Examples would include, say, an alteration of land values in a region caused by the announcement of a firm's decision to relocate. Note, however, that the latter, as a so-called economic externality, is translated into market measures that can be identified relatively easily, at least by subsequent transaction possibilities, whereas the former effects, in the form of health or social esthetics, are not.

Viewing these three classes of possibilities, Professor Seidler argues that the current focus in accounting reports should shift toward the inclusion of social variables. This is consistent with the goal of a corporate social audit, of course, but Seidler also cautions against assuming that accountants are currently capable of measuring indirect effects of either an economic or social variety. He further questions whether a private firm, as contrasted with government or some independent agency, should assume such responsibilities. The cost-benefit evaluation of the worth to society of a given plant location is the responsibility of the political governing body and should be associated with their reporting procedures, not those of the firm whose plant location is in question.

Fundamental to any meaningful audit is the ability to secure validation, including measurement and the reporting of pertinent information. Such problems increase in complexity when dealing with such social variables and, indeed, the formidable character of these difficulties has led some persons to contend that "social accounting doesn't exist."[24] The customary "signal" to an accountant to record a given event may be absent, or the requisite audit trail may be inaccessible—as when consequences that are remote or evanescent are involved, or when these consequences depend on activities by others as well as the entity under audit.[25] From an auditor's perspective the problem can be even more severe if the attest is to conform to the tests of fairness and completeness with respect to all who might be concerned with the pertinent events.

Even questions of consistency and comparability also pose new problems for consideration. Internal consistency between the reporting of financial and social events must be an important consideration in any accounting disclosure accompanied by an audit certificate. Does it then follow that social events must be at the same level of detail and reliability as the financial transaction? Comparability between firms, of course, is another important

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[24] Quoted from Frederick Andrews, in *The Wall Street Journal,* Dec. 9, 1971.

[25] An example of such a situation might be dangerous atmospheric pollution levels resulting from the simultaneous activities of more than one firm.

consideration. Carefully stated standards, perhaps by industry, might be necessary to obtain the comparability that might be needed for evaluations. Even when this is all done, the valuation problems also pose formidable challenges to those who suggest that nonappropriable social benefits should be an objective for corporate performance measurement.[26]

One might try to reduce all such valuations to a single (dollar) dimension or one might provide more than one measure and, of course, other approaches are also possible. In attempting to present possibly expanded or modified dimensions of corporate behavior, Professor N. C. Churchill[27] provided a scheme for classifying various available measures which we may summarize as follows:

1. A primitive approach would be to take an inventory of current activities (e.g., XYZ tries to stop pollution) in order to identify and list them. This view focuses on the nature of what is being done.
2. A second level would focus on measurement of how much or the extent of efforts expended. In this context an example becomes XYZ spends $30 million on pollution control devices.
3. An alternative or complementary measure would be directed toward a process measure or an examination of the transformation of inputs into outputs. In this form XYZ is characterized as creating .25 tons of sulfur per ton of finished products.
4. A final form of measurement involves the worth or value of the outputs. For example, it could cost $.50 per ton of product to remove the .25 tons of sulfur from the air. As an alternative one might expect a 2% rise in local health costs as a result of the .25 tons of sulfur emissions.

Notice that this last measure attempts to assess both what is being accomplished and what the worth or cost of that accomplishment is to society. This is a sophisticated (and perhaps reasonably effective) way of considering the measurement of corporate responsibility but it is perhaps best to begin by considering the other possibilities first. This we shall do below in the form of what we shall refer to as the following approaches: (1) an inventory (or listing) of representative actions; (2) a traditional financial approach which attempts to associate a dollar cost (of an historical or opportunity cost, perhaps discounted, variety) with such activities in order to identify them as economic events with economic consequences that are congruent with the usual categories identified in accounting reports; and (3) still other extensions to social events or events with social consequences which may be either identified with related economic characterizations or else (and better, we think) admit of extensions to other metrics, perhaps of a multidimensional variety.

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[26] See, e.g., Solomons, *Performance Measurement—A Broader View.*

[27] Neil C. Churchill, "The Accountant's Role in Social Responsibility," presented for discussion in the Distinguished Accountant's Lecture Series, University of Florida, February 17, 1972.

The Inventory of Representative Actions

The "inventory" approach involves, for the most part, only a listing of events or transactions that characterize the involvement of the corporation in the community. As such, it is usually selective rather than exhaustive and is intended only to highlight selected aspects of a company's social concerns. (Such an approach is consistent with Churchill's first measure of performance, as listed above, except that identification of costs incurred or resources allocated is usually also included in this format.) A primary advantage of such a report is the relative ease with which a collection of diverse activities may all be presented and supported at various levels by possibly disparate sets of measures. Such diversity may also be considered a weakness, of course, by making it difficult to effect comparisons over time or between firms and, additionally—as Churchman, for instance, has observed[28]—such an inventory approach offers little in the way of standards for judging the behavior of a firm.

A recent report by Sidney Jones of the University of Michigan summarizes a research plan and the preliminary results of a study of corporate social reporting activities.[29] His empirical results, based on an examination of the annual reports of 55 major corporations taken from *Fortune's* list of 500 large corporations, are shown in Exhibit 1, pages 290-291. Jones' study is restricted to the analysis of annual reports which, although of limited value, remains a primary means of corporate communication to investors. Almost without exception, these corporations used the inventory approach to disclosing social information in their annual reports. Note, however, that even for such annual reports and even for the loose standards of disclosure that such inventory listings permit, it is not the case that "social accounting" disclosures appeared in all of them. Professor Jones attributes nonreporting to at least the following factors: The company has nothing to report; the amount of financial commitment and qualitative effort is not significant enough to report; or the company has decided to avoid criticism by not reporting any of the activities it is involved in.

The foregoing background characterizations should provide some perspective in evaluating the following examples of inventories of representative action, an approach currently favored by many corporations.

Bank of America Fact Sheet, May 1972: Linking the well being of the community it serves to the success of the Bank of America has been announced as fundamental in guiding the Bank's activities. The significance of this function was also highlighted by the appointment of an executive vice-president in charge of social policy, who is responsible for monitoring and coordinating all aspects of the Bank's activities involving social per-

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[28] C. W. Churchman, "On the Facility, Felicity and Morality of Measuring Social Change," *The Accounting Review* (January 1971), pp. 30-35.

[29] Sidney L. Jones, "Reporting Corporate Social Responsibility Activities," Financial Management Association National Conference, October 8, 1971.

formance. The areas of concern include housing, minorities, environment, social unrest, and specialized financial support.

Exhibit 2, page 293, is the so-called Fact Sheet excerpted from this bank's report (presumably an annual or at least a periodic report) entitled "Social Problems and the Bank of America." The exhibit provides buttressing detail for this summary which is, in fact, a listing of the topics covered in the report.

The area entitled New Opportunity Home Loan Program under "Housing" will give some idea of what is involved. The Bank's report cites this program as an attempt to make a tangible contribution to fostering home ownership and servicing a need for funds for single-family dwellings in disadvantaged areas. Approximately $125 million has been provided to 7,400 families during the past four years in this program. The Bank also reports, however, that during the 1960-69 decade an average of over $500 million per year was extended in financing residential housing in California, and this is 16 times greater than the yearly extension rate for the New Opportunity Home Loan Program. Of course, this does not mean that the Bank is not pursuing both its regular and New Opportunity Programs vigorously. Something further, however, is evidently required. Bank of America could be doing an outstanding job, and there might be very good reasons underlying these differences (e.g., it costs more to build a home in Marin County than East Palo Alto, or the $5 billion includes a sizable portion of multiple-family dwelling money, etc.). However, such reasons need not be obvious or easily identified and audited, and even the issue of full (or adequate) disclosure remains to be resolved under this, or any inventory approach to reporting corporate social behavior.

U.S. Steel Corporation: "Response to Social and Urban Problems in America," October 1970: U.S. Steel holds the position that, although profit maximization is a good and reasonable objective to follow, it also carries a parallel duty to help build and maintain the kind of stable, healthy society that is necessary to the successful operations of any business—or other groups in society. It is not wholly clear whether these parallel objectives are always compatible, or, as might then be implied, that they then reduce to a single objective or even the linked objectives articulated in the Bank of America's report.[30] In any event, this is the impact of the above document in which U.S. Steel attempts to report some of the steps it has taken to meet its view of these responsibilities. The report includes activities which U.S. Steel has taken or which it has sponsored in areas such as providing job opportunities (including opportunities to youth and minorities), aid to education, urban housing, urban transportation, environmental control, social agencies, and governmental affairs. Descriptions follow the same form as those in the Bank of America report, but the information supplied is mainly only qualitative and hence provides an even less adequate basis for numerical analyses and comparisons.

