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8 The GNP Data Improvement Project (The Creamer Report)

In 1973, the Statistical Policy Division of the Office of Management and Budget formed an advisory committee to investigate the quality and timeliness of the data underlying the national economic accounts and to make specific recommendations for data improvement. The late Daniel Creamer was chairman of the committee, which consisted of five outside experts and a small staff.* The committee issued a preliminary report in the fall of 1977 and a final report around the time of the Income and Wealth Conference in the spring of 1979.† That report—whether preliminary or final is immaterial—was the subject of the last session of the conference.

Since the report covers a vast amount of very detailed material pertaining to the underlying statistics, it was decided to organize the session along lines of general interest to economists: the business cycle, long-term growth, price measurement, and the flow-of-funds accounts of the Federal Reserve. Each brief critique is accompanied by a rejoinder from a member of the committee or from a person who assisted the committee. Also, Robert Parker, chief of the National Income and Wealth Division of the Bureau of Economic Analysis, was asked by the conference chairman to provide some remarks.

*Other committee members were: Rosanne E. Cole, Edward F. Denison, Raymond W. Goldsmith, Alan Greenspan, and John W. Kendrick.

†U.S. Department of Commerce, Office of Federal Statistical Policy and Standards, *Gross National Product Data Improvement Project Report*, Report of the Advisory Committee on Gross National Product Data Improvement (Washington, D.C.: Government Printing Office), 1977.

Overview and Business Cycle Perspective

Morris Cohen

The Creamer Report represents the first full-scale outside review of the statistical adequacy of the national income and product accounts (NIPAs). True, over 20 years ago the National Accounts Review Committee appraised the accounts, but the emphasis then was on concepts. The Creamer Committee made no attempt to get involved in the conceptual framework. Rather, it concentrated on data improvement.

As everyone knows, the report would have been impossible without the full and what appears to be the complete cooperation of all the involved government agencies. The report shows so much comprehension of the ins and outs of this complicated system that, as an outside reviewer, I can only salute the small staff who drafted the report. The publication will, I am sure, make possible a better understanding of the strengths and weaknesses of the accounts under review. However, the long delay between the writing of the report and the final publication is deplorable from the point of view of those outside the process. The various government agencies, of course, have had access to it and indeed have been acting on its recommendations for some time. The Office of Federal Statistical Policy and Standards, now in the U.S. Commerce Department, has reported on the actions taken in the 1980 statistical budget in following the recommendations.[1]

It is quite clear from what I have already said and what I am about to say that I am highly enthusiastic about the thrust of the Creamer Report. To be sure, I would have preferred the report to be in the public domain for some time now. I assume that the review took so long and that the further time lag from report to the present conference, at least in part, stems from the huge tasks undertaken. After all, the committee was established in 1973, worked for 4½ years, and set forth a time frame for recommendations that go through 1983. Rather than wait another 10 years for a succeeding full-scale, perhaps gargantuan, review, I would urge that in the future these reviews or audits take place on a more timely basis, perhaps every five years at the minimum, perhaps even more frequently than that. If such a shortened schedule were followed, the report would not have to be so overwhelming, and a timely check could be undertaken between what was recommended and what did or did not take place and, particularly, the reasons why it did not take place. Above all, now that the first big review is finished, I again urge that subsequent reviews take less time from inception to public birth.

The scope of the report can be realized when one examines the over 150 recommendations which represent the focus of all the work and the suggested year-by-year timetable. I am tempted to close these remarks

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with the flat statement that the estimated $25 million cost to the government (in 1976 prices) seems a pittance in light of the expected benefits to be gained, and, therefore, the report should be endorsed by the conference, of course after due deliberation. Seriously, though, it must be recognized what we are talking about. We are talking about a program of improved data gathering by the decentralized statistical agencies of the U.S. government. The purpose is to make the national income and product accounts (including flow of funds, balance of payments, etc.) even more useful and trustworthy than they already are. In somewhat different language, while the various statistical reports, say, for example, the monthly manufacturers' shipments, orders and inventory series, will be improved, what really counts even more is the contribution that these improved statistics will make to the national accounts. As the report itself notes, the committee was concerned with the statistical shortcomings of the GNP estimates. This conference should reinforce the emphasis on a fully articulated system of national accounts broadened, of course, to include flow of funds, balance of payments, etc., as the keystone for a better comprehension of a modern industrialized economy on a national basis, and eventually on an international scale.

I want to say some more about costs of data improvement, particularly the cost to the respondents. It is one thing for the committee to urge the government, which after all asked it to do just that, to add to the statistical budget. It is another thing to realize what the costs to the respondents might be. I found very little of this in the Creamer Report. I do believe that it has to be considered and strategies developed which would improve cooperation between the business community and the federal statistical agencies. The Census Bureau in recent years has begun a major effort to inform data users about what the census does, and this operation, with field representatives in major cities across the country, is bound to help bring about a better understanding of what the census tries to do and what it means for respondents. Perhaps now is the time to raise such a question about the national income accounts. We should try to bring this home to the people who fill out all the forms, as well as to the executives who approve the spending of company funds for the bigger and better statistical reports that we all seem to want so much. Perhaps the Commerce Department, through its various field offices, could also begin the educational task of explaining the significance of the national accounts to the ordinary accountant or statistical clerk at the company level. The recent expansion of the regional accounts, prepared by the Bureau of Economic Analysis, might be the mechanism whereby local interest could be attracted in the first place. Everyone in the business knows how important the cooperation offered by the reporting business firms can be in improving the accounts. Let us spend at least some time and effort in working together for this needed cooperation.

Turning to the report itself, there is no useful purpose to be gained by reviewing in detail the long list of carefully prepared recommendations for improvement. I do want to make some general observations on statistical methodology. In fact, I am compelled to make them since I did not realize that important if not key surveys underlying the national accounts were characterized by what I would insist is faulty methodology. I assume that, since I did not know this, then many other interested users of the national accounts did not know this either. All this, in passing, points up the great usefulness of the Creamer Committee's deliberations and report, particularly since most users of the statistical data do not have a full handbook on how the national accounts are prepared. Without this, one has to dig deeper, and that is the great service the Creamer Committee performed.

I was surprised to learn that the BEA survey of plant and equipment does not ask for revised data for prior times periods. The report also stated that this was true for the Census Bureau monthly survey of manufacturers' shipments, inventories, etc., but the bureau's own survey forms suggest that the report is in error. In any event, anyone who has ever conducted a continuing survey of business reporting knows how important such revisions can be.

