PRICES IN THE NATIONAL ACCOUNTS FRAMEWORK: A CASE FOR COST-BENEFIT ANALYSIS*

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There are serious questions about the social costs and benefits of extending the role of prices in the national accounts. The costs may be greater, and the benefits smaller, than is commonly supposed. Many important uses of price (and other) data do not require that these data be organized within an elaborate—or even any—framework of national accounts. Also, the basic price (and other) data are still too often very scanty and rough. Would it not be better to devote available resources to improving these data rather than trying to force them, prematurely, into an elaborated set of national accounts?

I

This is not going to be an analysis of the benefits and the costs that flow from placing prices within the framework of the national accounts, or that may be expected to flow from extending the role of prices in the national accounts. As the title of my remarks indicates, my objective is (necessarily) much more modest. I shall be content if I succeed in making a plausible case for such an analysis.

Merely to raise the question may strike some of you as more than a hint of doubt—perhaps even a show of prejudice—on my part about the value of an extension. At the risk of seeming to protest too much, I would deny the prejudice. But not the doubt. I do believe, of course—what economist does not?—in "the importance of prices, not merely as a means for deflation of current price aggregates but as a tool for understanding . . . economic processes," as Simon Goldberg put it in describing his hopes and plans for this session. And, like all of us here, I see advantages in having our price data in a well-organized form. But there are ways and ways to organize the price data. "The" system, or even "a" system, of national accounts is not the only way. And every economist knows also that "there is no such thing as a free lunch"—or a free tool or a costless elaboration of the national accounts.

We have been hearing a good deal, in the discussions here and elsewhere, about the deficiencies and limitations of the price data in the national accounts and how to remove them. Note, especially, the far-reaching proposal made in the recent U.N. report for expanding the price and quantity data in the SNA.[1] Not nearly as much has been said about the benefits that would result from these and other improvements. Nor, beyond the very little implied by suggestions on priorities and reminders about "strains on statistical resources," has anything been said about the costs of the improvements. We need to be clearer on the benefits. We need to know much more about the costs.

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[1] *A System of National Accounts*, Studies in Methods, Series F, No. 2, Rev. 3, Statistical Office of the United Nations, UN, N.Y., 1968.

It might be argued that this is not the time or place for worrying about costs or about the relation between costs and benefits. We are not in a Bureau of the Budget meeting or a meeting of a Congressional appropriations committee, to use the terminology of my country. This is a meeting, rather, of an association of technicians. Is it not proper for technicians to concentrate on ways of improving the information they supply? Granted. But even technicians may not always push aside the problem of limited resources. There is more than one way to improve the price information in (or out of) the national accounts. Which shall we choose to discuss? Which shall we choose to pursue among those we find promising? Also, some of us (particularly those from the smaller or poorer countries) have a responsibility not only for the national accounts but also for other kinds of economic and social information; and for the initial collection, as well as the organization and dissemination, of the data. We cannot ignore the competition among these tasks. We need to give some thought to how we will justify to others, and to ourselves, our requests for funds for new work—*any* new work—on the national accounts, and how we will answer questions about its cost. We have come to take the value of the national accounts framework too much for granted, and to presume—as a matter of course—that almost any elaboration of the accounts is worthwhile.

II

When we are asked, as Goldberg asked, "Where do we want to go from here?", it is not enough to reply that we want better price data, arranged within the framework of the national accounts. "Betterment" has many dimensions.

We could improve the basic price data. More and better allowances for changes in quality could be made. Our samples could be extended to cover more commodities. The reliability of the prices we cover could be improved by lengthening the list of reporters and by getting realized rather than merely list prices. The frequency with which price information is reported could be multiplied. And so on.

Besides improving the data on the prices of final and intermediate goods, we could better also the information on input prices, such as wage rates, salary rates, and rental rates. We could add more information on over-time wage rates and fringe-benefits. And we could ask for more and better information on interest rates of various kinds, including rates at time of commitment of funds as well as rates realized on portfolio holdings; and rates on second and third mortgages, as well as on first mortgages. Indeed, there is need for all the information that Goldsmith has often listed as essential if we are to understand the flow of funds through the capital and credit markets. It is obvious that there are any number of directions we can go to improve our basic price data and that these compete with one another.