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[30] See the discussion of Wallich and McGowan and others in the earlier parts of this paper.

Exhibit 1

Summary of Company Experiences—1960-1970

A. Year (Note: No. of companies varies by year).	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970
B. Financial Statement Entries											
1. Financial Statement Entries											
2. Contingent Liabilities Involving Social Responsibilities										1	7
C. Qualitative References (Note: contains duplications)											
1. Special Section devoted to Social Issues							1	1	2	6	14
2. Pollution Control—Air		2	2	3	2	11	18	24	21	35	39
3. Pollution Control—Water		2	1	3	3	8	16	17	15	32	31
4. Pollution Control—Noise									1	3	3
5. Pollution Control—Visual (billboards, plant, office)						1	2	2	6	4	19
6. Internal Organization for Social Responsibility							1	1	2	1	7
7. Community Involvement—Civic	5	5	5	4	1	6	5	6	14	12	16
8. Community Involvement—Aid to Disadvantaged						1		1	5	9	6
9. Community Involvement—Urban Development	1	1	1		1	1	1	3	8	12	9
10. Employee—Education and Training Programs	12	8	9	11	12	14	16	20	16	12	10
11. Employee—Fair Employment Practices		1	3	0	7	7	6	9	20	8	17

Exhibit 1 (continued)

Summary of Company Experiences—1960-1970

A. Year (Note: No. of companies varies by year).	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970
12. Employee—Disadvantaged Worker Hiring				1			1	10	26	26	21
13. Safety	10	13	15	12	13	17	15	16	17	13	19
14. Support of Education and Basic Research (non-company)	15	11	11	9	15	13	15	15	15	13	15
15. Support of Arts	1							1	1	1	2
16. Institutional Advertising	2	1	1	2	3	5	4	4	3	2	2
17. Political	2	1		1	1	2		1	1	1	
18. Education for Disadvantaged (Bank)				1	1	3	1	3	5	6	6
19. Charities	3	2	4	1	2	5	5	4	7	8	8
20. International	2	1	1	1		1	1	2	1		3
21. Recycling of Materials										2	7
22. Use of Company Facilities for Recreation										2	3

Source: The University of Michigan
Reporting Corporate Social Responsibilities
Prof. Sidney L. Jones—1971

Dollar Adjustments and Accruals in Traditional Financial Statement Form

There seems to be little point in going on to still other variants of inventory listing.[31] Hence, we now turn to the second of the three approaches which we have indicated we would consider. One such approach to reporting corporate activity in the social area would simply extend the boundaries of accounting to include certain types of economic events not presently recorded. Another approach would extend the present entity concepts to account for transaction consequences in other parts of a total economic system. The first of these two approaches would include additional costs, or expenses, such as pollution costs or expenses, but would also retain not only the format but also the categorizations presently found in financial reports such as the balance sheet and the income statement. The second approach would also retain such statements but would extend them to include new categories and also to value imputations (or estimates) that extend to other entities, such as customers and subcontractors, and their transactions as well.[32]

For purposes of further reference, we may now distinguish these two approaches as (1) imputation to the entity and (2) imputation beyond the entity, or entity extensions, as we shall describe them in the two examples that follow.

Imputation to the Entity: Pollution Control Through Social Cost Conversion: Under suitable conditions, as we have already observed, the motive for profit maximization will also provide for minimization of costs, both private and social. The former are borne directly by the corporation while the latter are distributed through the community, perhaps via other corporations or markets. Social costs include the depletion, contamination and deterioration of resources such as air, water, and land used in production processes, and these may or may not take the form of "free goods" to the users.

A firm interested in maximizing its own private profits has little incentive to conserve these resources when they are free goods from its internal point of view. Note, however, that such free goods to the transactors may not be free to others, and that in a recent article by Beams and Fertig,[33] it was indicated that the damage arising from at least some of these externalities can be identified and measured for consistent applications in a full-fledged system of accrual accounting. Costs of neutralizing damage to the environment are costs of production and should be expensed or capitalized as the situation warrants. These transactions would be audited in normal fashion and their impact would be displayed in the traditional financial statement manner.

As might be expected, the Beams-Fertig suggestion can be (and has been) disputed, even when its technical feasibility is admitted. The account-

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[31] See the study by Jones as discussed for Exhibit 1, above.

[32] Supposedly these could all be audited, at least in principle, once the measurements and valuations are accomplished.

[33] Floyd A. Beams and Paul E. Fertig "Pollution Control through Social Cost Conversion," *Journal of Accountancy* (November 1971), pp. 37-42.

ant, William A. Paton, for instance, comments, "I also find it difficult to accept the widening of the scope of accounting, per Beams and Fertig, to include responsibility for measuring pollution of air, water, and so on, and allocating the 'costs' to particular business entities for specific periods. I like to view accounting in fairly broad terms, but we can't cover the water-

Exhibit 2

May 1972
Bank of America Fact Sheet*

Housing

General Home Loan Information
New Opportunity Home Loan Program
Housing Projects in Minority Areas

Minorities

Areas of Aid to Minorities
Jobs and Job Training
Scholarships and Educational Programs
Banking Services for Small Businesses
Small Business Administration Support
Job Development Corporation Support
Small Business Reporter
Branches in Minority Areas

Environment

State and Municipal Bonds: Purchases and Investments
Loan Policy: Special Environmental Consideration
The Envirotech Approach to Pollution Control
Use of Recycled Paper for Bank Publications
Environmental Reports and Publications
ECO-LOGIC Cartoons

Social Unrest

Social Unrest as a Priority Area
Student Relations Program
Loans to Students
Social Advocates for Youth
Placer Community Action Council

Other Activities

Economic Reports
Emergency Action After Disasters

* Source: Bank of America, "Social Problems and the Bank of America," *Bank of America Fact Sheet*, May 1972.

front, and we surely don't deserve to be viewed as partners in acts of pollution."[34] Beams and Fertig counter Paton with, "It is simply a matter of accounting for all of the costs of current production. The cost of polluting the environment is (or should be) a *private* cost of *current* production, in exactly the same sense that the cost of paying retirement benefits to current workers who will eventually retire is a *private* cost of *current* production." That is, they are arguing that this should all be considered as a "rule-of-the-game alteration" or as a change in the structure or conditions of doing business just as though a new regulation or social attitude had come into existence.

Of course, the latter is not the only possibility and other recourses to the market or to "price-like" mechanisms may be brought into play. Many economists argue, for instance, that this should be done in a direct way by governmental use of tax and subsidy instruments.[35] This would settle the difference between Paton and Beams and Fertig, perhaps, although it might not resolve the social problems that the latter are addressing. For instance, one difficulty that needs to be considered is the possibility of multiple sources of effluent so that such charges or subsidies may need to be varied in terms of the levels (dangerous or not) that the surrounding ambience may permit. Possibly the Beams and Fertig approach might also take this into account by varying their estimates accordingly. This would again cause them to differ with Professor Paton unless, of course, a coordinating governmental unit were established that could vary its tax or subsidy rates and communicate them to separate decision-making units via suitable metering and communication devices.[36]

Of course, the alternate possibility of straightforward regulation or even a government takeover of all the pertinent decision-making institutions might also need to be considered. Unless such social effects can be separately identified[37] with each firm's own decisions, however, then a correct imputation (or valuation) would require simultaneous consideration of the behavior of other firms, maybe not even in the same industry. Finally, apart from the society-wide (i.e., "governmental") considerations such as might be associated with pollution, it is not clear how such imputations are supposed to inform and thereby affect the decisions of either management or the various interested social groups. Given the differing characteristics and interest of these groups, it is by no means clear that each will assign the same weights

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[34] William A. Paton, "Pollution Cost" (Letter), *Journal of Accountancy,* (May 1972), pp. 28-30, with a reply by Floyd A. Beams and Paul E. Fertig.

[35] See, e.g., A. M. Freeman, III and Robert Haverman, "Residual Charges for Pollution Control: A Policy Evaluation," *Science* (July 1972), pp. 322-329.

[36] Including related (possibly nonlinear) models for evaluation or estimation. See, e.g., Terry A. Ferrar, "Nonlinear Effluent Charges," *Management Science,* vol. 20, no. 2 (October 1973), pp. 169-177.

