

## SOCIO-ECONOMIC ACCOUNTING

THE accounting profession has long been regarded as essentially an adjunct of business. In fact, accountancy is sometimes described as "the language of business". In the last several years, however, this definition has been giving way to "the measurement and communication of economic and financial data"—without specific reference to a business orientation.

There are good reasons for such an enlargement of concept. The fundamental job of accounting is to make events more intelligible and manageable by describing them in quantitative terms. The accounting discipline, in its dual functions of evaluation and verification, is therefore applicable in many areas. Inputs and outputs, whether expressed in dollars, tons or college graduates, are all quantitative elements.

Once the scope of accounting is enlarged beyond the business horizon, the profession finds itself confronting the information systems of education, private and public social programs, and government. There is challenge and opportunity in this development.

### SOCIO-ECONOMIC ACCOUNTING

The area of accounting beyond the field of business has sometimes been referred to as "social accounting." It includes the activities denoted by the terms "national income accounting," "government accounting" and "macro-accounting". I shall use the term "socio-economic accounting to designate the accounting" function discussed in this article.

Socio-economic accounting is intended here to mean the application of accounting in the field of the social sciences. These include sociology, political science and economics. Economics, of course, deals with the production, distribution and use of income and wealth; sociology with the development, organization, and functioning of

human society; and political science with the conduct of government. These disciplines use measurements—whether they be indexes, ratios or trends. Thus, in the broad sense of the term, accounting is already common to all the social sciences. I submit that CPAs, by becoming more aware of this fact and by being alert to the concerns of the social sciences, can contribute importantly to the most effective use of accounting techniques in these disciplines.

#### ROLE OF ACCOUNTING IN ECONOMICS

In recent decades, economists have moved from a methodology of reasoning from postulates based on subjective assumptions about human behavior to one of reasoning from statistical data. This development has brought the disciplines of economics and accounting closer together. Once the economists began to base their studies more and more on statistics, they recognized the service performed by accountants as men skilled in assembling and ordering data. The accountants in turn, observing that the economists were requesting hard, creditable data, began to become more attentive to their needs.

It is the discipline of accounting which collects, tabulates and evaluates the data which permit both an understanding of the results, of past activity and a projection of future possibilities. With this information both business and government are enabled to make decisions about which projects should be curtailed and which expanded to make the best possible use of available money, materials and manpower.

For too long our nation has acted as though our resources were unlimited. As the result of international crises and domestic disturbances, we have been forced to recognize our limitations. Questions are being asked as to whether our social and economic programs are designed to give us a sufficient margin to return on the limited national resources which have been applied to them.

Obviously the problems of poverty, civil disturbance and the apparent commitment to underwrite democratic government throughout the world have forced a sobering reappraisal of how our national resources are being used. Our leaders grope for answers, answers which can only come from a study of creditable economic and social data.

Since the end of World War II in particular, government, through the Department of Commerce, has been providing figures on the na-

tion's economic activity. Gross national product figures have been computed each year from accounting data furnished largely by business entities. These GNP figures have become the bases of major programs of the legislative and executive branches. Private industry also often bases plans on trends reflected in the GNP.

The elements which are added together to arrive at the GNP in any one year are: total sales of goods to consumers, including goods sold to national and local government agencies; the value of new construction (including homes) and equipment built; the value of increases in inventories; and net exports. These are accounting data, material with which every CPA is comfortably familiar. Yet CPAs have been strangely missing from the hierarchy responsible for the development of these data.

The lack of participation by CPAs has resulted in some unnecessary weaknesses in national income accounting. One of these is the use by the compilers of the data of terms not commonly used by accountants and businessmen.

Professor Richard Ruggles, economist at Yale University, maintains that the present form of accounting used by government cannot readily encompass related social and demographic information. For example, it is not possible to study problems of poverty and discrimination in the context of the data provided in existing national accounts. Despite the technological revolution in processing and handling data caused by the computer, this factor is of reflected in the design or use of our economic accounting system.

One observer believes, "Accountants and management generally have taken little interest in computations of national income, largely because of the general feeling that the methods used and the results produced have not been closely enough tied in with commercial realities; and because, too, the relationship of the individual business unit to the whole economy has seemed remote and almost wholly incidental. However, participation by accountants and business management in further rationalizing the concept and in making the annual report more useful would doubtless be welcomed by the present compilers." [1]

It seems clearly important that those who tabulate these data recognize the generally accepted accounting practices in classifying business operating statistics.

## ACCOUNTING AND ECONOMETRICS

Forecasting has always been an important function of economists. In the past, most forecasts were based on personal observations, largely because of the unavailability of large reservoirs of data. More recently, however, national economic data have become available. From a coupling of these quantitative data with empirical economic information, and using statistical methods, there has developed a branch of economics known as "econometrics."