Further, what price data there are can be arranged and summarized in a variety of ways. For example, suggestions are being made that we add to the implicit (Paasche) indexes now provided by the national accounts, indexes of the Laspeyres type and also of the Fisher-Ideal or Edgeworth type. We could go further in subsitituting double-deflation price (and output) indexes for the

more usual single-deflation indexes available for individual industries. The various indexes could be calculated on a greater number of bases, comparing chain with direct indexes, etc. Work in these directions is also obviously competitive with improvement of the basic data.

Nor is this all. When deciding "where to go from here," we must recognize that there are other frameworks than the system of national accounts, or the particular system we call the SNA, within which to arrange the price data. Before the 1944 tripartite agreement on the standard system of national accounts,[2] price data (and other information) were nevertheless organized to a useful degree. A choice has to be made here also.

Nor are good and well-organized data wanted for their own sake. The objective, rather, is to deepen our understanding of the drift of events and of the factors that influence their course. This requires not only organized data but also resources for research on economic behavior and policy—again, a matter of competition. To illustrate, some of the time and energy spent in estimating (or maybe only pretending to estimate) double deflation indexes, might have been spent on learning more about the kind, amount, and causes of changes in technical coefficients and in relative prices.

So, the question with which we started leads to another: What are the relative benefits to be expected from the investment of another unit of resources in the various directions mentioned? It is not a simple problem of ordering priorities—first, better basic data, *then* more elaboration of the accounts. Nor should we expect equal returns from equal extensions along the competing dimensions.

III

The question of benefits is difficult partly because we are engaged in a non-profit type of activity. The returns accrue to society at large—they are indirect as well as direct—there is no market measure of their value. To complicate the problem further, a significant part of what we want to add to our work is of an R & D type that (hopefully) will break new ground. There are always uncertainties in determining the output of a research enterprise. Even when the aim is only to follow in the footsteps of others, as in the case of the less developed countries, it is necessary to adapt and adjust to different circumstances.

In addition, we have only vague notions of how to recognize and assess the extent of any improvement in the quality of our price data. It is certainly not easier than measuring improvements in the quality of the commodities to which our price data relate. There is no price differential attached to the data improvement, to which to turn; and surely we may not use the cost of the betterment. Only to a limited extent is it possible to rely on statistical criteria, such as the standard errors now provided to assess the accuracy of changes in the U.S. Consumer Price Index.

One reason why we often run into trouble when we talk about the advantages

[2]E. F. Denison, "Report on Tripartite Discussion of National Income Measurement," in Conference on Research in Income and Wealth, *Studies in Income and Wealth*, Volume Ten, NBER, 1947.

of improved statistics is that we do so without regard to the specific uses to be made of the statistics. It is impossible to decide how much, or even whether, any piece of information is deficient or better or worse than another piece of information unless the use to be made of it is specified. But even given a particular use, how can we determine—even in theory—what difference it makes in that use whether a particular item of information is off, say, by only 10 per cent instead of by as much as 20 per cent? We can hardly say that our purpose will be twice as well served by cutting the error in half. But it will be served better by just 10 per cent (the absolute reduction in the percentage error), or is the proportion something else?

All this is rather abstract, so let me cite an example suggested by the very useful Alterman-Marimont paper.[3] They mention that the Young-Harkins comparison of alternative measures of price change yielded some "rather large" differences. Between the 3rd and 4th quarters of 1965, for example, the GNP implicit deflator (essentially a Paasche index) indicated a general price change of 1.8 per cent (at an annual rate). A 1958-weighted measure (a Laspeyres index) showed an increase of 2.7 per cent—"50 per cent higher." The change in the GNP deflator is, then, off—though whether by 50 per cent or only by the difference between it and (say) the geometric mean of the Paasche and Laspeyres, or by something else, is still a question. How serious is this? How much would it be worth to incur the cost—in this particular case, obviously very slight—to compute both indexes and perhaps also a Fisher Ideal? Suppose the GNP deflator were used by the Federal Reserve Board or the Council of Economic Advisers (as I am sure it is) to judge the rate of price inflation and decide on current steps in monetary-fiscal policy. The value of the additional calculations to them would depend not only on the "rather large" difference mentioned. It would depend also on what had been happening to the index before the second half of 1965; on what other price indexes—the consumer and the wholesale price indexes, for example—were doing; and on still other available pieces of information. Were all these taken into account, the value of "correcting" the GNP deflator might be greatly diminished.