[37] This is related to the property that A. Whinston refers to as "separability." See A. Whinston, "Price Guides in Decentralized Organizations," in W. W. Cooper, H. J. Leavitt, and M. W. Shelley, eds., *New Perspectives in Organization Research* (New York: John Wiley, Inc., 1963).

(or tradeoff values) as the others or even the same weights that are assigned by management (and accountants) to current market imputations and the social structures that underlie them. On the other hand, a governmental unit (such as was described above) might well be interested in, and might also be able to supply, the requisite data to produce what is wanted in the interests of a total social effort.

Imputations and Entity Extensions: The Example of Abt Associates, Inc.: We now turn to an example from Abt Associates, Inc., in order to examine a case in which an attempt is made to trace, as far as is possible, the social effects of the many operations of a single entity and their consequences for other entities and the total social scene. This has all been done under the leadership of Clark Abt, the firm's founder and president.

It is Clark Abt's contention that there is a need to apply rational management techniques to the task of increasing social return on corporate investment.[38] Arranging an accounting in dollar equivalents provides a rational basis for assessing the social costs and benefits of various activities from an investment point of view. Using the mythical Flinthard Corporation, Mr. Abt indicates how this might all be done in a way that extends to uses of panel data and a linear programing approach to optimizing the mix of social programs.

We do not propose to pursue these social reporting extensions as applied to Flinthard Corporation, partly because they lead into issues like planning and budgetary disclosures and hence away from the accounting issues that are the concern of this paper.[39] We propose rather to focus on the Social Income Statements and Balance Sheets of Abt Associates itself. These are presented in Exhibits 3 and 4, pages 296-299, and also in the notes in Exhibit 5, pages 300-301, all of which were taken from what is called the Social Audit portion of the Company's Annual Report.

This Social Income Statement, it may be observed, proceeds in terms of dollar valuations that are presumed to be additive. It also alters the usual income statement categories and replaces them with ones that distinguish between social benefits and costs to (1) staff, (2) community, and (3) general public. In each category a net social income (or cost) is recorded. The net dollar values in each category are then totalled to a net social income to staff, community and public. These are then distinguished from a category entitled "net social income to clients" obtained through estimates of savings or other benefits over the cost of contract services supplied by Abt Associates.

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[38] Clark Abt, "Managing to Save Money While Doing Good," *Innovation* (No. 27, 1972), pp. 38-47.

[39] We have, in any event, dealt with these topics elsewhere in greater detail. See, e.g., C. Colantoni, W. W. Cooper and H. J. Dietzer, "Budgetary Disclosure and Corporate Social Reporting," *Proceedings of a Conference on Corporate Social Reporting* (Seattle: Battelle Research Center, 1973). See also A. Charnes, C. Colantoni, W. W. Cooper and K. O. Kortanek, "Economic, Social and Enterprise Accounting and Mathematical Models," *The Accounting Review* (January 1972), pp. 31-37.

Exhibit 3

Abt Associates, Inc. Social Income Statement*
Year ended December 31, 1971 with comparative figures for 1970

	1971	1970
Social Benefits and Costs to Staff:		
Social Benefits to Staff:		
Health Insurance, Life Ins., Sick Leave	$ 93,492	$ 67,271
Career Advancement (Note A)	345,886	173,988
Company School & Tuition Reimbursement ..	6,896	—
Vacation, Holidays, Recreation	207,565	163,994
Food Services, Child Care, Parking	57,722	41,292
Quality of Life (Space and its Quality)	61,002	70,551
Total Benefits to Staff	772,563	517,096
Social Costs to Staff:		
Layoffs and Involuntary Terminations (Note B)	9,560	7,560
Overtime Worked but Not Paid (Note C)	654,000	474,000
Inequality of Opportunity (Note D)	—	3,600
Total Costs to Staff	663,560	485,160
Net Social Income to Staff:	$ 109,003	$ 31,936
Social Benefits and Costs to Community:		
Social Benefits to Community:		
Local Taxes Paid (Note E)	$ 38,952	$ 31,091
Environmental Improvements	10,100	8,367
Local Tax Worth of Net Jobs Created	20,480	15,750
Total Benefits to Community:	69,532	55,208
Social Costs to Community:		
Local Taxes Consumed in Services (Note E)	55,700	34,400
Net Social Income to Community:	$ 13,832	$ 20,808

* Source: Abt Associates, Inc., *Annual Report and Social Audit*, 1971.

Of course, this does not end the matter since the company also provides services that are of value to its clients. This is not merely a matter of cost or market imputation only—although constructs related to them are freely used—and an effort is made to estimate the dollar value of benefits beyond those which are represented by the contract revenues received. See Notes G and H in Exhibit 5.

This seems to be about as far as Abt Associates has carried the latter estimates. A case might be made for extending them to the clients of their clients (as well as the suppliers and suppliers to suppliers). This might quickly get unmanageable and would almost certainly become unauditable under any system resembling the present "free market type."[40] Carried to

[40] Even the use of a statistical (or other) sampling scheme would probably become unfeasible if extended to remote tiers of the company's customers and suppliers. Cf. W. W. Cooper and R. M. Trueblood, "Research and Practice in Statistics Applied to Accounting, Auditing and Management Control," *Accounting Review* (April 1955), pp. 221-229.

Exhibit 3 (continued)

Abt Associates, Inc. Social Income Statement*
Year ended December 31, 1971 with comparative figures for 1970

	1971	1970
Social Benefits and Costs to General Public:	1971	1970
Social Benefits to General Public:		
Federal Taxes Paid (Notes E & F)	$ 165,800	$ —
State Taxes Paid (Notes E & F)	55,500	9,830
Contributions to Knowledge (Publications, etc.)	14,100	8,300
Federal & State Tax Worth of Net Jobs Created	69,800	34,800
Total Benefits to Public:	305,200	52,930
Social Costs to General Public:		
Federal Services Consumed (Notes E & F) ..	83,000	77,000
State Services Consumed (Notes E & F)	31,100	23,500
Total Costs to Public:	114,100	100,500
Net Social Income (Cost) to General Public: ...	$ 191,100	$ (47,570)
Net Social Income (Cost) to Staff, Community & Public	$ 313,935	$ 5,174

Social Benefits and Costs to Clients:	1971	1970
Social Benefits to Clients:		
Added Value of Previous Contracts to Clients (Note G)	$22,337,500	$12,870,000
Social Costs to Clients:		
Contract Revenues as Opportunity Costs (Note H)	4,572,459	3,254,541
Net Social Income to Clients:	$17,765,041	$ 9,615,459

* Source: Abt Associates, Inc., *Annual Report and Social Audit,* 1971.

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other parts of this statement, moreover, it is not even clear how such imputations can (or should) be made—as witness, for example, the inclusion of governmental units which are the recipients of this company's taxes.[41]

[41] In this connection, we might, for instance, quote the following item from Harry Magdoff, "The American Empire and the U. S. Economy," *Monthly Review Press,* as published in Warner Modular Publications, Reprint No. 207, 1973, p. 296, which describes a report prepared by the U. S. Navy, in 1922, with the following full title: *The United States Navy as an Industrial Asset—What the Navy had done for Industry and Commerce,* written by the Office of Naval Intelligence, U S. Navy in October, 1922, and published in 1923 by the U. S. Government Printing Office, Washington, D. C. According to Magdoff, the following excerpt, from page 4 of this report, is typical. "In the Asiatic area a force of gunboats is kept on constant patrol in the Yangtze River. These boats are able to patrol from the mouth of the river up nearly 2,000 miles into the very heart of China. American businessmen have freely stated that should the United States withdraw this patrol they would have to leave at the same time. Our Navy not only protects our own citizens and their property, but is constantly protecting humanity in general and frequently actually engages the bands of bandits who infest this region."