While the economist has been moving into econometrics, the CPA has been moving into operations research. The former applies scientific method to interactions taking place through markets, whereas operations research applies scientific method to the interactions within a particular organization. Both work with uncertain data and both use statistical methods for making projections. Although CPAs have involved themselves in operations research, they have shown no comparable interest in econometrics.

As econometrics grows and increasingly becomes a principal instrument for economic projections, so the creditability of the basic data becomes more critical. These data are essentially accounting material but are now being handled chiefly by non-accountants. Some concern has already been expressed by econometricians about this weakness.

George A.W. Boehm, former associate editor of *Fortune* and author of *New World of Math*, made this observation, "Some econometricians are bothered about inaccuracies in the data they do have. Oskar Morgenstern has gone so far as to write a book on the topic. . . Even the official figures of the GNP are in doubt; they are usually revised several times in the course of a year or more, but their revisions do not converge to any particular value. Most other econometricians, while admitting that Morgenstern makes some compelling points, tend to remain calm about inaccuracies in general. . ."[2]

CPAs are uniquely qualified for the collection, classification and validation of quantitative information. It would seem clear that they should be more involved in econometric projections.

## ACCOUNTING AND TAX SYSTEM

The CPA is closely bound up with the income tax system through

his assistance to corporate and individual taxpayers in the preparation of their returns. In addition to this service, the profession, through the AICPA's committee on federal taxation, has made significant contributions to tax administrative efficiency through consultation with and suggestions to the Internal Revenue Service.

Practically all this involvement, however, has concerned technical detail. In contrast, the more basic issues—effects of one type of tax as compared with another, economic consequences of special credits and allowances, rationale of the various facets of income tax laws—have largely been ignored by our profession. Yet because of the familiarity with the tax system which CPAs acquire in the course of practice, and the numerous examples they see of the impact of the laws and regulations in actual cases, they are especially well qualified to consult on questions of tax policy.

The government, like other entities, deals with income on the one hand and expenditures on the other. Each year the President and Congress spend much time and effort examining the new budget. The cost of each program is studied and weighed against the other items. Finally decisions are made to cut some and perhaps to augment others. But the fact is that the full cost of several programs cannot be determined from the budget, nor is it available in usable form elsewhere. There is no adequate accounting for such items as cost of natural resources programs, special programs for subsidizing large areas of agriculture and some businesses, and certain old-age assistance programs, to name a few. The true total expenditures for these items do not appear in the budget, and are not available because they are effected through allowances in the income tax administration.

As a matter of public policy, taxes are often used to encourage certain social or economic objectives. However, when the dollar-values of tax concessions, through such devices as depletion allowances and double exemptions for the aged, are not known to policy-makers, they cannot view real overall expenditures in perspective or evaluate one program as opposed to another.

#### BUDGETING STANDARDS FOR RESEARCH PROGRAMS

Massive sums of money are today dedicated by government agencies and by foundations to research projects of many kinds. But

budgeting standards for these projects are often inadequate and controls virtually nonexistent. To a large extent this is attributable to the fact that expenditure of research grants is usually in the hands of scientists, who, while expert in their own disciplines and probably better able than anyone else to determine the relative importance of different elements of a project, have scant, if any, training in budgeting. When they make decisions involving, say, such a costly item as computer operations, their unfamiliarity with the allocation of computer time-sharing costs can lead to cost-assignments that are far from realistic.

The effectiveness of research programs themselves is an area requiring the keen attention of measurement specialties. What type of institution is most effective for the various kinds of research conducted? Many institutions—colleges, foundations, government, industry—undertake research programs largely paid for by the taxpayers' dollars. What kind of institution does what kind of research best? What standards should be used to evaluate the results?

#### PLANNING, PROGRAMING BUDGETING SYSTEM

Another budgeting accounting dimension in which the CPA is rather conspicuous by his absence (or, at best, limited presence) is PPBS—planning, programing, budgeting system. This form of budgeting is an accounting function and an easy extension of normal business budgeting practices.

Although the principles of the system are familiar to any trained accountant, the CPA has been largely on the periphery of its application to governmental accounting, and the job has been done by economists, political scientists, sociologists and statisticians.

PPBS rests on tabulation and evaluation of alternative courses of action. These tabulations are quite-similar to the computations made by accountants to assist managements with make-or-buy decisions, expanding or contracting a production division, or investment in a new facility.

There is wide opportunity for applying PPBS techniques at state and local levels of government; however, only a handful of CPAs have begun to involve themselves.