I would like to underscore one of the general recommendations which calls upon the major federal statistical agencies to prevent deterioration in the quality of existing data in some of the sample surveys. I shall have more to say later about one of these surveys in particular. Perhaps the recommendation should have been broadened to establish review proceedings for some of the principal sampling surveys that involve experts outside the government itself. The National Bureau of Economic Research report on inventories, still unpublished, came into being after the fiasco of 1973–74 when inventory change was vastly understated in the preliminary GNP estimates. The lesson clearly is to stay ahead of the problems, not to react to them. While the Creamer Committee from time to time tries to do this, I would have preferred greater emphasis on the prevention of problems. True, there is a recommendation, which I heartily endorse, which calls for setting up the capability in the Federal Statistical System for quick surveys.

We should reflect for a moment why we need this capability. In a dynamic society that is growing more internationalized, sampling frames and survey questions based on knowledge, that is, benchmarks five to ten years old, and sometimes even older, can often fail to capture big shifts in behavior. Sampling surveys can tire with age just as humans do. Retraining sometimes helps to refreshen careers. New surveys, not in the mainstream of established procedures, might be able to capture some dynamic changes before the results of existing statistical samples that may be asking the wrong people, or not asking the right people, or asking the

wrong questions become invalidated. As part of the review procedure, therefore, and without waiting for the next big formal review, there should be a mechanism which would enable the questioning of current samples and methodology. This could be concentrated in areas where there may be a suspicion that something is awry without it being a crisis. To quote the report: "Most users of the national income accounts need to be reminded that gains in firmly grounded statistics are not always held. That is, the quality of a particular statistical series can deteriorate and the trend may not be easily reversed. This is illustrated by the deterioration in the early 1970's of the currency of the survey sample of monthly retail trade statistics."

There is a minor gap in the Creamer Report which I suggest might be of assistance on this point. Throughout, the suggestions and recommendations are made in the name of the distinguished body of experts that comprised the committee. May I suggest that, in the future, more experts get involved in the process of improving the statistical methodology underlying the national accounts. These experts could also be outside the membership of the Conference on Research in Income and Wealth. Take the case of retail sales, surely a major component of current GNP estimation and a series already referred to earlier and which receives much attention in the Creamer Report. Why don't we have an advisory committee drawn from leading retailers, trade associations, professors of marketing, etc., who might be more aware of current institutional developments than senior civil servants have time to be. Some small investment in perhaps a half dozen such committees could possibly produce a big payout.

Improving the data base for the national accounts involves many statistical agencies besides the Bureau of Economic Analysis. The activities of two agencies in particular deserve comparison and hope for the future. I refer to the Bureau of Labor Statistics and the Census Bureau. My main point is that statistical agencies must themselves get involved in the analysis of the data they produce. In recent years, the Bureau of Labor Statistics has been doing this, and in my view this shows up in an improvement in their price information. While no one can say that the millennium is here on price statistics, no one can deny that major steps have been taken in improving price statistics, with the Producer Price Index a big forward step. I shall have more to say about prices later, but improvement should be recognized, and in particular the link with internal analysis of the home-grown statistics should be applauded. By comparison, the Census Bureau has yet to begin this process. Their search for personnel has begun, but the internal research effort of the Census Bureau is not yet off the ground. As an outside reviewer, I can urge that this be done and regret the fact that the Creamer Committee failed to mention this point at all. It is one thing for outside experts, including

experts in allied agencies like BEA, to lecture census officials; it is another for one census employee, a research analyst, to talk over a luncheon table with another census employee, a sampling statistician, about the significance of collecting certain data in a certain way. I believe that with time such an internal research effort could have a potentially giant payoff.

Let me turn now to my main function, namely, to appraise the Creamer Report from the perspective of business-cycle analysis. As a general proposition, I would urge that as much attention as possible be paid to measuring current developments at the time they occur. The basic philosophy of the GNP system goes back to Simon Kuznets who was always very interested in basic long-term economic trends. His emphasis on the commodity-flow method of calculating the national income accounts has carried over to the present. I would add, of course, that the integration of the input/output tables into the estimation process represents a postwar development that still has a long way to go. Nevertheless, I am afraid that the present system as I understand it still tends to make the long term the basic point of reference. No one is at fault when I make this charge. Clearly, the accounts have to be heavily dependent on the quinquennial census benchmarks. These economic censuses, now taken every five years, comprise the heart of the GNP system. The younger members of the profession should be reminded that, prior to World War II, the manufacturing census was taken every two years. So we must now make do with benchmarks that are five years apart, not two as in Kuznets's day, and the Creamer Committee has a number of fine suggestions for improving the current economic censuses. The report also recommends several new censuses to plug up major information gaps and calls for special studies of construction, still a field that requires much more work.

The problem as I see it with the national accounts is the effect that benchmarking procedures have on the history of business cycles. After all, the more complete data are available only once every five years. As the five-year benchmarks are put into place, and typically, as we have observed, this means upward revisions despite recognition of the problem of births and deaths of companies, the business-cycle developments in between are not refurbished with new information. I am afraid that this process has a tendency to distort the historical pattern of business cycles as they are reflected in the national accounts. To be sure, the cycle has other dimensions as well, as many business-cycle indicators are independent of the national accounts. Yet I wonder at times about the significance of business-cycle developments that are measured with national account sectors including percentage changes from peak to trough in a wide variety of sector subcomponents.

All of this means that a great deal of emphasis should be placed on measuring the current changes in the economy as they take place. As the

report notes: "Even annual estimates are too infrequent for developing fiscal, monetary, and income policies associated with pursuing the employment and purchasing power goals of the Employment Act of 1946. Satisfaction of this very legitimate need led to the development of monthly estimates of personal income and quarterly estimates of NIPA with the explicit understanding that the estimates would have far less published detail than the annual estimates and were bound to be subject to larger estimating errors, a necessary consequence of trading timeliness for accuracy." I would go on to add that the tradeoff in terms of money might be somewhat greater emphasis on more accuracy for the contemporary short term, perhaps at the expense of greater accuracy for the long term. I know this is controversial, but perhaps we have not spent enough time and money in bolstering the short-term and have worried too much about the long term. It is one thing for scholars, like Kuznets, to be concerned with depicting major secular changes in the economy. It is another for government policymakers, and, may I add, private sector decision makers as well, to depend heavily on short-term changes in the national accounts which get revised rather drastically when the benchmarks become available many years later. One wonders, at times, what the history actually has been.

The most important point I want to make about the usefulness of the national income accounts for the business-cycle watcher has to do with the question of how to appraise the current strength or weakness of the economy. This is a question that interests not only policymakers in Washington but private persons throughout corporate America, and indeed throughout the world. I take it for granted that on a contemporary basis it is always going to be difficult to be highly confident about any particular set of statistics, even the highly massaged current GNP estimates in real terms. I think this is going to be true even after every one of the over 150 Creamer recommendations is carried out through 1983.