Exhibit 4

Abt Associates, Inc., Social Balance Sheet*
Year ended December 31, 1971 with comparative figures for 1970

	1971	1970
Social Assets Available		
Staff		
Available within one year (Note I)	$ 2,594,390	$ 2,312,000
Available after one year (Note J)	6,368,511	5,821,608
Training Investment (Note K)	507,405	305,889
	9,470,306	8,439,497
Less Accumulated Training Obsolescence (Note K)	136,995	60,523
Total Staff Assets	9,333,311	8,378,974
Organization		
Social Capital Investment (Note L)	1,398,230	1,272,201
Retained Earnings	219,136	—
Land	285,376	293,358
Buildings at cost	334,321	350,188
Equipment at cost	43,018	17,102
Total Organization Assets	2,280,081	1,932,849
Research		
Proposals (Note M)	26,878	15,090
Child Care Research	6,629	—
Social Audit	12,979	—
Total Research	46,486	15,090
Public Services Consumed Net of Tax Payments (Note E)	152,847	243,399
Total Social Assets Available	$11,812,725	$10,570,312

Social Commitments, Obligations, and Equity		
Staff		
Committed to Contracts within one year (Note N)	$ 43,263	$ 81,296
Committed to Contracts after one year (Note O)	114,660	215,459
Committed to Administration within one year (Note N)	62,598	56,915
Committed to Administration after one year (Note O)	165,903	150,842
Total Staff Commitments	386,424	504,512
Organization		
Working Capital Requirements (Note P)	60,000	58,500
Financial Deficit	—	26,814
Facilities and Equipment Committed to Contracts and Administration (Note N)	37,734	36,729
Total Organization Commitments	97,734	122,043
Environmental		
Government Outlays for Public Services Consumed, Net of Tax Payment (Note E)	152,847	243,399
Pollution from Paper Production (Note Q)	1,770	770
Pollution from Electric Power Production (Note R)	2,200	1,080
Pollution from Automobile Commuting (Note S)	10,493	4,333
Total Environmental Obligations	167,310	249,582
Total Commitments and Obligations	651,468	876,137
Society's Equity		
Contributed by Staff (Note T)	8,946,887	7,874,462
Contributed by Stockholders (Note U)	2,182,347	1,810,806
Generated by Operations (Note V)	32,023	8,907
Total Equity	11,161,257	9,694,175
Total Commitments, Obligations and Equity	$11,812,725	$10,570,312

* Source: Abt Associates, Inc., *Annual Report and Social Audit*, 1971.

Exhibit 5

Abt Associates, Inc.*
Notes to the Social Income Statement and Social Balance Sheet

Note A: Career advancement is expressed as the added earning power from salary increases for merit and/or promotion. In 1971, 49 employees (18% of total staff) were promoted, compared to 33 (13% of staff) in 1970. In 1971, 79% of employees earned merit or promotion increases, versus 42% in 1970.
Note B: The social cost of layoff is estimated to be one-month's salary for each layoff, i.e., the mean time to next employment is one month.
Note C: Staff-contributed overtime worked but not paid is equal to approximately 35% of required 40 work hours. This represents a social cost to staff in free time foregone.
Note D: Equality of opportunity is defined in terms of the costs to individuals of the inequality of opportunity for appropriately remunerative work and advancement, as measured by the income loss equal to the difference between what the minority individual earns and what a majority individual doing the same job with the same qualifications earns. Minority advancement improved from 6% of blacks, Chicanos, Indians and orientals promoted in 1970 to 13% promoted in 1971, and from 13% of women promoted in 1970 to 25% promoted in 1971. This should be compared with 12% of white males promoted in 1970 and 10% in 1971, and a company average of 13% promotions in 1970 and 18% in 1971. The aggregate ethnic minority and female staff promoted in 1970 was 22% of total minority and women, compared to 12% in 1970. Thus in 1971 the career advancement of minorities and women doubled, and was twice that of majority males. The total minority and female staff was 55% of the entire staff (150 of 271) in 1971, compared to 58% (144 of 246) in 1970. The slight drop in minority representation resulted from the loss of six American Indian employees who chose to remain at a terminated Utah branch location after the contract on Indian education was completed and the site shut down.
Note E: Taxes paid are considered a social contribution or benefit while public services paid for by taxes that are consumed by the company are considered social costs. When the company does not consume public services paid for in part by company paid taxes, such as local school services not used by the company, a net social income contribution is produced. The company's share of Federal and state public services consumed is computed by multiplying the company's fraction of total (Federal and state) corporation revenues times the total corporations' tax contribution to defraying public services costs, on the assumption that the tax laws tax corporations in the aggregate approximately in proportion to their aggregate consumption of services. The company's share of local services consumed is computed by multiplying the company's fraction of total local population times the total local taxes contributed to defraying local public services costs, on the assumption that local services use is roughly in proportion to the number of people using local services. This share is then reduced by the percentage (28%) of the local budget devoted to services not consumed by the company (local schools).
Note F: In 1970 in which no taxes were paid as a result of a loss carryforward, the company nevertheless is estimated to have consumed the same kinds of public services paid for by 1971 taxes, in a proportion of 1970 to 1971 revenues for Federal and state taxes, and 1970 to 1971 staff number for local services.
Note G: Benefits to clients from contract work completed are computed by adding multiplier effects expressible in dollar equivalent terms to contract revenues, and subtracting contract revenues of work not used by the client (and thus offering him no benefit). Multiplier effects include savings developed for clients by contracts beyond the value of the contracts, and resources mobilized for the client as a direct result of the contract and beyond its value. If there is no desirable multiplier impact

* Source: Abt Associates, Inc., *Annual Report and Social Audit*, 1971.

Exhibit 5 (continued)

Abt Associates, Inc.*
Notes to the Social Income Statement and Social Balance Sheet

of the work, but it is used by the client as information, it is assumed to be worth merely what was paid for it. An alternate assumption is that multiplier effects accrue in an as yet indeterminate way, and that therefore they should not be used to add to benefits. Under this assumption, contract work for clients is worth what is paid for it, and no more and no less.

Note H: Costs to clients of contract work completed by the company are considered opportunity costs to clients. Assuming services are worth what is paid for them, the net social income is social value over and above the costs of the services.

Note I: Annualized year end staff payroll discounted to present value.

Note J: Total payroll of current staff after first year, discounted at average annual salary increase of 8.36%, based on mean staff tenure of 4.12 years. Long-term staff availability is total future payroll less unamortized training investment. (Note K)

Note K: Training investment is estimated at 25% of first year salary for all current staff. This investment is depreciated on a straight-line basis over the mean staff tenure. (Note J)

Note L: The social capital investment is equated with the cost of reconstituting the organization. It is computed as the total stockholders' equity, weighted by the consumer price index (1967 = 1.00), expressed in current year dollars. This amount is discounted by retained earnings and the value (at cost) of land, buildings, and equipment.

Note M: A portion of the research carried out by the firm is performed in connection with the preparation of proposals submitted to prospective clients. The cost of this research is estimated at $38,280 in 1971 and $22,588 in 1970. This cost is reduced by the costs associated with proposal resulting in client contracts, in which the research developed was exploited, and any remaining amount is written off at the end of one year.

Note N: Current year experience discounted to present value as of year end. These contract commitments are to contracts not judged as producing socially useful products.

Note O: Commitments after one year are based on current experience discounted for salary increases and extended over mean tenure. (Note J)

Note P: Total estimated working capital requirements based on cash flow ($800,000 in 1971 and $650,000 in 1970) are prorated by the ratio of short term commitments (Facilities and Staff within one year) to the corresponding short term social assets (7.5% in 1971 and 9% in 1970).

Note Q: A substantial portion of the company's activities are expressed in tangible form through the printed word. The company used 26 tons of paper in 1971 and 22 tons in 1970. The company recognizes an obligation to society based on the cost of abatement of the water pollution created by the manufacture of this paper. This cost is estimated at $35 per ton.

Note R: The company consumed 56,000 KWH of electric power in 1971 and 54,000 KWH in 1970. The company recognizes an obligation to society based on the cost of abatement of the air pollution created by the production of this power. This cost is estimated at $.02 per KWH.

Note S: The company generated 615,960 commuting trip miles in 1971 and 433,260 miles in 1970. The obligation to society based on the air pollution thus created is estimated at $.01 per mile.

Note T: Staff assets available less staff commitments.

Note U: Organizational assets available less organizational commitments.

Note V: Research assets available less environmental obligations.

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* Source: Abt Associates, Inc., *Annual Report and Social Audit,* 1971.

The extension to remote tiers of contractors and subcontractors and the evaluation of governmental contributions, seem better left to the broad reaches of the national income (and related) accounts where they may be dealt with more directly and conveniently. Of course, there is room for improvement and extension in the latter areas and this can include attempts at balance sheet characterizations, such as are also essayed by Abt Associates,[42] and they can include other extensions as well.[43] When prudently restricted, however, the kind of social report suggested by Abt Associates can certainly be an illuminating exercise for management and probably others as well.