Here is how one such application was described by a CPA who participated in it: "The Philadelphia school district in 1966-67 moved

from a traditional organization line item budgeting and reporting system, which identifies cost with departmental responsibility and object of expenditure—wages, books, supplies—to a program budgeting system, which *also* relates expenditures to educational and other goals of the school district. In the system, financial budget elements are expressed primarily in terms of what the districts are getting out of the expenditures and, secondarily, in terms of what they are putting in. Thus, the system presents the educational program by function and activity, according to objectives or 'outputs'. For example, an 'output' of an elementary program would be boosting students skills in reading or arithmetic; and 'input', thus would be a specified number of teaching aids, requiring a specified number of dollars." [3]

Another example of the type of service which can be performed by CPAs occurred in Cleveland. Several years ago an accounting firm devised a plan to revitalize that city's downtown area. It created a balance sheet of Cleveland's assets and liabilities. Among the assets were listed a central retail core; existing office complex; finance and government services; and a good transportation complex. Among the liabilities were listed high land costs; automobile congestion; and absence of integrated community leadership. From these inputs the plan programed objectives and recommendations for carrying them out to achieve a renaissance of the city. [4]

#### APPRAISAL OF SOCIAL PROGRAMS

Like corporations formed for profit, nonbusiness institutions involve people working in organizational patterns, tangible assets (such as roads and bridges, or buildings and equipment) and products (perhaps, intangible, such as education and health).

The institutions need budgets, systems of managerial control, records. These things are presently provided to them, most often not by CPAs but by sociologists, economists and political scientists, some—probably most—of whom are not trained in accounting. As might be expected, the quality of the data used to guide extensive and costly social programs is often not as good as it should be.

The abilities of CPAs can be applied to improving the efficiency and controls of institutions, both private and governmental, that address themselves to social problems.

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The efficiency of social programs may be regarded from the viewpoint of return on investment. One of the normal measurements used in business is the return (amount of profit or benefit) obtained relative to the capital employed.

To evaluate social programs, it is necessary to determine the resources put into a project and then measure the resulting benefit. When it is practical to state the investment and return in dollars, we are dealing with the same units of measurement employed in business. In social programs, however, it is usually impossible to measure results solely in monetary terms. For we are dealing here with human beings—with levels of education or of health, with intangible needs and satisfactions. To find methods of measurement, we must call upon sociologists, psychologists, educators, even ecologists. Creating meaningful standard may be difficult or, in some instances, impossible. Recognition of the difficulties, however, ought not to deter accounting and other disciplines from collaborating to evolve appropriate methodologies. Too much is at stake.

To pose a simple example from an accounting standpoint, consider the relationships of the cost benefit concept to a social program in the area of high school education. Assuming that our benefit or "profit" objective is to have the maximum number of students graduate from high school, that is, not to be dropouts, the quantitative unit is "one" for each student successfully completing his high school program.

Let us further assume that we have a fixed number of dollars which is the quantitative input toward achieving this benefit. These dollars can be applied to hiring competent, imaginative high school teachers; to the construction of well-equipped school buildings; or to some combination of these expenditures. What pattern of input will produce the greatest output?

It would seem that this kind of determination clearly requires the application of accounting concepts.

In this example the problem is oversimplified, of course, by relating output in units of high school graduates to input only in dollars. Output should also be considered in relation to the students' out-of-school environment, and other influences.

An example of the kind of measurement needed in the social field—and the difficulty of finding it—was identified recently by the Department of Health, Education, and Welfare, HEW sought to deter-



mine the extent of children's correctible health problems, in what social groups these problems prevailed, and the relative cost of programs to correct them. Although after considerable effort, some information was obtained concerning the extent and the areas of concentration of child health problems, practically no estimates could be established concerning medical care effects. As the then Assistant Secretary, William Groham, of HEW testified before a Congressional subcommittee, "We simply do not know whether children who receive medical checkups and continuous medical attention are healthier than those who do not."

Senator Walter F. Mondale (D-Minn.) has been pointing up the weaknesses in the measurement of government programs for some time: "...we know how many people take advantage of Medicare, but there are no public reports on the quality of this care. The same is true of education, criminal rehabilitation, and much of the poverty effort..." He further maintains, "Critics of the Job Corps attack the cost per corpsman, while the Corps' effect on the corpsman's life and potential is ignored." [5]

Possibly, just possibly, the social scientist will be able to furnish the accountant in due course with concepts in these areas, from which quantitative standards can be derived.

#### INAPPROPRIATENESS OF MARKET PLACE DETERMINANTS

In business accounting, as has been noted, capital investment, operating costs, and profit are all expressed in dollars. The standards are clear-cut even if not always exact. Since the objective is profit, and profit is dependent upon price and volume of sales (and the effect of price upon the consumer's willingness to buy), the market place becomes the determinant of success. A business succeeds in its mission when it earns profit; it fails in its mission when it does not. Ruthless actions of the market place decree which organizations shall live and which shall die, which organizations shall expand and which contract.