To further complicate the matter, the GNP deflator is under observation not only by the Fed and the CEA but also by many others. What difference would a better index make for their purposes? In a word, we cannot even be sure that we agree with Alterman and Marimont when they call the difference "rather large." There is no easy measure of the benefit—the social marginal product—that would be yielded by an investment in the additional calculations.

IV

Some of the difficulties in assessing and comparing the benefits of competing improvements in the price data can be overcome. I mention the difficulties precisely in order to encourage stronger efforts to deal with them. However, if a choice among possible improvements must be made now, it must be based on

[3]J. Alterman and M. L. Marimont, "Prices and Price Analysis in the Framework of the National Accounts," pp. 143–171. This issue.

an opinion formed despite the existing difficulties. To stimulate discussion, let me express my own opinion.

The resources devoted to prices seem to me to have been misallocated in the past; and I suspect that some current proposals would make for as bad or even worse an allocation. Specifically, there is some tendency to over-estimate the value of organizing price data within an elaborate system of interlocking accounts. The national accounts do have the advantages they were designed to have. They provide comprehensive, general-purpose statistics. But these advantages are inevitably accompanied by disadvantages. These can be serious.

To attain comprehensiveness and formal consistency, one must stretch and squeeze and "estimate" to the point where the accounts yield what might too often be labeled "Potemkin-village statistics." By using this term I do not mean to accuse anyone of deceit. However, it is not going too far to say that some of the information offered to the public in the U.N. Yearbook of National Accounts is more than a bit pretentious. Consider the substitutes for double-deflation used, according to McGibbon and Hill, by the OECD countries, in their efforts to measure the real net output of individual industries;[4] or what Braithwaite tells us in the paper prepared for this session (This *Review*, pp. 117–133) about the subterfuges used in Latin America to deflate some of the major components of GDP; or what is implied about the validity of the government price deflator in the U.S. national accounts, when the Bureau of Labor Statistics restricts itself to presenting national productivity indexes only for the private economy.

Nor are the comprehensiveness and consistency provided (demanded!) by national accounts always necessary. Many data need not be subjected to a cruel and costly Procrustean treatment to be effectively used in production-function analysis, or analysis of saving behavior, or even macro-models. In fact, much if not most of what we have learned in these and other important areas of analysis has been learned from the study of data that were neither comprehensive nor fully consistent—data that were not fitted, or need not have been fitted, into any system of national accounts. It may be argued that in the future it will no longer be possible to rest content with such "primitive" information; that to get at important round-about effects of changes in strategic variables, we will need to use complex models; that we had better start developing the comprehensive and consistent interlocking statistics required by these models. Maybe. We are still far from a substantial degree of consensus on the practical value of elaborate models, econometric or otherwise. These models are still very largely labeled "experimental." Until much more work has been done on them, and a clearer idea obtained of their value and of their data needs, I believe it would be premature to go further in elaborating the national accounts.

Measurement and theory cannot be expected to keep in perfect step, of course. Some anticipation of prospective needs makes sense. But what is being suggested—for example, in the U.N. report on the revised SNA[5]—goes too far to meet what is a rather uncertain need. Theorists and econometricians may

[4]A. T. P. Hill and J. McGibbon, "Growth of Sector Real Product," *Review of Income and Wealth*, March 1966.

[5]See also the paper by A. Aidenoff, "International Comparison of Price Statistics within an Integrated System of Price and Quantity Statistics," prepared for the 1969 IARIW Conference.

eventually succeed in devising practicable large-scale econometric models that prove to be worth their cost. But at this point in time, are we not being offered "a cheque drawn on the bank of an unborn Jevons," to recall Clapham's retort to Pigou?[6] One may view the elaboration of a system of national accounts as itself a worthwhile experimental exercise. But this is not the impression that most people will get when they read the U.N.'s report. If the purpose is indeed to experiment, no great expansion of price (or other) data by all countries is necessary.

I have said enough—perhaps more than enough—to arouse others here to express their opinions. Let me conclude by reminding you that to serve purposes "in general," as the national accounts try to do, is in fact to serve few purposes well. Some, maybe many, of the uses actually made of the national accounts statistics might be served as well or better or at least more cheaply, by statistics less comprehensive and more specifically tailored to the uses. I strongly suspect that we would do better to spend less on comprehensive and elaborate national accounts, and more on improving the basic price statistics. We should be following up—more vigorously than we have so far—the Stigler Committee recommendations, for example.[7] We should be developing the samples of reasonably comparable price and quantity statistics on a quarterly or monthly basis that we must have if we are to understand the short-term changes and the associated leads and lags to which current policy, public and private, must adjust.[8]

V

I have been commenting on the competition among different ways to improve the information on prices, and have thus already raised the question of costs.