Asset Capitalization and Expenditures for Human Resources Accounting

Turning to Exhibit 4, the Social Balance Sheet for Abt Associates, we may again observe an alteration in the standard balance sheet categories. Social assets available through this firm include, for example, its staff with a capitalized value obtained by discounting the annualized year-end payroll. Further categorizations include adjustments for raises and average staff tenure allowances as well as estimated investments in staff training and preparation.[44]

By referring to the equity section of Exhibit 4, we can gain some further perspective on what is intended for these estimates. Observe, for instance, that the section labelled Society's Equity—at the bottom of Exhibit 4—contains a category which was contributed by the staff. This amount, $8,946,887, was obtained by subtracting certain present and future staff commitments[45] from the total net staff assets.

One interpretation of Society's Equity would accord it a characterization akin to that of Net Worth in an ordinary balance sheet. Another interpretation would assign these equity values to their "owners" and this would include the staff members themselves. To state this differently both the training and experience and, indeed, the very salary levels themselves are things which vest in the staff rather than the company.

This point is emphasized without attendant refinements and qualifications since, in some sense, there is no conflict between the vesting of this equity in the staff or in the greater society to which they belong. The point can perhaps be made somewhat clearer, however, by turning to the area of human resources accounting where we shall use the often-cited case of the R. G. Barry Company, as exemplified in Exhibit 6, page 304.

[42] These will be examined in the next section where they can also be related to developments in human resources accounting.

[43] See, e.g., Nancy Ruggles and Richard Ruggles, "A Proposal for a System of Social Accounts" (New York: National Bureau of Economic Research, 1971.)

[44] See Notes I, J and K in Exhibit 5 and also see Note A and the career advancement item to which it is related in Exhibit 3.

[45] Judged not to result in the production of socially useful products. See Notes O and N.

Before proceeding any further, however, we need to note explicitly that the area of human resources accounting is not concerned with social reporting per se. Its main concern is with drawing better distinctions between items to be expensed and items to be capitalized in order to provide a better basis for judgments by managers and investors in considering the human resources of a firm.[46] The firm is otherwise to be handled only as an ordinary business entity without the extensions and extra-entity considerations such as were essayed by Abt Associates.[47]

Exhibit 6, taken from the *Annual Report* of the R. G. Barry Company, provides an example—only pro forma, to be sure[48]—which will help us to make some of the issues more concrete. First we should observe that this exhibit contains a comparison between balance sheets and income statements with and without Human Resources Accounting. The term "Conventional," which appears in both captions, is intended to convey the notion that both are otherwise based on the usual accounting conventions—historical cost (i.e., outlay) accounting is used in both balance sheets and income statements. Thus, the $1,561,264 assigned to Net Investments in Human Resources (in the corresponding human resources balance sheet) represents accumulated expenditures (net of depreciation or amortization)[49] for personnel costs such as recruitment, training, development, etc. The resulting increase in total assets is then assigned equally to the Retained Earnings account in Stockholders' Equity and to Deferred Federal Income Taxes. Correspondingly, the Human Resources income statement bears the additional charges resulting from the current period amortizations. It is also relieved of the personnel expenditures that can now be charged to the capital account. The net effect is an increase in reported net income of $137,700 with one-half of this increase (viz., $68,850) allocable to increased federal income taxes.[50]

This approach is analogous to others which have been used to capitalize other kinds of intangibles such as advertising expenditures or related items such as "nonpurchased goodwill." The usual difficulties in dealing with such intangibles are then also encountered for human resources accounting, too, when assigning such asset values to equity accounts. Here, however, the

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[46] See R. L. Woodruff, Jr., "Human Resources Accounting," *Canadian Chartered Accountant* (September 1970), pp. 151-161.

[47] This does not mean that proponents of human resources are uninterested in such social consequences. This, in fact, is not the case. See, e.g., Rensis Likert, *The Human Organization: Its Management and Value* (New York: McGraw-Hill, Inc., 1967) and "The Influence of Social Research on Corporate Responsibility" in *A New Rationale for Corporate Social Policy* (Committee for Economic Development, 1971) as well as Rensis Likert and David G. Bowers, "Organizational Theory and Human Resource Accounting," B. M. Bass and S. D. Deep, eds., *Studies in Organizational Psychology,* (New York: Allyn S. Bacon, Inc., 1972).

[48] Occasioned by SEC refusal plus the failure of the company's accountants to audit and certify. See footnotes to Exhibit 6.

[49] Arising from obsolescence in skills or training, normal attrition, or turnover, etc.

[50] See the amounts labeled "Net Increase in Human Resource Investment" and "Federal Income Taxes."

Exhibit 6

"The Total Concept"
R. G. Barry Corporation and Subsidiaries
Pro-Forma
(Conventional and Human Resource Accounting)*

Balance Sheet

Assets	1971 Conventional and Human Resources	1971 Conventional only
Total Current Assets	$12,810,346	$12,810,346
Net Property, Plant and Equipment	3,343,379	3,343,379
Excess of Purchase Price over Net Assets Acquired	1,291,079	1,291,079
Net Investments in Human Resources	1,561,264	—
Other Assets	209,419	209,419
	$19,215,487	$17,654,223
Liabilities and Stockholders' Equity		
Total Current Liabilities	3,060,576	3,060,576
Long-term Debt, Excluding Current Installments	5,095,000	5,095,000
Deferred Compensation	95,252	95,252
Deferred Federal Income Taxes Based Upon Full Tax Deduction for Human Resource Costs	780,632	—
Stockholders' Equity:		
Capital Stock	1,209,301	1,209,301
Additional Capital in Excess of Par Value	5,645,224	5,645,224
Retained Earnings:		
Financial	2,548,870	2,548,870
Human Resources	780,632	—
Total Stockholders' Equity	10,184,027	9,403,395
	$19,215,487	$17,654,223

Statement of Income

Net Sales	$34,123,202	$34,123,202
Cost of Sales	21,918,942	21,918,942
Gross Profit	12,204,260	12,204,260
Selling, General and Administrative Expenses	9,417,933	9,417,933
Operating Income	2,786,327	2,786,327
Other Deductions, Net	383,174	383,174
Income Before Federal Taxes	2,403,153	2,403,153
Net Increase in Human Resource Investment	137,700	—
Adjusted Income Before Federal Income Taxes	2,540,853	2,403,153
Federal Income Taxes	1,197,850	1,129,000
Net Income	$ 1,343,003	$ 1,274,153

* Source: R. G. Barry Corporation, 1971 *Annual Report.* The following headnote also accompanies this part of the report:

"The information presented [. . . above . . .] is provided only to illustrate the informational value of human resource accounting for more effective internal management of the business. The figures included regarding investments and amortization of human resources are unaudited and you are cautioned for purposes of evaluating the performance of this company to refer to the conventional certified accounting data further on. . . ."

difficulties of such valuations are further compounded by the implications that one set of humans (e.g., employees) is "owned" in part or in whole by another group (e.g., stockholders),[5] and this is not relieved by the so-called going-concern assumption when the latter is interpreted as transferring such ownership to "the entity" itself. This all seems far from any reality of the current market place—if, indeed, it is even consistent with the institutions of a free market economy—but, of course, this does not militate in any way against the use of such devices for internal managerial use and computations.[52]

In fact, if such computations are effected outside the formal accounts, then they need not encounter any difficulties with respect to financial statement assignments although, supposedly, this should produce a variety of improved managerial decisions that could ultimately influence both income statements and balance sheet assets and equities. The argument is analogous to ones which have been used against explicit recognition of other intangibles—such as those noted at the start of this paragraph—in the financial statements.

Other approaches are also possible, of course, and one recently suggested by Lev and Schwartz[53] would appear to lie somewhere between Abt Associates and the R. G. Barry Co. In brief, Lev and Schwartz also suggest a recourse to a discounted value of employee earnings streams (which they further refine by skill and age class) for capitalization in the financial statements. This is done in the usual manner of human resources accounting by reference to the company itself. That is, Lev and Schwartz do not follow the entity extension path of Abt, and they do not confine themselves to historical cost (outlay) accounting as does Barry. However, for purposes of the present discussion, we emphasize their further departures from the practices of the R. G. Barry Company (in its handling of the corresponding equity accounts), as in the following quotation:

> . . . Human capital values may be presented on the asset side of the balance sheet and the present value of the firm's liability to pay

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[51] This same issue arises even in the context of *national* wealth estimates. Witness, for instance, the following quotation from R. W. Goldsmith, *The National Wealth of the United States in the Postwar Period* (New York: The National Bureau of Economic Research, 1962), p. 10:

> The omission of any estimates for the value . . . of human resources . . . is based [partly] on the conviction—not shared by all students of this problem—that these items have no place in an estimate of national wealth for an economy where these resources cannot be appropriated and hence have no market price in an economy where slavery does not exist.

