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Introduction

Murray F. Foss

This volume, the forty-seventh in the National Bureau of Economic Research series on Research in Income and Wealth, contains papers, discussions of papers, and a round-table session that constituted the Income and Wealth Conference held in Washington, D.C., on May 3 and 4, 1979. The conference dealt with selected aspects of the U.S. National Income and Product Accounts, specifically, concepts, problems of deflation and the treatment of quality change in price indexes, and source data.

A conference on the national accounts, a topic proposed by the Executive Committee in late 1977, poses unusual problems these days because the accounts serve many different purposes, which in turn define many different constituencies among economists, economic statisticians, and other users. Some emphasize theory, while others stress numbers. Some place the greatest emphasis on the quarter-by-quarter tracking of economic activity and on business-cycle developments, others on the long-term growth of output and productivity, while still others are concerned with the scope and structure or composition of income and output at a point in time and over time. The several conferences on the national accounts as such have tended to stress—but not exclusively—concepts and structure (see *Studies in Income and Wealth* 1937, 1938, 1943, 1947, 1957*b*, 1958). But even though the underlying conceptual basis must always remain high on what might be called the national accounts agenda, it is no less important to recognize the vast growth of the accounts—since the early postwar years—in size and richness of detail, in frequency of appearance, and especially in usage. Although we probably need not be concerned with the economic implications of the fact that GNP is now

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a household term, it is of economic significance that the national accounts are at the heart of the enormous body of information used by business, government, research organizations, and economists generally for macroeconomic intelligence and analysis. Much of this is employed as an aid in the making of decisions that may have a profound effect on demand, output, and the rate of inflation. Yet there has never been a conference devoted to the accounts as a system of information pertaining to the behavior of the economy, especially in the short run. This informational aspect was a major focus of the May 1979 conference and explains the emphasis of the conference on source data and the need for data improvement.

Another major focus of the present volume is the problem of deflation—adjusting current dollar figures for price change—which has taken on added importance as the rate of inflation has accelerated. Users of the U.S. accounts have long had product data in constant dollars, but in practice such estimates frequently played a role subsidiary to the current-dollar estimates so long as the rate of inflation was low. That has long since ceased to be the case. Nominal GNP must now share center stage with real GNP and the rate of inflation. Both producers and users of the accounts are now forced to pay close attention to a wide variety of deflation problems that were often only of limited interest. One of these is the treatment of quality change. This is not a new problem to these conferences; it was discussed by Denison (1957) in volume 19 in connection with the measurement of capital, and in volume 28 by Griliches (1964) and by Jaszi, Denison, and Grove (1964), but it has taken on new importance in an era of national concern over energy and inflation, and it is a problem over which economists remain divided regarding proper treatment.

The conference started off with a session devoted to conceptual issues, which consisted of one paper by Richard Ruggles, and a second by Franklin Fisher and Karl Shell that the authors subsequently withdrew. The Ruggles paper, the opening paper in this volume, consists of three parts. The first is a history of the accounts since the early World War II period, which uses as points of reference major conferences and reviews that have focused on the accounts. Ruggles's historical approach is extremely useful for highlighting major issues as well as for explaining how the accounts evolved. The second discusses new developments, in which Ruggles takes up sectoring, nonmarket estimates and imputations, and the integration of financial transactions and balance sheets with the national accounts. The third part is a special appendix in which Ruggles offers an alternative approach to the treatment of insurance, pensions, and interest consistent with his "transactor's" approach to the accounts. He also presents household balance sheets for the postwar years with detailed breakdowns for tangible and financial assets.

Although there are a number of points of specific disagreement, Helen Stone Tice, the discussant, agrees with the general thrust of Ruggles's proposals. Beyond this she expresses the wish that Ruggles had spent more time than he chose to spend on certain issues that have come up in the past and that remain unresolved or "tabled." One of these is whether the accounts should be measuring welfare as "*the* primary or at least *a* primary aggregate" (my emphasis). The Bureau of Economic Analysis (BEA), of course, has always been very careful to point out that GNP measures output and not welfare, although the two concepts may be and frequently are closely associated. Tice brings up a topic that is of continuing interest, although one might argue that this interest has varied and may be somewhat less today than it was a decade ago when it was discussed at the Princeton Conference (Studies in Income and Wealth 1973, vol. 38). There will always be disagreement about what should be *the* primary measure because individuals differ in their views about what is most important in a society. Disagreements about *a* measure of welfare that might be included as part of the accounts will revolve around the ability of national income accountants to measure things that are not now measured.