I want to urge a higher priority than the committee gives to the proposition that a great deal of attention should be paid to the comparison of the current behavior of the national income accounts and the Federal Reserve Board's Index of Industrial Production. The committee does recommend that the BEA and FRB should get together on this issue and that periodic reports be published. I would go much further. To be sure, some work has already been done on this comparison, and more references can be seen in the publications of the BEA. I have not yet seen publications from the FRB staff written from their perspective. I would urge strongly that they begin to do this. I would go on to urge that some neutral organization bring together these two proud agencies in an attempt to grapple with the problem of measuring contemporary economic activity. Somewhere in the government, there should soon be a regular report which compares these and other measures of economic

activity, points up the differences, reviews the similarities, and then concludes what is known or not known about the business cycle.

A quick review of the quarterly patterns of economic activity in 1978 shows some major differences in the two measures. For example, the economy in the third quarter of 1978 was a lot stronger according to the production index than according to the national accounts; the reverse was true of the fourth quarter. If one assumes, merely for the sake of argument, that the production index is closer to the truth than the national accounts, then it would follow that inventory accumulation was a lot stronger than the national accounts are presently showing. Thus the important question gets highlighted quite quickly. How accurate are the current inventory statistics, adjusted for inflation? Is this something public and private authorities should worry about? I would argue that it is, given the experience of 1973–74. That is only one example, and there are others, one of which I shall highlight later on, namely, the question of capital spending estimates. I am pleased that this comparison has begun to be taken seriously in recent years. I want very much to speed up this process, and on this point I view the Creamer Report as too conservative in its approach. They took a traditional tack, listing a wide variety of needed improvements. I want very much to upgrade the problem and its potential solution, so that by the time the next data improvement report is written it will include a section on how the comparison strengthened estimates all around.

The interchange between the Creamer Committee and the BEA, which has already resulted in important changes in procedure, must be commended highly. There is no question in my mind that the BEA is very much interested in the current business cycle, and this shows up in their highly illuminating commentaries in the *Survey of Current Business*. The fact that the allied publication, *Business Conditions Digest*, now emanates from the same agency may be having an impact. Therefore, among the mild brickbats being tossed out in this paper, there has to be very strong approval of two innovations which came about with the Creamer Committee. First, there is now being published on a contemporary basis the judgments made in quantitative terms about the unavailable data for the so-called 15-day estimate that plays such an important role in appraisals of current overall business activity. Second, the newly instituted 75-day estimate now means that users have access to all the current information articulated in contemporary estimates, without having to wait for the annual figures that come out the following July.

What still remains, unfortunately, are sizable historical revisions that obviously present great processing problems and thus have to be postponed. It so happens that prior to the publication of the 75-day estimate of fourth quarter 1978 GNP, in March 1979, the Census Bureau released a major revision of retail sales and inventories, but the effect of this on the national accounts was postponed to the annual revisions in July 1979.

One can understand why this was done, but perhaps someday it will be possible to incorporate such major revisions into the data when they become available. As a general proposition, all known information should be incorporated into the national accounts when available, and the sooner the better. Such a principle leads me to support the Creamer Committee recommendation, for example, that calls for use of special reports prior to the full-scale benchmark revisions. This means in effect that I give higher priority to current and recent information even if the trade-off is some distortion in secular patterns.

At times, the profession can get so concerned about all the details that it can overlook the main point, that continues to elude us, namely, a better understanding of the current business cycle as it unfolds. True, the Creamer Report has served a useful purpose in highlighting the errors revealed by the 1963 and 1967 benchmark estimates. It also usefully pointed up the frequent errors in the quarterly estimates for inventories, inventory valuation, net exports, farm and nonfarm residential construction, and many of the components of producers' durable equipment. I want to express a very important personal judgment that the biggest lack in the national accounts today is their failure to reveal fully the true nature of consumer behavior. Once upon a time, it was believed that the consumption function was written in concrete and that it could be depended upon in all seasons. Today, all of us know a lot better. Even though the Creamer Report devotes much attention to the various pieces of the consumption function, I would add the following major recommendation. As part of the data improvement project, there is an overwhelming need for an ongoing and continuing quarterly consumer survey that attempts to measure income, spending by broad categories, and hopefully saving. To be sure, such a survey is under study today and is mentioned in the report as something that will be put into place some day. I would argue that such a survey is long overdue.[2] It would enable analysts to make better judgments about consumer behavior. Even five years after the event, no one really understands why consumption expenditures collapsed in the fourth quarter of 1974.

Such a survey, which I would put at the top or close to the top of the list of recommendations for overall data improvement, might even prove to be helpful in buttressing the national accounts. Indeed, scattered throughout the report are references to what such a continuing survey could do to plug up some existing information gaps. At present, great reliance has to be placed on the personal saving estimates, which everyone knows leave much to be desired. This has long been the case, and it is not surprising considering its residual nature. I am on the side of the Denison dissent about the recommendation for monthly estimates of personal saving. This recommendation evidently is about to be implemented, and I agree with him that monthly estimates will not help since the quarterly ones are subject to such substantial errors. What could

help and what is required, given the historical development of the accounts, would be a greater concern about a formal reconciliation between the flow-of-funds estimates of individual saving and the national income counterpart of personal saving.[3] As matters stand now, these two parallel series exist side by side with very little attention paid by anybody to this fact. This has been true for decades. On a personal note, when the author was a junior economist at what was then the Office of Business Economics he had a hand in one of the first attempts to reconcile saving as measured in the national accounts and saving as measured directly from the financial side. Little progress has been accomplished on this front over the ensuing three decades, and the problem cries out for some solution.

It is one thing to note the discrepancies that exist between the national income accounts and the flow-of-funds accounts, which the appendix to the flow-of-funds chapter in the report dutifully lists; it is another to put together a program that forces these two approaches to a reconciliation. Assuming that the flow-of-funds measure of individual savings can be strengthened, it might be a worthwhile goal to introduce a direct measure of savings into the national accounts and show a statistical discrepancy between it and the personal saving residual. My main point is the urgent need to improve understanding of consumer behavior. Clearly, the personal saving estimates currently cannot be relied upon for this purpose. New and perhaps revolutionary approaches may be required.

The Creamer Committee's chapter on data improvement for the national accounts in constant prices deserves some comment from the point of view of business-cycle developments, and perhaps even more so for the purpose of the whole game. It is now axiomatic that what counts for measuring economic activity in an age of inflation is real, not nominal, GNP. The great bulk of the report necessarily dealt with the nominal accounts. The chapter on prices was easy to write. All one can say, and the committee said it quite succinctly, is that the Bureau of Labor Statistics should have every opportunity to prepare price indexes that are meaningful. It took many years to get around to such a state, but the process has begun. My main concern is to be sure that the relevant price indexes fully reflect transaction prices. The appendix to the chapter on prices takes the novel form of a submission in 1978 to the appropriations committee for the comprehensive revision of the industrial price program. I can only say "amen" and wonder what has been happening all these years. My answer has to be that the problem has to become very serious before people will be forced to act in a meaningful way. The inflation rate, which has been accelerating over the past decade, has a bright side when viewed by technicians; it is bound to spur long-needed improvement, and it is coming.