See also R. W. Goldsmith, *Studies in the National Balance Sheet of the United States*, vol. 1 (New York: National Bureau of Economic Research, 1963), p. 15.

[52] See the examples reported in M. R. Cooper, J. I. Krugler, W. F. Nelson, and W. C. Pyle, "Human Resources Expenditures: Investments for Tomorrow" (Waltham, Mass.: General Telephone & Electronics Laboratories, 1973).

[53] Baruch Lev and Abba Schwartz, "On the Use of the Economic Concept of Human Capital in Financial Statements," *The Accounting Review* (January 1971), pp. 103-112.

wages and salaries on the liability side. The two values are equal by definition: changes in the values of human capital from period to period would not be recognized as income but would merely be matched by changes in the liability.[54]

Since increments would thus be credited directly to this liability account, it is reasonable to suppose that decrements would also be debited to this account. The income statement would then contain only the usual charges and credits. This is to say that the human resource accounts would, under these proposals, be identified and sequestered almost as a separate entity in a manner analogous to the treatment of a fully funded liability reserve—e.g., as in a fully funded reserve for pensions. (Lev and Schwartz are mainly concerned with investor disclosure in the financial statements, and hence, in this way, too, they complement the usual human resources accounting emphasis on the decisions of internal management.)[55]

Finally, we can also observe still other developments that bear on issues of social reporting as well as on the possibility of improved management decisions for human resources. In one such case, the Institute of Public Administration (working with Touche Ross & Co.) has experimented with extensions to ordinary cost accounting. The objective has been to adjust such accounts for aid in handling costs and benefits related to the subsidies that a company might earn under the Manpower Development and Training Acts administered by the U. S. Department of Labor. Categories which might thus be costed (and related to these subsidies) could include activities like "job enrichment," "supervisory training," etc., which might enable disadvantaged persons to proceed in careers that might otherwise be unavailable for them. Even though these cost accounting extensions are directed toward internal use, they are evidently also pertinent both for improved management and social reporting in such dimensions. At present, however, these developments do not appear to have proceeded sufficiently far[56] so that a full-scale assessment can be made of their prospects and problems.

In conclusion, we may then note that even this does not exhaust the range of such developments. Attempts have even been made to extend such accounting efforts to social welfare and education programs of a social or governmental variety in order to include elements of human capital account-

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[54] Baruch Lev and Abba Schwartz, "On the Use of the Economic Concept of Human Capital in Financial Statements," *The Accounting Review* (January 1971), p. 110.

[55] See the references to Likert, *et al.*, which were cited above. See also R. L. Brummet, E. G. Flamholtz, and W. C. Pyle, eds., *Human Resource Accounting: Development and Implementation in Industry* (Ann Arbor, Michigan: Foundation for Research on Human Behavior, 1969), as well as their article, "Human Resource Measurement—A Challenge for Accountants," *The Accounting Review* (April 1968), pp. 217-224; and Eric Flamholtz, The Theory and Measurement of an Individual's Value to an Organization, Ph.D. Thesis (Ann Arbor, Michigan: University of Michigan, 1969).

[56] At least by reference to the published literature such as *TIPP—Training, Incentives Payment Program* (New York: The Institute of Public Administration, 1971).

ing in their management and direction.[57] We can only note these developments in closing this section, however, since their detailed pursuit would lead us away from the company reporting efforts that are the primary concern of this paper.

Extensions to New Metrics and Dimensions

In this final section, we propose to explore possible new approaches which, in a sense, include all four of Professor Churchill's suggestions.[58] They also include extensions directed toward some of the newer audiences of company reports which were discussed in section 1. Thus, our illustrations are directed toward groups like minorities or environmentalists, for instance, but this is not intended to exhaust such possibilities.

In each case, we shall employ a different metric system (a different unit of measure). But we shall also do more than try to accommodate each such different group. In fact, we shall try to accomplish what is required in a way that also stays close to current financial reporting practices. In particular, we shall try to arrange our suggested social reports in a way that readily relates them to their potential economic (financial) consequences. One reason for doing this is that it may help to attenuate at least some of the possibilities that might otherwise emerge for weakening the customary financial reports and, of course, it can have other advantages as well.[59]

Exhibit 7, page 308, with its accompanying Notes, provides an illustration of one possibility for social reporting as it might be used by some hypothetical company. Here we have a standard income statement on the left. This, we may remark, is intended as only an ordinary entity statement (consolidated or not). That is, this statement does not attempt to extend the legal entity, or its consolidated counterpart, e.g., as in the example of Abt Associates, but is confined rather to the entity whose actions are directly under the control of the management with which this report is associated.

This same characterization also applies to the other columns of Exhibit 7. Thus, as explained in Note 2 for External Payments, no attempt is made to trace these funds flows[60] into transactions that are beyond the control of this

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[57] See, e.g., Robert Beyer, "The Modern Management Approach to a Program of Social Improvement," *The Journal of Accountancy* (March 1969), pp. 37-46 and Jean-Paul Ruiff, "The War on Poverty," *The Quarterly* (New York: Touche Ross & Co., 1969), and "Poverty Programs—A Business Management Approach," *The Quarterly* (Touche Ross & Co., 1966), pp. 24-32. It is of interest to note that this proposal (really a budgetary/planning proposal) also contains a recourse to linear program optimizations and the use of panel data just as was the case for Clark Abt's mythical Flinthard Corporation as discussed above.

[58] See third section, *supra,* this paper.

[59] For example, in relating otherwise separate dimensions for social reporting to each other, for instance, via the resource expenditures that they each require.

[60] See the discussion of "flow statements" in Chapter 14 of E. L. Kohler, *Accounting for Management* (Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1965).

Exhibit 7 **A Multidimensional Income Statement for Corporate Social Reporting**

Traditional Net Income Statement			(in million $)	External Payments (in million $)	Physical Environment: Sulfur Emissions (million lbs)	Physical Environment: Sulfur Removal (million $)	Physical Environment: Particulate Emissions (million lbs)	Social Environment: Employment (# worker in thousand)	Social Environment: OSHA Index (worker accident days lost)	Social Environment: Participation Rates Black %	Social Environment: Participation Rates Female %	Social Environment: Manpower Training (in workers)	Social Environment: Corporate Owned Housing (in units)
Net Sales			$4600			24.1							
Less: Cost of Goods Sold:													
Begin. Inv.		$840											
Plus: Mfg. Costs													
Labor: Wages	$1440			$1440		6.0							
Benefits	360			360		1.2		144	216	9.1	1.2	1600	2100
Materials	1725			1725		16.9							
Depreciation	225			452*		28.9							(75)
Total Mfg. Costs		3750			50		35						
Goods Available		$4590											
Less: Ending Inv.		923											
Total Cost of Goods Sold			3667										
Gross Margin			933										
Less: Selling & Admn.					1		2						
Salaries	352			352									
Benefits	88			88				36	2	0.9	10.3	400	150
Materials & Supplies	420			420									
Depreciation	56		916										35
Net Operating Income			17										
Plus: Other Income			360										
Inc. before Distribution			377										
Less: Distributions													
Interest	74			74		22.8							
Taxes	149			149		(24.1)							
Dividends	97		320	97	—	—	—	—	—	—	—	—	—
Net Income Transferred to Accumulated Undistributed Earnings			$ 57	$5157	51	(27.6)	37	180	218	7.5%	3.8%	2000	2210

* Net Purchases of Plant and Equipment

Notes Accompanying Exhibit 7

Note 1. All items under "Traditional Income Statement" are expressed in millions of dollars. The statement is prepared in accordance with generally accepted accounting principles and present practices.

Note 2. Funds disbursed by the firm into the economy are provided under "External Payments," and, as such, this column is closely related to the usual funds flow statement. As a result of these payments, money is introduced into the economy to be respent with further contributions to GNP, but no attempt is made to trace their further consequences, which may be far removed from any possibility of control (or even tracing) by reference to this firm's transactions.

Note 3. Sulfur and particulate emissions are yearly aggregates based upon production and sales activity for the year. The amounts attributable to productive activities are listed under "Total Manufacturing" while the emissions from "Selling and Administrative" activities—e.g., as a result of further processing in the company's sales outlets—are listed under that category.