Measurability is especially pertinent to a second issue, namely, whether nonmarket activities should be included in output, that is, whether output should be defined to include market transactions only. This was also discussed extensively at the Princeton Conference (Studies in Income and Wealth 1973, vol. 38). In this respect, BEA has already undertaken a number of studies dealing with nonmarket measures. One provides estimates of the services of the stock of durable goods held by persons, while another deals with the estimated value of government-owned capital (Katz and Peskin 1980; Musgrave 1980).

The third issue is whether capital gains and losses should be included in income. This is an old and difficult topic that has taken on new significance as the rate of inflation has increased. Although Ruggles does not deal with conceptual issues underlying capital gains, he does provide detailed data on revaluations in presenting estimates of changes in household balance sheets.

The second session was devoted to deflation, a main aspect of which concerns quality change. Although the problem of quality change is not a new one in economic measurement and has come up in a number of Income and Wealth Conferences in the past quarter century or so, there has been no resolution of opposing views. One view is that quality change is measured by cost to the producer, while others maintain that utility to the purchaser is the proper criterion. A new view is that both criteria are correct in principle, depending on whether the item in question is an output or an input. This volume contains four papers dealing in whole or in part with the quality change issue. Triplett's paper is concerned exclu-

sively with theoretical aspects and might be read first for seeing the main conceptual problems. Gordon presents an alternative approach to the treatment of quality change that is used by BEA and that is illustrated in the Ziemer-Galbraith paper on government defense purchases. Early and Sinclair tell how the government has handled the quality change issue for a major price index.

John F. Early and James H. Sinclair of the Bureau of Labor Statistics present detailed information on how BLS has actually made allowance for quality change in calculating the Producer Price Index (PPI). Once BLS has determined that a specification change has occurred for an item being priced in the PPI, in practice this change may be handled in one of several ways. (1) When there are no data available for making an *explicit* quality adjustment (the majority of cases), one of two options is employed. (a) Where quality change is deemed "small" (according to procedures adopted on a product-by-product basis), it is neglected. This leads to the so-called direct price comparison. Direct comparison means that all of the observed price change will be recorded as pure price change, with no allowance for quality change. (b) On the other hand, if the BLS finds that the quality change is greater than the cutoff value and therefore cannot be ignored, this leads to the PPI linking procedure. This will show no price change over the month in which the changed item was introduced into the index. Obviously, by calling all of the observed price change quality change, the BLS misses any pure price change that may have accompanied the introduction of a changed item. (2) In some cases, BLS obtains the cost of the specification change from the manufacturer who provides the price data to the BLS, and uses cost as an explicit quality adjustment. Where used for an input price index, cost data supplied by a manufacturer are always regarded as an approximation to the user-value data that are considered theoretically appropriate for the index, on the grounds that in equilibrium the marginal cost of any change will approximate its incremental value to the user.

In 1976, BLS obtained more than 108,000 monthly price quotations for calculating the PPI, of which 455 represented specification changes that BLS treated with one of the procedures mentioned above. A special analysis of six categories of commodities for the years 1970–77 failed to reveal any cyclical patterns in the BLS treatment of specification change. And a detailed analysis of one item—construction cranes—by means of an alternative approach, namely, through hedonic indexes, suggests that if there is a bias in the BLS technique the bias is quite small.

Although the number of specification changes may appear small for an entire year, the authors note that many commodities are products of farms and mines and are not subject to specification change. Also capital equipment items may go for many years without change, and the BLS practice of pricing large-volume items tends to exclude goods subject to

frequent specification change. In his discussion Griliches characterizes the number of specification changes found by BLS as extremely low and criticizes the authors for not having taken independent steps to determine if indeed there is some kind of downward bias on the part of BLS in the uncovering of specification change. Griliches's suggestion for an independent check is a good one. To do it properly probably requires much careful work, mainly in the field, at considerable cost, but the problem is important enough to warrant the effort.

Richard C. Ziemer and Karl D. Galbraith present results of BEA's new study of deflated defense purchases, a topic that is interesting not only because it poses difficult analytical and statistical problems but also because very recently the federal budget has reflected defense policy objectives that have been stated in terms of increases in real defense outlays.