As everyone knows, the most important single variable in economic analysis, if one is forced to pick just one, is real GNP. Today it is commonplace to begin the description of any industrialized economy in terms of real growth rates and in terms of the inflation rate. The best nominal GNP possible will prove worthless in an age of inflation if the estimates of prices used to yield real economic activity are faulty. Many, including the author, believe that current price data, apart from the revised Consumer Price Index, leave a great deal to be desired. Improvement is possible. Take the Census Bureau's price index of new home construction. In a field which is still marked by many problems, outlined by the Creamer Committee, this index has shown what can be done with some imagination. The committee obviously suggests that this principle be extended to other sectors of construction.

I hesitate to bring up some new questions about prices at a time when the long-needed improvement project is finally getting underway. I worry a bit about the report now almost two decades old, in which the Stigler Committee made many recommendations for improved price data.[4] Here we are almost 20 years later, and we are still talking about many of the same things. Yet, one of the key sectors of the economy is capital goods, and the price adjustments needed for this sector are difficult at best. The Creamer Committee supports the BLS plan to collect prices of industrial goods at time of shipment. One wonders about the kind of prices BLS has been collecting, and one worries about the distinction between shipment prices and order prices. The price-adjusting of capital spending includes many categories of capital goods that have fairly long lead times between order and data and delivery date. Like the Creamer Committee, I would argue that shipment prices are much more relevant for national accounts purposes. But for a better understanding of the inflation process all by itself—aside from deflation—the distinction between the two time perspectives should always be made quite sharply.

One has to take notice of price adjustments in other sectors as well—foreign, and particularly the government. I have long argued that the government has a major responsibility of keeping track of its own activities since it wants other sectors to do the same. Thus the proposed programs for prices in the state and local government area cannot get started too soon as far as I am concerned. Even more important, however, is the responsibility the federal government must have for tracking the inflation rate in its own purchases. This area has not been neglected by the BEA in recent years, and I must commend them for their vigorous research and the very important start they have made in the deflation of national defense purchases. The committee also supports the Federal Procurement Data System. All of us should stand behind their recommendation that constant-dollar national defense spending estimates be-

come a part of the regular quarterly accounts. Eventually, it is hoped, there will be federal government procurement price indexes. The government itself could afford to be lethargic about price data for its own activities at a time of low inflation rates. It cannot afford to be lethargic today.

The subject of capital goods receives considerable attention in the Creamer Report. It is noted, and I was deeply disturbed by the fact, that of the 22 types of producers' durable equipment, nearly two-thirds had unacceptable (i.e., over 7.5%) errors in the first and second July estimates for 1967 compared to the actual benchmarks. The committee went on to note that, even for the third July estimate, 45% were still unreliable. I also take cognizance of the fact that the Creamer Committee chose not to include any discussion of the capital stock estimates. I wonder whether such errors had anything to do with this decision. In any event, I would strongly urge that, in subsequent reviews of the national accounts, the capital stock estimates be carefully studied. For many students of the economy, in academia, in research institutes, and in business, estimates of the capital stock play a critical role in evaluating the capital spending sector.

Attention was paid to the BEA Quarterly Plant and Equipment Survey. This was a proper judgment since the survey plays an important role in current estimates of nonresidential fixed investment. Many suggestions were made by the committee, and the BEA has been very cognizant of the issues involved. In the March 1979 *Survey of Current Business*, they reported three projects underway for reevaluating this important sector. The extension of the survey to cover the private nonfarm economy simply corrects an oversight that has long been a nuisance and is noncontroversial. The breakdown between plant and equipment would represent a major improvement, and it will help to provide the basis for a closer reconciliation with other measures of activity such as the business equipment component of the production index. This will also be helped by a second project, which will provide constant-dollar investment by industry. Third, there will finally be a detailed formal reconciliation between investment as shown by the plant and equipment survey and investment as estimated by the commodity-flow method. These projects are highly welcome and are awaited with great interest.

What still concerns me, however, is the failure to update the survey on a more regular basis. BEA notes, as other private analysts have, that starting with 1976 the survey and the commodity-flow methods have diverged, with the survey lagging, and the differences grew with each year. Consideration is also given to the business equipment component of the FRB production index, and it is again recognized that it corresponds quite close to the commodity-flow method and, therefore, suggests that

the survey is in error. True, it may not be, but I would move the updating and basic revision of the survey right to the top of the heap in proposed recommendations.

The importance of investment in the economy is widely recognized. The sooner the survey is re-benchmarked and improved along the lines suggested by the committee, the better many of us will feel about it. The survey provides a major dimension to analysis and understanding of investment since it provides industry detail on a current basis. The national accounts tend to underplay the industry dimension, a deficiency which input-output tables help in part to correct. It is absolutely essential that there be accurate industry information on capital spending which can be tied into the national accounts with some confidence. Surely errors will persist, but a sharply rising discrepancy between two major data sources for current estimation provides a laboratory experiment of what to do about continually refreshing the national accounts and how the statistical system will respond to the challenge.

The Creamer Committee had so much ground to cover and has made so many fine suggestions for improving the national accounts that it may sound churlish to raise some issues they did not. An important part of the national accounts depends upon reports from business which, after all, are accounting reports required under law for all sorts of purposes. For publicly held corporations, it is a serious matter, for example, if an accounting firm publishes a qualification to the company's annual report. It is not clear from what the Creamer Committee reported, or in reading descriptions of how the various survey takers actually collect data from business, what is done about the adjustments that are typically made in year-end business-accounting statements. When benchmarks are established, such matters are taken care of. For the quarterly and annual estimates prior to benchmarks, however, one has the suspicion that little, if any, of these year-end adjustments get into the data. At times, these can be substantial. Thus, when the accountants review the annual figures for an enterprise, they are supposed to revise prior data if the discovered differences are material. Further, just to indicate the treacherous nature of the terrain I am looking at, economic statisticians should not necessarily assume that company figures are sacrosanct. We all know that IRS audits can uncover substantial changes in some cases, but it takes years to incorporate such new information into the accounts. Meanwhile, I would urge that there be a greater dialogue between the accounting profession and our profession. We should learn a lot more about what is being reported by business. I have the distinct impression that the accounting profession would be interested. I have the greater impression that newly minted accountants might welcome the dialogue. In case you were not aware of it, current CPA examinations in some states now include ques-

tions on macroeconomic policy. And students in schools of business are now required to take courses in macroeconomics to obtain the MBA degree, and in many cases they seem quite interested in the subject.