Note 4. The Sulfur Removal column is related to Exhibit 8. (See Note 9 for this Exhibit where the economics of the sulfur removal program is displayed with a net loss resulting from this program.)

Note 5. The continued growth of the firm rests squarely upon the performances of 180,000 workers as displayed in the "Employment" column. Effective personnel policies have been the keynote of the firm and output has increased at a rate which is significantly higher than inputs.

Note 6. Intense efforts in the areas of health and safety have resulted in a new low of only 218,000 lost work days caused by accidents in the last year. Production time lost and accident classifications are consistent with and, in fact, ahead of OSHA standards of performance.

Note 7. Integration of blacks and females into the organization is of utmost concern to management. Overall black participation is well above average for the industry, but shortcomings exist in female employment. These are expected to change with the intensified recruitment program that was begun last year. (See the schedule of past results and projections [which could be included in some other section of the company's report].)

Note 8. Semi- and unskilled labor are continually added to the personnel roster. While on the job they receive training and instruction in manufacturing and administrative positions. Over 40% of these people will leave the firm to accept employment elsewhere after their training period. Employment in this labor class was 2,000 for the past year and the situation is now being studied to see whether costs associated with this turnover can be reduced.

Note 9. Corporate owned housing is available to employees at reduced rental rates. There was a net change of 40 housing units in the past year. Seventy-five blue collar units were liquidated while 35 white collar units were added. A changing distribution of employment coupled with changing employee tastes justified these changes.

management. Also, only the usual income statement categories and balance sheets are used so that, unlike some of the other approaches we have been examining, nothing further needs to be said here on these topics.

Turning to the columns grouped as Physical Environment and Social Environment, we may observe that each column is represented in a different metric. This is done to make them immediately meaningful, if possible, for the audiences to which they might be directed. Thus, for instance, Sulfur Emissions are reported in million pound units while Black and Female participation rates are reported in percentages, and so on.

In each case an attempt is made to position these items in a way that relates to corresponding income-statement categories. If desired this can be extended still further even to the extent of using mathematical and computerized models for studying further relations and tradeoff values.[61] We shall not pursue such possibilities here, however, but turn instead to the alternate arrangement provided by Exhibit 8, page 312, and the detailed Notes that accompany it.

Exhibit 8 may be regarded as one of a variety of additional schedules that might be used to augment the presentation of Exhibit 7. Here the emphasis is now directed toward relating the Social and Physical Environment variables to their financial consequences. By referring to Note 5 of Exhibit 8, for instance, we can see that this company is ahead of its OSHA requirements. The incremental costs associated with this attempt to proceed ahead of the OSHA requirements caused a reduction of $1.80 in reported income per share. It also resulted in a reduction of net income by $1.50 per ton. Indeed, the outlays incurred would have caused a further reduction to $2.75 per ton except for the offset in the corporation's income tax—at a rate of $1.25 per ton—which occurred as a result of this program.

From a social standpoint the desirability of thus moving ahead of the OSHA requirements should evidently also be weighed against possible alternate uses of the taxes that might otherwise have been available. Such considerations also enter elsewhere, of course, as when a reduction in sulfur emissions is accompanied by a drop in manufacturing activities with attendant drops in employment—perhaps for minorities and women. In fact, a supplementary analysis indicates that something of this sort has been occurring in the category of Summer Jobs for Needy Youth. Thus, in 1968 and 1969 the corporation had hired some 2,500 students for employment in this category and this number had dropped to 828 in 1970 along with a drop in profits from $7.50 to $5.50 per ton. By interpolation from these past records, it seems that the company will hire approximately 800 students per year for each dollar of earnings above $4.50 per ton. This might be regarded as a *social* dividend

[61] See A. Charnes, C. Colantoni, W. W. Cooper, and K. O. Kortanek, "Economic, Social and Enterprise Accounting and Mathematical Models," *The Accounting Review* (January 1972), pp. 31-37. For a further consideration of such models as a part of the accounting system see A. Charnes and W. W. Cooper, "Some Network Characterizations for Mathematical Programming and Accounting Characterizations," *The Accounting Review* (January 1967), pp. 24-52.

associated with each such dollar of added profit, to be sure, but a stockholder (or potential investor) might also be inclined to question whether this was justified by the resulting benefits to the company (or to society).

Such questions might naturally extend to the other activities that are also depicted in Exhibit 8. To see that the arrangement for Exhibit 8 is also designed to facilitate answers to (or prompt) such questions, we might observe that a Net Financial and Economic Statement is also given on the right in total dollars and in dollars per ton of product. The data for this statement are deduced from the Gross Financial and Economic Statement, on the left, by subtracting the Social Environment and Physical Environment activities that separate these two statements.[62] Finally, we may observe that we have also included a column for the Noise Abatement Program that is just getting under way. Even though this column contains no entries as yet (partly because suitable metrics have not yet been selected), we believe it provides a signal for developments under way that can be of value to investors, as well as environmentalists or others who may be interested in such activities.

Data, explanations and the other supporting relations we have discussed in connection with Exhibits 7 and 8 would appear to be amenable to modern audit techniques. Indeed, certain audits conducted by governmental agencies like the U. S. General Accounting Office have already been extended to verification and attestation for magnitudes and related explanations (or justifications) that are at least *sub species genera* in these classes. Furthermore, the experience of undertaking such audits should itself go at least part of the way toward developing any additional methods that may be required, and these tasks may also be facilitated by the activities of various governmental units in collecting and disseminating information on pollution effects, discrimination, and so forth, as a possible further reference when required.

Summary and Conclusion

The statements we have suggested are best regarded as only initial attempts to meet both of the criteria that we delineated for social reports in our opening section. That is, (1) they should report items, such as the OSHA acceleration activities, which are not adequately reflected in market data with its associated "least cost" orientation, and (2) they should also be directed toward other audiences besides the customary ones for corporate reports, but in a way that does not weaken the latter. Naturally we expect that this is not a last attempt and other such suggestions should also be forthcoming. At least we hope that this will be the case.

Other approaches that we have covered provide a variety of additional possibilities. These have included simple listings or inventories of selected activities, sometimes with an accompanying narrative as in the Bank of America examples. They have also extended to extra-entity imputations and estimates such as were undertaken by Abt Associates. Undoubtedly still other

[62] After multiplication, where required, by the tonnage volume given at the bottom of Exhibit 8.

Exhibit 8

A Hypothetical Income Statement Extended to Include Environment Variables

	Gross Financial and Economic		Social Environment						Physical Environment		Net Financial and Economic	
	Total Revenues & Expenses (without programs)	Revenues and Expenses per Ton of Output (without programs)	Housing Investment = $75 million investment	Minority Employment = 15% of work force	OSHA Index	Manpower Training = 200 people/yr	High School Equivalency Training = 300 Employees	Summer Jobs for Needy Youth = 800/yr.	Sulfur Removal to 98 Level = 300 million Investment	Noise Abatement Program	Total Revenues & Expenses (Net of Programs)	Revenues and Expenses per Ton of Output (Net of Programs)
	millions	$/ton*									millions	$/ton*
Revenues	4929	204.54	0.31			.15			1.00		4,960	$206.
Employee Costs												
Wages	1767	73.32			1.25	.08		.10	0.25		1,835	75.
Benefits	352	14.61	0.12		.20	.02			0.05		356	15.
Consumption	2092	86.80	0.15		.30	.05			0.70		2,102	88.
Depreciation	229	9.50	0. 30		1.00				1.20		290	12.
Interest	57	2.38	0.27						0.95		74	3.60
Taxes	205	8.50	(0.25)		(1.25)				(1.00)		149	6.00
Net Income	$ 227	$ 9.43 /ton	(0.28) /ton		$(1.50) /ton	0.00 /ton		$(.10) /ton	$(1.15)/ton		154	6.40/ton
**Net Income/share		$11.34	(0.325)		(1.80)	0.00		$(.12)	(1.385)		$7.70	

*Calculated on the basis of a total output of 24.1 million tons.
**Based on 20 million shares of common stock.

Notes Accompanying Exhibit 8

The following notes are provided as detailed explanations for the information presented in Exhibit 8.

Note 1. This display provides the aggregate financial information in the same fashion as the traditional income statement along with other flow information for various socially oriented programs.