Quality change is an important aspect of defense purchases of major items like aircraft. For these BEA has adopted the same conventions in deflating as it uses elsewhere in the GNP. When a change in specifications takes place, such as occurs with the introduction of a new weapons system, BEA values the change by the cost to the defense producers rather than by the usefulness to the Defense Department (DOD). Consequently, looking at defense purchases deflated in the BEA fashion may or may not tell anything about how much "firepower" the Pentagon has purchased; the figures will ordinarily be silent on this score. However, as a measure of resource use and of how much defense purchases may be impinging on total output, the meaning of this approach is free of ambiguity.

Another feature of the Ziemer-Galbraith study is their comparison of the price behavior of defense items with comparable items priced in the PPI. Their general position is that market conditions underlying the two sets of prices are so different that PPIs, which specifically exclude sales to the military, ought not be used to deflate defense purchases. Marilyn E. Manser, the discussant, felt that the authors should have been more systematic in making these comparisons, which Manser considers very useful. Apparently the authors did not have time for detailed analysis of these comparisons, so these ought to be viewed as the start of what could be a fruitful investigation.

Although the authors do not make this point, it is entirely possible that the DOD price data are a more accurate reflection of general market conditions than the PPI and perhaps should be used for civilian as well as military purposes. Among other things, there is a suggestion that some of the DOD series are more cyclically sensitive than their PPI counterparts. For example, DOD prices of men's apparel peaked in the fourth quarter of 1974, fell sharply until the third quarter of 1975, and did not regain their earlier peak until the fourth quarter of 1977. By way of contrast, the

PPI apparel items fell very little in the 1974–75 recession, and by the fourth quarter of 1977 were 18% above the fourth quarter of 1974 levels. The Ziemer-Galbraith paper by implication raises the question of whether prices are better measured from the seller's side or from the buyer's side.

The treatment of quality change in the making of index numbers is of special interest in an era of sharply higher energy prices. Robert J. Gordon's paper is concerned with quality change as it relates to the price of capital goods, specifically, how changes in maintenance and operating costs brought about by technical change affect the measurement of prices of commercial aircraft.

In the past, most empirical work on quality change has concentrated mainly on dimensional or performance aspects—a truck is a five-ton truck or a crane has a two-ton lifting capacity. The typical problem facing the maker of index numbers arises when the manufacturer indicates that he is dropping one line of his product for which he is substituting a new and improved line, say, a bigger truck or a crane with greater capacity. Technical change, however, can also take the form of products with reduced operating costs as noted in the Stigler Report of 1961 (Price Statistics Review Committee 1961) and by Denison in his 1957 paper.

The quality change issue is an important one in national income accounting. Denison's 1957 paper ("Theoretical Aspects of Quality Change, Capital Consumption and Net Capital Formation," in vol. 19 of the Income and Wealth Series), in which he considered alternative ways of treating quality change in capital goods, could serve as a reflection of BEA's position on this subject. The producer of national income accounts wants a theoretically precise definition of national income or net national product. For this he must know the circumstances under which capital will be kept intact, since the notion of keeping capital intact underlies the concept of income. To measure net capital formation he must have measures of additions to the capital stock (gross capital formation) and subtractions from it (depreciation and discards) that can be combined, and this requires magnitudes expressed in terms of the same prices. The problem of obtaining appropriate price indexes is especially difficult in capital goods because of quality change.

In the Denison view capital goods are considered equal in quality if they have the same cost in a given year, and not necessarily if they make the same contribution to production. With this criterion used for price indexes and deflation, the value of today's stock of capital goods in base period prices is what it would have cost to produce those same goods in the base period. Today's additions to the capital stock expressed in base year costs are what it would have cost in the base year to acquire the resources used to make today's additions. Similar considerations hold for deletions from the stock.

The approach that measures quality change by the specific contribution a capital good makes to production is viewed by Denison as an alternative that also has validity from a theoretical point of view, but one that is impractical and therefore to be rejected. The national income investigator cannot possibly have the required data for such a calculation. Only the user of the capital good would have the requisite information, and even the user would be confronted by practical difficulties in implementing this approach.

Gordon believes that many regulated industries provide information that can be used to evaluate quality change. In an industry like commercial aircraft, detailed information is available on costs associated with the shift, say, from turboprops to jets and among various vintages of jets. Gordon concludes that, when the savings in operating costs of the airlines are accounted for, the price of new aircraft declined at an annual rate of 7.5% from 1957 to 1971 instead of increasing by 2.6% per year as shown in official figures. Gordon feels that his approach has considerable potential to the extent that similar information is available in other regulated industries, which, it may be noted, account for a sizable share of business fixed capital.