This is not the case with organizations undertaking services to improve "the quality of life". More and more programs with this purpose are performed by government. Indeed, long before the public's current concern with "social" projects, it looked to government for na-

tional defense, police protection, highways and bridges, courts of justice, education, and so on.

But although the inputs to produce such services and facilities have been measurable all along in dollar costs, we still do not have adequate means for evaluating output. In allocating resources, should priority be given to building up the civilian police department or the military? Where will the expenditure produce the most good for the most people? We have no quantitative measurement. We do not know how to evaluate even different levels of military preparedness. We can tally numbers of troops, or planes, or the fire power of weapons, but these numbers do not necessarily measure benefit. What we are interested in is being sufficiently prepared to deter or, at last resort, to repel aggression. Measurement here requires the co-operative effort of military experts, and perhaps civil engineers and political scientists, as well as experts in the discipline of measurement.

The fact that work of this kind would require judgments which are quite subjective and which would derive largely from other disciplines is not new to accountants. In setting up the expected life of equipment for depreciation purposes, for instance, the accountant must rely upon the engineer's opinion as to how long the equipment will last. In valuing work-in-process, the accountant must rely upon the production manager's estimate of the stage of completion. In other matters, the CPA consults the actuary, geologist, appraisers in special fields, and other experts.

The major difference between accounting for business and socio-economic accounting is that in attempting to measure the benefits of such items as national defense, police protection and highways for purposes of setting priorities, there is no market place in which consumers register their preferences.

This distinction should not lead CPAs into thinking that socio-economic accounting is outside the realm of our discipline. It does point up that this function is one in which the accountant's expertise must be co-ordinated with that of other disciplines.

#### ACCOUNTING FOR EFFICIENCY OF PUBLIC SECTOR

Quantification in areas beyond that of business is being performed today, however inadequately. Sociologists, economists and statisticians

all perform accounting (some might call it social-book-keeping) in ways with which their respective disciplines are involved. They do this without an understanding of accounting principles and concepts, without familiarity with budgetary procedures and managerial control.

It would seem clear, therefore, that collaboration among these disciplines and the accounting profession is becoming increasingly critical.

One task which needs doing is to identify areas where information is lacking. Some data are lacking only because we are not aware they are needed. In other cases, data exist but are not being used, or, if they are, are not being properly applied. In many areas all that is required is the competent application of established concepts. In other areas, measurement concepts may have to be invented.

Until quite recently the budget of the Department of HEW did not identify the total services performed or the groups of people affected by the Department's programs which in 1966 cost over \$ 43 billion. In no one place, for example, could there be found the total cost of our country's health services because the programs are spread over the Public Health Service, the Social and Rehabilitation Service, the Social Security Administration, the Food and Drug Administration, the Administration on Aging and the Office of Education.

Under the pressures of a greatly accelerated pace of social evolution our nation is undertaking unprecedented programs without adequate knowledge of the overall costs. If trained accountants were engaged in this problem, solutions might begin to evolve by perceptive dissection of proposals, for the purpose of quantitative treatment. This would assist decision-makers in their priority judgments. The need for such judgments is one of the most important unsolved problems of our day. The President and Congress realize that they need more help in this area.

Out of a federal budget approaching \$ 186 billion, how much should be spent to deal with the causes of poverty ? How much on space exploration ? On highways ? On the military establishment in general ? How important is it that the federal government spends almost \$ 4½ billion on space exploration, and less than \$3½ billion on education ? Programs for the needy take slightly over \$7 billion, or about 10 per cent of our military budget. Is this ratio appropriate? Supersonic transport development takes over \$ 350 million. Could this development safely be postponed ?

Not all questions can be answered and some answers must be based on political consideration. But many quantitative fragments are determinable and would inform and sharpen the action of legislators, administrators and the voting public. Furnishing Congress and the President with the facts and analyses which CPAs can supply would help them to do their jobs more effectively.

As it has done for the private sector of the economy, the accounting profession can help significantly to enhance efficiency in the public sector.

CPAs can do this in several ways : by accepting assignments or positions with government departments, social agencies or foundations; by accepting appointments to advisory commissions and committees involved in economic and social programs; and by arranging for accounting firms to undertake feasibility studies and investigations within these enlarged parameters. But it is not enough to await the opportunity to accept these assignments. For CPAs to participate in this aspect of our rapidly evolving social structure, we should aggressively seek out the challenges. By so doing, we will demonstrate our ability to make significant contributions to social measurement.

The profession has a tradition of responding to the needs of society. Today it has an obligation to respond creatively to new problems.

I believe the time has come to identify and classify these new areas of opportunity and challenge in no less fashion than we have identified and classified new services in the management advisory area during recent years.

#### REFERENCES

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