Note 2. Under the titles "Gross Financial and Economic" the usual income statement information is provided. The first number is dollar flow (in millions) while the second is the dollar flow per unit of physical output. This latter measure may involve only the product of greatest output or a weighted average of output levels or the like. However, once a value is chosen it should be used consistently in displaying all the data. In this case, the choice is 24.1 million tons of output where output is measured in terms of sales rather than other measures such as production, etc. Some of the latter measures might be a better basis for some purposes but would lead into capitalization and related issues that we want to avoid in this paper. That is, we want to treat these all as "period" costs rather than to capitalize them into inventory for distribution in subsequent periods. If this latter basis is preferable, some adjustment must be made to these figures to account for increases or decreases in inventory level.

Note 3. In an attempt to meet housing needs in a depressed area near a plant, this firm decided to invest $75 million in the design, engineering, and construction of a 3,000 unit multiple family dwelling. Rental income or revenue averages $2,500 per unit per year or $0.31 per ton of output. Although the housing units can be rented by anyone in the area, employees can rent these facilities at a rental which is 60% of the prevailing rate in this area, with the company treating the remaining 40% as an employee benefit. The total amount treated by the company as employee benefits converts to $.12/ton of output. Operating costs amount to $.15/ton of output for the year. Accelerated depreciation is scheduled over the twenty year life of this investment and interest payments are based on financing the investment through the sale of bonds. The tax expense is a negative $.25/ton of output because the project operates at a loss to the company. The net impact of this project on net income per ton of output is ($.28), for a total loss of $6.75 million.

Note 4. In order to allow minority groups to participate more fully in its labor markets, this firm has undertaken recruiting and job expansion programs aimed directly at minorities. It is expected that this will raise the employment level of these groups to 15% from current 8% levels, with a resultant 2% net increase in total employment. The statement of costs (which should be provided) is only indicated here by a vacant column and, if desired, this note can be regarded as a verbal augmentation or elaboration of this exhibit or else the column itself can be regarded as a presentation for social reporting purposes in terms of a first development in non-metric spaces.

Note 5. The Occupational Safety and Health Act of 1970 sets standards for health and safety performance in manufacturing and administrative units. Compliance with the law requires that an index measure of this firm's behavior be at 100. However the company has bettered this requirement with consequent extra costs. Costs delineated for this program are incremental above those which were also incurred to provide compliance wiith the law.

Note 6. The manpower training program administered by this firm provides vocational training to 200 people/year. Skills acquired are highly specialized and provide compensation to insure a middle income standard of living. Most recipients are subsequently employed by other firms, some of which are competitors, upon completion of their training. The program is fully funded by the Federal government.

Note 7. Many of the company's unskilled laborers have not had an opportunity to complete their high school training. Hence, after working hours, fully funded high

Notes Accompanying Exhibit 8 (continued)

school classes are sponsored for these people. Upon successful completion of this program, the participants receive a high school equivalence diploma. Three hundred employees are currently enrolled in this program.

Note 8. High school students over 16 who qualify on the basis of need are eligible for participation in summer employment programs. Eight hundred such students were employed, as per budget, and their wages and related items were treated as a direct expense at a pre-determined standard cost.

Note 9. In order to comply with proposed regulations governing sulfur emissions, capital equipment worth $50 million was installed. This is part of a longer range investment which is ultimately expected to amount to $300 million. Part of the $50 million already expended was designed with these longer-range considerations in mind. Some of this should be recaptured from subsequent byproduct sales, which will be credited to these expenses, as well as the higher price that the purer product should bring when all units are operational. At present, however, much higher expenses are being experienced and hence the treatment of all of this as a period charge results in an overall money loss from complying with these regulations.

Note 10. In the next year the firm will begin a noise abatement program within the factory for which only preliminary plans and related expenses have been incurred to date. To employees and neighbors the plan when realized should provide quieter surroundings and better health. It is also expected that continued operation of the proposed program for noise abatement will have a positive effect on productivity over time, but neither the magnitude nor the timing of these productivity increases can be presently assessed. Until such benefits can be identified and associated with a suitable costing unit, the expenditures incurred for this program will be grouped with other items and expensed as a period charge.

possibilities exist or will be essayed. This is as far as we intend to go in this paper, however, which is itself intended only as a start and not a terminal point for such social-reporting studies and activities.

The following list of questions, taken from the report of a committee of the American Accounting Association,[63] may help to bring into focus some of the further problems that may also need to be addressed when considering these and like extensions of accounting and auditing:

> (1) What should be the auditor's responsibilities in attesting to reports to interest groups such as consumers, employees, etc.? What are the potential legal ramifications of CPA attesting to such things as the degrees of water and air pollution, conformance of products to safety standards, etc.? What are the potential conflicts of interest (e.g., if the CPA becomes a government watchdog a conflict of interest may arise with respect to stockholders, management and investors)? What are the "entities" which should be held accountable?
>
> (2) How can CPA involvement in attestation for other interest groups be implemented? Who will bear the costs? What legislation

[63] "Report of the Committee on Non-Financial Measures of Effectiveness," *The Accounting Review,* Supplement to Vol. XLVI, 1971, pp. 165 ff.

is required? Will closer government regulation of CPA activities be required?

(3) If CPAs are to enter these new areas, what is the CPA of the future? What new skills must he or she possess? What are the implications for college educational programs, staff training programs, specialization, and organization within CPA firms? What are the implications for attestation methods?

(4) Should the CPA play a neutral role in determining what is reported and only concentrate upon attestation under reporting requirements set by other groups? Or should he play a more significant role in determining report content, measurement methods, etc. (as he does now with respect to financial reporting)?

(5) If the CPA takes on greater watchdog roles, what will be the effects upon his privileged communication, his access to important information needed in attesting, etc.?

(6) What uniformity standards should be established for audit procedures, report format, report content, etc.? Who should be held accountable?

(7) What conflicts of interest arise if management services groups are involved in the design of information systems when attesting groups within the same or other firms are involved in auditing these systems? Should attesting firms be encouraged or required to divest themselves of consulting engagements?

(8) What potential effects will expanded social attesting by CPA firms have upon student rebellion [sic], confidence in the government, efficiency and effectiveness of social programs, etc.?

(9) If financial measures in audited financial reports are to be supplemented with nonfinancial measures, who will determine what nonfinancial measures are reported, how they are reported, etc.?

(10) To what extent are nonfinancial measures (e.g., market share, product quality, and attitudes) supportable by "objective, verifiable evidence"? What is the impact of new computers, data files, and mathematical modeling on this evidence?

(11) Do the distinctions between the auditing of past events and auditing of future events and budgets hold with respect to nonfinancial measures?

(12) To what extent should a CPA rely on opinions from other professional persons, e.g., lawyers, sociologists, statisticians, etc.?

(13) What are the advantages and disadvantages of including nonfinancial measures in financial reports from the standpoint of comparability between different reports?

Many of these considerations bring us back to some of the arguments on whether business as well as accountants should undertake any such activities at all. These arguments will undoubtedly continue, but our own best guess (or judgment) is that such activities will be undertaken by business.[64] Hence it is our belief that it will be prudent for the profession to begin now to encourage and support further studies and experiments in anticipation of these developments. The point, of course, is that such anticipatory studies can help to guide such developments into more intelligent channels.

In concluding this discussion, we should perhaps stress that such studies and experiments should extend to audit as well as accounting or reporting activities since these, too, are capable of alteration and extension. Having begun this paper with a discussion of how accounting might be (and has been) extended, it now seems suitable to close with a quotation from Paul F. Lazarsfeld, one of the leaders in the development of modern systems of social inquiry.[65] Writing in "Accounting and Social Bookkeeping,"[66] Professor Lazarsfeld notes that "The need for the attest function in society is growing. Not only is this true in the areas of business, as every accountant knows, but in the social sciences as well there are a lot of activities that need attesting. . . .[67]

[64] See the discussion in E. F. Goldston, *The Quantification of Concern: Some Aspects of Social Accounting,* Benjamin F. Fairless Memorial Lecture Series (Pittsburgh: Carnegie-Mellon University, 1971).

[65] For example, in the development of panel techniques such as are now used in marketing in order to assess consumer habits or attitude and reaction.

[66] In R. R. Sterling and W. F. Bentz, eds., *Accounting in Perspective: Contributions to Accounting Thought by Other Disciplines* (Cincinnati: Southwestern Publishing Co., 1969).

[67] See also DR Scott, *The Cultural Significance of Accounts* (New York: Henry Holt & Co., 1931).