In his comment on the Gordon paper, Triplett raises the issue of whether fuel savings from more fuel-efficient aircraft should enter a measure of airline costs in the form of an adjustment to aircraft prices. He concedes, however, that in a fixed-weight price index quantities cannot adjust, so the Gordon estimate gives an overall measure of input costs to the airline industry that moves in the right direction.

At the conference much of the discussion of Gordon's paper concerned its theoretical section. Triplett sketched an alternative conceptual approach to the problem of evaluating quality change in price indexes, which is incorporated in expanded form in the volume.

Triplett has extended the usual theories of price and quantity indexes, which deal with price and quantities of *goods*, to *characteristics* of goods. This is because in Triplett's view the quality of goods can be thought of in terms of specific characteristics, like the speed of a machine or its, say, lifting capacity. In his view, quality can be thought of quantities (in a vector) of characteristics, that is, quality change is intrinsically quantifiable. Also, following Fisher and Shell, Triplett uses a framework that distinguishes between input price indexes and output price indexes, except that the indexes refer to characteristics rather than to goods in each case. With an input price index, when relative input prices change and substitutions of one input for another are possible, the theoretically correct measurement of the price change requires that production in the industry using the inputs be held constant. When a quality change adjustment must be made, use of the criterion *contribution to output* or *value to the user* of the input assures that the inputs correspond to points on the

same production isoquant. When dealing with output price indexes, however, the appropriate criterion for measuring price change is keeping resources constant. Given constant endowments of the factor inputs, as relative output prices change the mix of outputs can vary along a production possibility curve. For making a quality change adjustment in output prices, use of resource cost as the criterion assures that numerator and denominator of a price index correspond to points on the same production possibility curve.

For many purposes distinguishing between input prices and output prices is important; it clears up many theoretical problems that otherwise seem to require contradictory solutions. It is important to keep in mind, however, that there is a big gap between Triplett's pure theory and its implementation. For example, Triplett's theory requires that goods be defined in terms of characteristics, but that may prove quite difficult. Also, practical considerations dictate the use of fixed weighted indexes, which are inherently biased in terms of economy theory, but that does not mean that there has been no progress in measurement or that measurement should cease. And whether one uses a resource-cost or user-value criterion, actual data for making quality change adjustments are without question not easily obtained.

The remainder of the conference was concerned for the most part with data problems and consisted of a round-table discussion, an econometric study of data revisions, and critiques of a report on the source data used for the calculation of the national accounts. The round-table session was designed to elicit views from prominent users of the accounts. In this regard, it could be viewed as a replay—on a much smaller scale—of the papers prepared for the fiftieth anniversary of the *Survey of Current Business* in July 1971 (*Survey of Current Business* 1971, vol. 51). Given the many changes over the decade—the expanded utilization of the accounts, the growth of short-term econometric models, the increased rate of inflation, the “stagflation,” and the decreased self-assurance among macroeconomists at least—the round-table session was well worthwhile.

All of the users in the panel had extensive experience with the accounts. Each panelist was free to choose his subject matter but each was requested to discuss the accounts in the light of his special experience. Each was asked also to submit a very short written statement, which is reproduced in the volume along with some of the subsequent verbatim discussion, which has been very slightly edited.

The two models builders expressed rather different points of view. Lawrence Klein of Wharton presented a list—a “wish list” as he called it—that gave considerable emphasis to issues raised in Klein's presidential address before the American Economic Association in December 1977 (see Klein 1978). He wants to analyze inflation in a more satisfactory

fashion and consequently wants more frequent and timely input-output tables, which would provide a much more detailed breakdown of costs than is ordinarily available from, say, census sources.

Otto Eckstein of Data Resources, Inc., expressed the view that national income economists devote too much time to national income concepts and not enough time to the statistics. Eckstein is less concerned with what the accounts ought to measure and more concerned with the accounts as a body of information. He probably reflected the sentiments of the very large and growing number of economists who are engaged in assessing current economic conditions and in making short-run forecasts of the economy for their employers or clients and who are mainly concerned with an accurate portrayal of history, especially very recent history, like the latest three months or the last year or two.

Eckstein feels that series which represent little more than the filling of gaps in coverage or series that are guessed at in order to bring about conceptual completeness have little information content. He cites the inventory valuation adjustment (IVA) as an example of the latter. Few would disagree that the inventory valuation adjustment is subject to a considerable estimating error, especially quarterly. But BEA has always shown the IVA explicitly and anyone who prefers book profits to the national income accounts (NIA) version can always subtract the IVA from the NIA figure to arrive at the book figure. One would think, however, that the NIA version of inventory change or profits has much more information than the book figures. The same is true of the capital consumption adjustment, which Eckstein also singles out for criticism.