There is a second area not covered by the Creamer Report, which has been discussed in the past from time to time and which certainly deserves current attention. Specifically, there should be a better reconciliation between profits reported to shareholders and profits reported to the IRS. With much greater emphasis placed today on the Quarterly Financial Report as a major source of contemporary information, the basic ingredients are present for such a reconciliation. Indeed, I would imagine that this is precisely how the national income statisticians have to get the estimates they put into the accounts since this quarterly report is probably getting information that is also reported to shareholders. In appraising business decision making, it can be argued that perhaps the more relevant variable is profits reported to shareholders rather than to the government. A simple table, if need be quite condensed, could become a part of the accounts, and it might provide new insights into contemporary business decision making.

In summary, congratulations are in order for the Washington statistical establishment that originated the Creamer Committee and for the staff and members of the committee for the authoritative report they have issued. I trust that the recommendations of the report will have a better record of fruition than prior reports which have attempted to influence government statistics. My reading of what has already happened, and what is in prospect for the 1980 budget, offers ground for hope. My one final plea, fully recognizing its parochial character, is to lean toward the contemporary recording of economic events, even if the trade-off is a somewhat less accurate measurement of secular trends. The original stimulus for the Creamer investigation came from what was viewed as deficiencies in data measuring short-run developments. The national income accounts have their greatest usefulness and are worth considerable public sums only if they satisfy the requirements of policymakers in and out of the government.

Notes

1. Frumkin, Norman. 1979. Progress report on implementation of the GNP data improvement project recommendations. *Statistical Reporter* (March), pp. 181–87.

2. Such a survey is evidently now underway. "Work has begun on the Continuing Consumer Expenditure program—an effort to provide timely data on family expenditures. To be initiated in late 1979, the new survey program is being developed by the Bureau of Labor Statistics, contracting with the Bureau of the Census. . . . Following a 12- to 18-month startup period, data should be published on a regular basis—approximately 6 to 9 months after the collection period" (Eva Jacob, "Family Expenditure Data to Be Available on a Continuing Basis," *Monthly Labor Review* [April 1979], pp. 53–54).

3. See comments by John Gorman and response by Stephen Taylor, Chap. 8.
4. Price Statistics Review Committee, *The Price Statistics of the Federal Government* (New York: National Bureau of Economic Research, 1961).

Comment Rosanne Cole

The paper is generally sympathetic to the Creamer Report. There are some good suggestions. For example, I think the reminder that the costs and benefits to respondents merit more attention when considering the costs and benefits of additional data collection is a point well taken.

There is also some criticism. If I understand it correctly, Prof. Cohen's main objection has to do with what he considers to be the long-term focus of the report's recommendations. His concerns can be put in the following way:

> There is implicit, both in the report and in the present system, a tendency to make accurate measurement of long-term economic trends the basic point of reference. As a consequence, the report implicitly accepts the current terms of the trade-off between timeliness and accuracy, and the revisions, both because of the nature of the new information and of the benchmarking procedures, have a tendency to distort the historical pattern of business cycles as they are reflected in the national accounts.
>
> The basic point of reference, or focus, should be the accurate measurement of current economic developments at the time they occur. Much more emphasis, therefore, should have been given in the report to improving the data underlying the current quarterly estimates—even at the expense of greater accuracy for the long-term.

In my judgment, the report's recommendations are well balanced between those data improvements designed to enhance the current quarterly estimates and those aimed at strengthening the benchmarks. The criticism implies that there is much more of a choice, or trade-off, than in fact exists between the accuracy with which short-term and long-term economic changes can be measured. The real trade-off is between the timeliness and the accuracy of the underlying data. For example, there would be no loss in the accuracy with which long-term changes are measured if, at the extreme, the data underlying each quarterly estimate were augmented to equal that available for benchmark periods. The resulting gain in accuracy in measuring the short-term changes would simply be achieved at the expense of timeliness.

Similarly, improving the data used for the benchmark estimates is not at the expense of accuracy in the quarterly estimates. The benchmarks

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provide a check on the adequacy of the less complete, but timely, data underlying the current estimates. Proposing to neglect or even to do away with this check is in the vein of proposing to maim or kill the messenger—even though it is certainly true that he makes a very late appearance.

I wholeheartedly agree with Prof. Cohen that it is vexing indeed to users to realize the extent to which the revisions have altered the characteristics of postwar cyclical changes as they are depicted in the national accounts. Tables 8.1 and 8.2 provide an illustration of the magnitude of these changes for postwar cyclical contractions in GNP. Characteristics of the contractions in nominal GNP are shown in table 8.1; table 8.2 shows this information for constant-dollar GNP. Estimates of constant-dollar GNP have been available on a current quarterly basis only since 1959. Consequently, the mild recession beginning in 1960 was the first to be seen in the accounts at the time in terms of the impact on the course of both real and nominal GNP and the components. The earlier postwar recessions were shown, at the time they occurred, only in nominal magnitudes. There was no decline in nominal GNP during the 1969–70 and 1973–75 recessions, and they therefore do not appear in table 8.1.

Except for the 1980 contraction, the first estimates available—and, to the extent that the accounts are used, these are the data on which policy decisions would be based—make the contraction appear much more severe than it is subsequently seen to be in the revised data. The first estimates show declines in nominal GNP that are 1½ to 3 times larger than the declines now recorded. Constant-dollar GNP estimates differ by a slightly smaller amount. The initial figures show falls in real GNP during recessions that are 1¼ to nearly two times those now carried in the revised accounts.

Revised estimates show the 1980 real decline to be slightly more severe. The first estimates showed no decline in nominal GNP.

The uncertainty surrounding the amplitude of cyclical declines in GNP is also present with respect to specific turning-point dates. The timing of peaks has rarely been revised, but the dates of the low points in five of the seven postwar recessions have been changed. Only the dates of the troughs in 1958 and 1980 remain the same throughout the initial and successively revised estimates.

The peak of the expansion ending in 1960 and the troughs of the declines beginning in 1948, 1953, 1960, 1970, and 1973 are not marked by a single quarterly turning point but by a leveling-off period, or turning zone. In these cases, even small revisions are sufficient to shift the high or low point by one or even two quarters. Extreme cases are the troughs of the 1953–54 decline in nominal GNP and the 1969–70 decline in real GNP. The low point for these recessions has changed by as much as three quarters in various vintages of the estimates.

Yet what can be concluded from these comparisons? It would be a mistake, I believe, to suppose that the revisions distort cyclical patterns such that the early estimates of cyclical decline are in some sense more "correct" and closer to the truth than the revised estimates, even though some of the procedures used to obtain revised estimates may involve an element of oversmoothing.

One aspect of oversmoothing relates to the seasonal adjustment procedures. There is some evidence that the revised estimates have on occasion been overadjusted for seasonal movements such that the peak to trough decline is understated (Cole 1970, pp. 215–16).