There is also the competition between price information and other economic information. I believe that price information, and related information on constant-price values of output and input, have been short-changed in the past, and are in danger of being given less than they deserve in the future. According to the order of priority suggested in the discussion of the U.N.'s SNA, for example, the series of data in constant prices are classified under Priority 2, while Priority 1 covers, among other things, the consolidated accounts of the nation in current prices. Might it not be better to consider the calculation of an estimate of total real output of a higher order of priority than the completion of the accounts, even in consolidated form, in current prices?

On the important question of the cost of economic information in terms of other means of raising economic welfare, I must limit myself to just a few remarks.

[6]J. H. Clapham, rejoinder to A. C. Pigou, "Empty Economic Boxes: A Reply," *Economic Journal*, 1922; reprinted in G. J. Sigler and K. E. Boulding, *Readings in Price Theory*, R. D. Irwin, Inc., 1952.

[7]Price Statistics Review Committee (G. J. Stigler, Chairman), *The Price Statistics of the Federal Government*, NBER, 1961.

[8]Note the difficulties encountered, even in the United States, in getting comparable price and quantity statistics on a quarterly basis for individual industries. See T. Hultgren, *Costs, Prices, and Profits: Their Cyclical Relations*, NBER, 1965.

First, the work of providing information is done not only in government offices but also in the offices and homes of those in the private sector who fill in questionnaires and schedules. Not all the costs appear in government budgets, and we therefore tend to underestimate them.

Second, as Alterman and Marimont point out, many of the suggestions for elaborating the role of prices in the national accounts—they refer particularly to the revised SNA—would require more statistical resources than even the most developed countries can or will provide. That the costs would be high is suggested by the delay in applying the Stigler Committee recommendations and doing more on hedonic prices to deal with the problem of quality change.

Third, in the less developed countries, a smaller share of economic activity is in the market sector. As a result, the difficulties of attaining comprehensiveness and elaboration are greater than in the more developed countries. And the less developed countries can afford the associated costs even less.

Finally, we must recognize that there are absolute limits on what can be done with any amount of resources, to improve our price data and the ways we organize them. These limits are set by the very nature of the dynamic economies that we seek to understand and spur to even more rapid change. All countries, in greater or less degree, experience virtually continuous change in the qualities of goods and services, the appearance of new products and the obsolescence of old, and shifts in industrial structure that "spoil" our classifications. What this means, in terms of a cost-benefit analysis, is that costs may be expected to rise—even accelerate—in relation to benefits, as we extend our work of improving the price data. I suspect that a major value of the efforts by Stigler and Kindahl to determine the differences between realized and list prices of standardized commodities, and of Court, Griliches, Kravis and Lipsey, and others, to apply the "hedonic-price" procedure, is in the information thus provided on the difficulties and costs of correcting our basic data.[9]

We will always have to live with inadequate statistics. Important implications for economic policy flow from this fundamental fact, but these cannot be considered here.

VI

I started with one expression of doubt. Let me conclude with another. Looking to the future, I strongly suspect that no country will ever fully attain the elaboration of price and other information proposed in the new SNA. In time, if the effort should be made, it would teach us that such elaboration is very costly. I expect that experience would also teach us that the benefits can be meagre. But this knowledge will come sooner, and come at less cost, if we inquire now what the benefits and the costs have been and may be. Experts have already told us—and we should listen—that the new SNA would stretch the statistical resources of the richest countries.

[9]G. J. Stigler and J. K. Kindahl, *The Behavior of Industrial Prices*, NBER, 1970. A brief review of the recent literature on the measurement of quality changes appears in Z. Griliches, "Hedonic Price Indexes Revisited: Some Notes on the State of the Art," *Proceedings of the American Statistical Association*, 1967 *Proceedings of the Business and Economic Section*, 1968.

The difficulties of determining social benefits and costs are great. But they cannot be avoided. The difficulties make it all the more necessary not to delay in confronting the problem of costs and benefits more directly and energetically than we have in the past. No less than others we should be prepared to argue our claims on scarce resources, and use the resources we receive in the most efficient way.

In arguing the case for a cost-benefit analysis, I have been acting as the devil's advocate. If I have offended anyone, blame the devil. My own objective has been to arouse discussion.