Speaking about his role as a policy advisor, Alan Greenspan focused on the importance of very up-to-date statistics as an aid in assessing current economic activity and the near-term outlook. He gave an example of using weekly data for appraising the business outlook in late 1974—early 1975 and deplored the discontinuance of weekly series on retail trade that he found especially useful at that time. That points up a continuing problem, namely, accuracy versus timeliness, a subject discussed at greater length in the session on the Creamer Report. Here it is worth noting that the amount of quarterly detail now shown in the accounts has expanded considerably over the years. The amount of industry detail has also expanded. Denison criticized changes in industry classifications made by the federal government in the Standard Industrial Classification, since the logic of the changes is often not clear and the changes themselves obstruct long-term industry comparisons. The issue raised by Denison, whose main interests have been in long-run change, is a nettlesome one. In making classification changes the government apparently gives considerable weight to industry requests, which have been heavily influenced by shorter-run considerations of sales and marketing.

Some statistical and conceptual issues that arise in an era of inflation were the focus of remarks by the late Arthur M. Okun. He noted that in principle there are two basic ways to measure real output—direct measurement (as is done, e.g., for most series of the Federal Reserve Index of Industrial Production), and by dividing a series measured in current dollars by a price index. In practice BEA uses the latter technique for much of what it does because most goods are too complex to be measured directly in terms of physical quantities. But the greater the volatility of price behavior, the more difficult the deflation, especially when the price data are collected quite independently of the dollar series that must be deflated, like retail sales, manufacturers' shipments, etc. This is partly because the federal statistical system is decentralized and the agency responsible for the collection of price data (the Bureau of Labor Statistics) is different from the agency responsible for collection of sales data (the Bureau of the Census). Okun put in a plea for more physical volume data, partly to supplement estimates derived through deflation and particularly to use as a check against possible bias in the deflation procedure (see also Usher 1975).

Okun also raised some conceptual points, the most important of which dealt with inflation adjustments. He asked whether the IVA should be applied to book profits alone, as is now done, or to the sum of book profits and corporate interest paid. He favored the latter, since both stocks and bonds are used to finance capital formation. The bond purchaser makes his purchase with the expectation of a certain rate of inflation. If he is wrong, he bears the real risk. To apply an inflation adjustment solely to stockholders is potentially misleading.

Anyone with only a slight familiarity with the accounts has to contend with frequent revisions in the data. For most regular users the revisions are an annoyance, but most persons recognize that revisions are the price that must be paid for more accurate information. The important issue is whether the revisions make a difference. One way to test this is through an econometric model. The paper by Grimm and Hirsch discusses how the statistical revisions published by BEA in January 1976—a so-called benchmark revision—affected the structure of the BEA econometric model, and how the revisions affected projections of key variables like GNP, real GNP, the rate of inflation, and the unemployment rate.

One of the main findings of the Grimm-Hirsch paper was that even though statistical revisions were responsible for some large revisions in individual structural parameters, basic properties of the model were not changed very much. Early quarter multipliers were little changed as a result of the revisions. Thus if one is interested in the overall behavior of the economy the revisions are of no crucial importance; if interest centers on industry detail, however, the story is quite different. Grimm and Hirsch also found that revisions helped predictive accuracy to some

extent as a result of better measures of initial conditions, exogenous variables, and revised estimates of parameters. But forecasts of the 1974–75 recession, improved or not, were poor, a verdict that few forecasters of any type—econometric or judgmental—can escape.

The final session of the conference was devoted to source data. Although use of the national accounts has grown enormously in the past several decades, the underlying data and the estimation techniques employed by BEA have never been the exclusive subject of a detailed study. In this regard the report of the Advisory Committee on Gross National Product Data Improvement—the Creamer Report—breaks new ground in its examination of the statistical bases of the accounts and in its extensive recommendations for improvement (see U.S. Department of Commerce 1977).

The session was made up of several short papers, each of which was designed to give a critical evaluation of major parts of the report and which are answered by the late Daniel Creamer, chairman, and some members of his committee. Morris Cohen was asked to provide an overview of the entire report and to look at it from the point of view of the business cycle. The relevant question for the business cycle is how well the report treats the statistical problems of measuring and analyzing the cyclical behavior of the economy as seen in the accounts. Ronald E. Kutscher discusses how well the report treats the statistical problems of measuring and analyzing long-term growth, as BEA defines output. The qualification is important since alternative concepts of output were not the subject of this session. Albert Rees looks at the report's treatment of the statistical problem of deflation—in practical terms, the BLS price indexes and BEA's use of them in deflation. Finally, John A. Gorman examines the chapter dealing with the flow-of-funds accounts. The program committee also thought it appropriate to invite comment from the Bureau of Economic Analysis; this appears in the remarks of Robert P. Parker, chief of BEA's National Income and Wealth Division.