The opposite effect has been present in the early estimates. There is some evidence that the factors used to adjust the early figures tend to understate the seasonal movements and this at times has been a source of the early estimates' persistent tendency to overstate cyclical declines in GNP. Further, it has been shown that revisions in the seasonal factors have accounted for the differences in the turning-point dates between the early and revised nominal GNP estimates (Cole 1969, chap. 4).

Finally, it may be that insufficient attention has been given to the possible consequences of the fact that benchmark years may occur at different stages of the business cycle or to the consequences of the shifts in weights that occur with the re-basing of price indexes and the constant-dollar estimates.

The Creamer Committee deliberately chose to separate the problem of source data adequacy from the problem of estimating procedures. In some respects this may be an artificial separation, but it certainly was an operational one. Perhaps the time has now come to provide the resources for the BEA to undertake a major review of their estimating procedures with an eye to the impact of the seasonal adjustment, deflation, and benchmarking procedures on short-term changes. (It should be noted, however, that major benchmarking cannot have been the source of any revisions in the cyclical amplitudes since 1972.)

Unless the data underlying the benchmarks and the data underlying the series used to interpolate between benchmarks and extrapolate the last benchmark have deteriorated over time, there are strong grounds for presuming the revised estimates to be more accurate than the earlier figures.

In some instances, as the Creamer Report documents, sources have deteriorated, and the report contains specific recommendations for strengthening them. Many of these recommendations refer to the benchmarks, yet I would contend that more accurate benchmarks, ceteris paribus, are directly associated with more accurate current quarterly estimates. This is because the current estimates are extrapolations of the benchmark estimates. The extrapolations are made by means of related

series—and many of the report's recommendations are designed to bolster the quality of these series.

The report's recommendations are therefore better viewed as an integrated and concerted effort to improve the accuracy of the current quarterly estimates rather than as two separate efforts—one designed for students of long-term trends, and the other for users whose interests are short-term changes.

References

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Table C8.1 **Postwar Cyclical Contractions in Current-Dollar GNP**

Contractions[a]	Source and Date of Estimate[b]	Timing and Duration: Peak Quarter	Timing and Duration: Trough Quarter[c]	Timing and Duration: Number Quarters Decline	Amplitude and Severity: % Decline	Amplitude and Severity: % Decline per Quarter at Annual Rates
1948–49:						
First estimate	*EI* Jan. 1950	1948-IV	(1949-IV)			
	SCB Feb. 1950		1949-III	3	−5.6	−7.4
Revised estimate	*SCB* Dec. 1980	1948-IV	1949-IV	4	−3.4	−3.4
1953–54:						
First estimate	*EI* July 1954	1953-II	(1954-II)			
	SCB Aug. 1954		1954-I	3	−3.8	−5.0
Revised estimate	*SCB* Dec. 1980	1953-II	1954-II	4	−1.9	−1.9
1957–58:						
First Estimate	*EI* July 1958	1957-III	1958-I	2	−4.1	−8.0
Revised Estimate	*SCB* Dec. 1980	1957-III	1958-I	2	−2.8	−5.5
1960–61:						
First estimate	*EI* July 1961	1960-II	1961-I	3	−1.0	−1.3
Revised estimate	*SCB* Dec. 1980	1960-I	1960-IV	3	−0.4	−0.5
1980:						
First estimate	*SCB* July 1980	No decline				
Revised estimate	*SCB* July 1982	1980-I	1980-II	1	−0.1	−1.4

[a]There was no decline in nominal GNP during the 1969–70 and 1973–75 business-cycle contractions.
[b]*EI* denotes *Economic Indicators* and *SCB* denotes *Survey of Current Business.*
[c]Dates in parentheses indicate the given quarter was lower than the preceding quarter. Since data for the succeeding quarter were not available, the designation of a trough is uncertain.

Table C8.2 Postwar Cyclical Contractions in Constant-Dollar GNP

Contractions	Source and Date of Estimate[a]	Timing and Duration: Peak Quarter	Trough Quarter[b]	Number Quarters Decline	Amplitude and Severity: % Decline	% Decline per Quarter at Annual Rates
1948–49:						
First estimate[c]	*SCB* July 1958	1948-IV	1949-II	2	−2.4	−4.7
Revised estimate	*SCB* Dec. 1980	1948-IV	1949-II	2	−1.5	3.0
1953–54:						
First estimate[c]	*SCB* July 1958	1953-II	1954-II	4	−3.7	−3.7
Revised estimate	*SCB* Dec. 1980	1953-II	1954-II	4	−3.2	−3.2
1957–58:						
First estimate[c]	*SCB* Feb. 1959	1957-III	1958-I	2	−5.3	−10.3
Revised estimate	*SCB* Dec. 1980	1957-III	1958-I	2	−3.3	−6.6
1960–61:						
First estimate	*SCB* Aug. 1961	1960-II	1961-I	3	−2.3	−3.1
Revised estimate	*SCB* Dec. 1980	1960-I	1960-IV	3	−1.2	−1.5
1969–70:						
First estimate	*SCB* Apr. 1971	1969-III	1970-IV	5	−1.4	−1.2
Revised estimate	*SCB* Dec. 1980	1969-III	1970-I	2	−1.0	−1.9
1973–75:						
First estimate	*SCB* July 1975	1973-IV	(1975-II)			
	SCB Aug. 1975		1975-I	5	−7.8	−6.2
Revised estimate	*SCB* Dec. 1980	1973-IV	1975-I	5	−4.8	−3.8
1980:						
First estimate	*SCB* July 1980	1980-I	1980-II	1	−2.3	−9.1
Revised estimate	*SCB* July 1982	1980-I	1980-II	1	−2.5	−9.6

[a]See n.[b], table 8.1
[b]Sec no.[c], table 8.1
[c]Constant-dollar GNP estimates were not available on a current quarterly basis.

The GNP Data Improvement Report from the Perspective of Its Use to Measure Economic Growth

Ronald E. Kutscher

I was asked to discuss the Creamer Report from the point of view of someone who is interested in data for measuring real economic growth. My particular orientation reflects a concern not only for the measurement of economic growth but also for the usefulness of these data in developing and operating a long-range economic model. Our BLS model is employed in making projections with a 5–15-year time horizon. It is not only a macromodel but, in addition, it has an industry orientation derived from an input-output model, so my remarks will reflect this further bias. I would further describe the interest of those concerned with measurement of economic growth and of long-term modelers as more directed toward annual data. Thus, emphasis on revisions of quarterly estimates and their tracking record is of lower priority to a long-term modeler. A long-term modeler would, in most instances, be satisfied with data published only after moderately final data are available (although certainly not waiting until benchmark data are available).

The long-range modeler not only emphasizes the macro GNP accounts but has an interest in bringing together the macro and the micro or industry modeling. From this developing horizon in modeling, another view of the GNP Data Improvement Project is possible. For example, are the changes recommended in this report of assistance in the integration of macro- and microsectors of a model? If not, what changes would make the accounts more useful? As an example, the interaction of wages and other factor payments, prices, and incomes not only at the macrolevel but also at the microlevel are important in tracking, modeling, and assessing the interactions of resource use, distribution of factor payments, and prices. Linking the micro- to the macroportion of models takes on increased significance in an economy with rapidly changing prices. It is only at the microlevel that most supply constraints can be handled—another element of increasing concern to analysts and modelers. Thus, in this paper I will stress the continued development of a fully integrated macro- and microdata base. For it is only at the industry level that one can really begin to deal with the interaction of energy, environment, or supply constraints. In fact, as the issues dealt with extend to such questions as the environment, it is even doubtful that many questions can be treated adequately in any comprehensive way short of subnational data.

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In reviewing the report of the Data Improvement Project, I found much with which I could agree. I would support the recommendations that could be termed expanding the nonmanufacturing data base, the present weaknesses in which are well known.

A further set of recommendations that I support deals with expanding the data base on government procurement of goods and services from the private sector. I also agree and endorse the thrust of the recommendations concerning price needs of the national accounts. Finally, I am sure all would agree with the recommendation to provide an updated methodological handbook on the national accounts.

In reading this document, I had no disagreements with any of the explicit recommendations made by the Data Improvement Project except for several very trivial items. My criticism is more directed at the charges to the committee rather than at the committee's work. From my perspective, I wish the committee had dealt with a number of other subjects which are listed below.

1. The need for input-output tables to be fully integrated into the national accounts. While all new input-output tables in current prices are consistent with the new national accounts, the conceptual and statistical changes are not made in tables for earlier years nor are constant dollar input-output tables for earlier years prepared consistent with the new national accounts. As an example, the conceptual and statistical changes introduced into the 1967 input-output table were not made in the 1963 input-output table. For many purposes, such as most analyses of economic growth and its structural characteristics, consistent input-output tables over time are very important. This should be done not only for the earlier benchmark years but also for the annual estimates between benchmark years. This development of consistent input-output tables should be done not only in current dollars but also in constant dollars. This would require BEA to develop historical constant-dollar detailed input-output tables consistent with each new benchmark table.

2. The Data Improvement Project notes that annual adjustments in the second and third July revisions in many instances made the data no better when compared to final benchmarks, and in a distressing number of instances it was worse. If this experience is repeated with the 1972 benchmark, I would argue that BEA should give serious thought to putting more resources into producing the benchmark sooner rather than into the production of annual updates. Clearly one of the current difficulties with the GNP data base is the very long lag in introducing the benchmarks.

A second observation in this regard concerns the nature of the benchmark process. Any benchmark should assess, to the maximum extent feasible given resource constraints, whether estimates of the basic level and structure of the economy require modification. While BEA now does that in the case of current-dollar GNP, this is not true of real GNP, since

the deflation takes place with the same price data. Since it seems very unlikely to get an independent check on prices in the forseeable future, perhaps an additional approach is worth considering (see item 3).

3. In modeling, particularly, as the modeling moves toward multifactor production functions, new data requirements are raised. One of these is in the measure of output. Currently, in many models where the macro GNP accounts are combined with a microdata base, this is done through the use of gross product originating as the measure of an industry's (or sector's) output. However, the measure of output that is more appropriate in multifactor analyses, which include intermediate materials as one of the factors, is a gross output concept rather than the net or gross product originating concept. Consequently, I would like to see developed a time series of gross output measures by industry that is conceptually linked to the input-output measures and through them to GNP. These gross output measures would need to be developed in current and constant dollars. Closely related to that would be total material and service inputs consumed by industry over time (perhaps broken into major categories such as energy, manufactured goods, etc.)—again linked to the input-output and GNP data base. This latter data need relates to the need to isolate intermediate along with other inputs such as capital or labor as an explanatory factor in output changes. While the Office of Economic Growth in BLS is developing some of the data series noted in items 3 and 4 listed here, it seems preferable for these to be developed and fully integrated into the national accounts.

Another independent check to benchmarking GNP might be to explore the use of industry data. This approach would aggregate GNP by industry to ascertain if that aggregate could be used as an independent check on the level of GNP. Such a check might be useful in the benchmarking process, even though of necessity it would not replace current procedures of reconciling income and product.

4. There is need for a national data base that includes estimates of capital stock by industry; these estimates were not recommended because of time constraints. This is one of the more important elements in linking the macro- and the microelements in economic models. An industry capital stock system is important in analyzing resource requirements and is needed in analyzing trade-offs with other resources such as labor or energy. Currently, gross private domestic investment in the national accounts is used by BEA to develop capital stock estimates for the total private economy and for a few major sectors. This data base needs to be disaggregated to provide capital stock by industry, the industry classification for which should be as close as possible to that in the data base described in item 3.

An adjunct to the industry capital stock data base would be an annual capital flow table. A capital flow table shows transactions between purchasers and producers of capital goods. If annual capital flow tables were

available, it would be possible to relax the assumption that the industry pattern of capital expenditures is constant between benchmark years.

Capital investment in the accounts now covers investment for many purposes. Some developments on the part of BEA to divide investment by purpose is already underway, that is, investment for pollution purposes. This should be encouraged and expanded into other similar fields such as safety and health, noise and other standards. Further, I think it would be worthwhile to examine other divisions of capital. I have felt one of the difficult elements of investment for model builders is that one is attempting to explain something as diverse in purpose as rugs in the executive suite and rolling mills, or warehouses and religious buildings. These further divisions of capital investment would be especially useful if done by industry. Finer breakdowns of investment would not be directed toward a new definition of GNP but would simply introduce divisions which could be helpful in analyzing and explaining investment behavior.

5. An annual time series on income by industry, by type of income integrated with the input-output and national income data base, should be developed. As industry models are linked with macromodels, the need is increased for a time series on income or factor payments that has been fully integrated with the input-output and the GNP accounts. This recommendation is not to deny the many data problems that this would entail, such as estimates of profits by establishments classified by industry. However, such a development would be a great asset—for modeling and understanding the economy.

6. I feel analysis would be greatly aided by a disaggregation of the state and local government sector of the GNP accounts. This disaggregation would be such that state governments would be distinct from local governments. To continue to treat this as a single sector of demand must ignore the tremendous growth of these governments over the last three decades. Such a division should be especially helpful to government policymakers.

One cannot but be impressed with the thoroughness and detail with which the committee carried out its review of the GNP accounts. However, as I read the report I was struck by an analogy that may have some relevance here. Suppose an automobile is disassembled and every nut, bolt, screw, rivet, and panel is examined to determine if it has been made of the right metal, has been correctly machined, and coated with the best coating. Although this would constitute an extremely useful examination, I also felt I should have asked whether this auto was the correct form of transportation. Thus, I feel another conference could be built around the question of whether other measures of GNP might be useful. Of course you must realize that coming from an agency with seven versions of the unemployment rate, two consumer price indexes, and two employ-

ment series, I can naturally ask, "How long can we exist with only one GNP measure?"