When we focus on the business cycle we are focusing on the quarterly statistics in the national accounts. These are the statistics that receive the most publicity in the news media and consequently have the greatest effect on perceptions of what is happening in the economy. They are figures that businessmen and government officials use most in making short-run policy decisions. In fact, the Creamer Committee came into being because economic policymakers in the early 1970s felt that the quarterly figures were not giving a reliable portrayal of economic developments.

Morris Cohen felt that the periodic benchmarking has tended to have a dampening effect on cyclical movements, a charge that Rosanne Cole illustrates very nicely in her rebuttal. But where Cohen held that some of the business cycle has been lost—an opinion shared to some extent by

Otto Eckstein in his remarks in the round-table session—Cole felt that the revisions are clearly closer to the truth. If there had been a discussion of how basic census series are revised, one could see that the revision technique—which tends to be linear adjustments—must have this effect. No doubt that on average this does yield the best results and has the virtue of being easy to carry out, but it does not necessarily give the most accurate portrayal of cyclical movements. From a business-cycle point of view it would seem desirable to collect not only annual data, say, in the Annual Survey of Manufactures, but monthly data as well for certain important series.

There are a host of problems associated with the deflation of current dollar magnitudes by price indexes. Estimates of real output can be no better than the prices used for deflation. One of the most important recommendations by the Creamer Committee is that the BLS base its PPI on shipment prices. Since BLS prices are now a mixture of prices in shipments and prices in new orders, this recommendation, which BLS is now implementing, should greatly aid the process of deflation. In this connection it is worth noting that Albert Rees raises the question of whether prices in shipments will provide an accurate portrayal of current market developments. For evaluating current market conditions one would want a price at which new orders are taken, but since new orders are not encompassed in the national accounts the Creamer Committee did not address itself to this question. It seems fairly clear, however, that an index based exclusively on shipments will lag behind current market developments, and the lag will vary over the cycle. Both types of prices are needed, since both objectives of price measurement—market evaluation and deflation—are important.

Ronald E. Kutscher's remarks were concerned with long-term growth. BEA conducts a major overhaul of the accounts at infrequent intervals in the so-called benchmark revisions. The benchmarking, and the comparison with existing levels of product and income extrapolated from the last benchmark, are done in terms of current-dollar measures, for which a considerable amount of new statistical material, like the quinquennial economic censuses, becomes available. But one of the most important questions one really wants answered in comparing two periods separated by five years or more is how well the published figures have tracked the rate of growth in real output. That question can be answered only partially in the sense that the set of prices used by BEA for preparing final estimates of deflated output is little different from the set of prices used for the preliminary estimates. In comparing the change in GNP between benchmark years with previously published data, the absence of error in current-dollar terms strictly speaking says nothing about the components of change, since there may be offsetting errors in the underlying real output and price components.

In his discussion of chapter 9 of the Creamer Report, John A. Gorman called attention to the large differences that exist between personal saving as measured in the national accounts and as measured in the flow-of-funds accounts. The two are equivalent conceptually but are derived from different statistical sources. One thing they have in common is that both estimates are derived as residuals. Gorman noted that from 1968 to 1978 the level of personal saving from the flow-of-funds series is much higher than that from the national accounts; moreover, on two occasions the two series show year-to-year changes that differ in direction. Even when they do agree in direction there are three instances where the differences in movement are greater than one-half of 1%.

Gorman made comments on all nine recommendations in this chapter and noted that only one would help reduce the discrepancy between the two personal saving rates. In response, Stephen Taylor remarked that, since all household items in the flow-of-funds are derived as residuals from information pertaining to other groups in the economy, any improvement in this nonhousehold information is bound to have a beneficial effect on the estimate of personal saving.

Robert P. Parker of BEA called attention to the fact that many of the recommendations made by the Creamer Committee had already been put into effect, while other recommendations were in the process of being implemented. In addition, among other things, Parker told of efforts BEA has made to engage in discussions with official bodies of the public accounting profession in order to make known the special needs of the national accounts. One can see great mutual benefit from such discussions if they materialize.

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