Comment John W. Kendrick

I have little to quarrel with in Ronald Kutscher's paper since he agreed with most of the recommendations relevant to growth analysis and had no significant disagreements. His chief comments related to areas of omission in the GNP Data Improvement Project (DIP) report, to which I had a few reactions.

He suggests that BEA shift resources from the annual revisions of GNP estimates, which apparently result in little net improvement over the initial July estimates, to speeding up preparation of the benchmark revisions. I doubt if the resources are fully transferable. Even if they were, I would still favor trying to make improvements on both fronts. If the annual revisions can be improved, which I believe they can, it would really be helpful for *both* short- and long-run analyses not to have to wait five years for improved interim estimates. If BEA can accelerate publication of the benchmark estimates and still mine the richer body of quinquennial census data called for by the DIP report, so much the better. But I would argue that any trade-off between quality and timeliness of the benchmark estimates should be tilted toward quality.

Kutscher would like to see BEA publish industry estimates of gross output (i.e., real value of total production), together with estimates of real intermediate product costs to reconcile the gross output estimates with the real gross product (i.e., net output) estimates now published. That would indeed be a most useful expansion of the available estimates, making possible broader analyses of production and productivity with respect to all inputs, both factor and intermediate. I hope the expansion of Census data on intermediate purchases of services as well as goods called for by DIP will make this possible.

I would, however, take issue with Kutscher that the industry gross output estimates will provide an additional means of benchmarking or checking the GNP estimates through production measures based on physical volume data. It seems to me that the benchmarking process must rely to a major extent on the current values, in terms of which economic transactions are carried on. The physical volume data may occasionally provide a convenient supplement to deflated value estimates. But in general I would trust price data more than the unit value data which

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Kutscher implies might be used for checking the price data, and thus the real GNP series. Use of the quantity and value data for this purpose would be very limited, as I see it, unless Census attempted a major expansion of its quantity data collection in a degree of product detail which would, I believe, be unacceptable to budgeteers in government and industry alike.

Kutscher would like to have an annual capital flow table, in part as a basis for estimates of capital stocks, by industry. For purposes of productivity and growth analysis, I can heartily endorse his recommendation and note with satisfaction that BEA is now in process of developing its capital stock estimates on an industry basis.

Kutscher would also like to see the investment and stock estimates broken down by at least some broad categories, such as productive and "nonproductive." Dividing lines are difficult to draw, but I am sympathetic to the notion. I might note that the Wealth Inventory Planning Study, which I directed over 15 years ago, made a similar recommendation, but went further in urging that certain types of investment and capital of a functional nature that cut across industry lines, such as transportation equipment and power-generating equipment, should also be broken out.

Kutscher advocates annual estimates of national income by industry on an establishment definition consistent with the input-output tables. I would not object, so long as users recognize that conventions had to be used to a considerable extent to allocate overhead factor costs and profits among the establishments of mutliplant firms.

Finally, Kutscher regrets that the DIP project and report omit consideration of regional accounts, wealth statements, and possibilities of restructuring economic accounts to make them more useful, particularly for growth analysis and projections. I wish we had had the time and resources. Certainly, restructuring of the accounts to provide sector capital accounts and wealth statements, together with broader and more meaningful definitions of investment and wealth, would be of great value for growth analysis, projections, and as background for policy formulation.

I am convinced that in the decade ahead we will hear much more about the need for mechanisms within the federal government for giving greater emphasis to formulation of policies to promote productivity advance and economic growth, both as an anti-inflationary force and as a means to resuming historical rates of increase in real income per capita. One of the few good features of the Humphrey-Hawkins Act was the stress it puts on longer-range policy formulation. The productivity slowdown of the past decade underscores the need for this, as contrasted with short-run stabilization policy which seems to absorb most of the energies of our economic policymakers. By the time the NIA have become a better tool for long-run as well as short-run analyses, I hope government officials will be paying more attention to both categories of policy.

Data Needs in Flow of Funds

John A. Gorman

I am very glad that the report includes a discussion of the data needs in flow of funds (F/F) (U.S. Department of Commerce 1977, chap. 9). I am especially heartened because I observe very little familiarity with the F/F's on the part of many users of the national income and product accounts (NIPAs), and perhaps the inclusion of this chapter will help make the profession more aware of the F/F data.

One illustration of the limbo into which the profession has relegated the F/F's is the widespread preoccupation with the saving rate as measured in the NIPAs, to the exclusion of the conceptually equivalent, but statistically different, saving rate computable from the F/F's. The two saving rates are compared on table 8.3. Note that they tell quite different stories: the F/F saving rate is considerably higher than the NIPA saving rate; the saving rates move in different directions in 1972; and even though they move in the same direction in 1969, 1970, 1973, and 1975, the first differences in the movement of the saving rates differ by more than one-half a percentage point.

Both estimates of saving are derived as residuals: the NIPA saving is derived as personal income less personal taxes and outlays; the F/F saving is derived as persons' acquisition of physical and financial assets less capital consumption allowances and borrowing. Further, the allocations of many financial assets and liabilities to the household sector are also based on residual calculations. The existence of a large discrepancy between the two saving measures is evidence of a disturbing disharmony between the statistics entering the two sets of accounts.

One speculation on the nature of this discrepancy at the end of chapter 9 is that "methods for distributing production put too much into consumption and not enough into corporate business investment" (U.S. Department of Commerce 1977, p. 189). We have just gone through the preparation of the input-output table for 1972, and nothing we have learned in that process supports this speculation. While our benchmarking procedure is still far from complete, a preliminary analysis of the revised data for 1972 indicates an upward revision in NIPA personal saving, but not enough to eliminate the large discrepancy between the NIPA and F/F personal saving measures.

The chapter makes nine recommendations for improving the data for flow of funds. Only one of the nine recommendations gives any promise of help in reducing the discrepancy in the personal saving measures and in the sectors of the flow-of-funds accounts—the recommendation that

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"basic research be conducted on the measurement of land values with respect to use, ownership, encumbrances, and intangibles related to natural resources and leases" (U.S. Department of Commerce 1977, p. 187). Even if this research were undertaken in the near future, this research will take a long time to pay off in regular statistics, so the net result of the implementation of the recommendations in chapter 9 of the Data Improvement Report will be to leave us with an unacceptably large discrepancy between personal saving in the NIPAs and the F/F's for the forseeable future.

What of the recommendations in chapter 9, apart from improving the discrepancies? I will now go through them in order.

The first recommendation is that "the Bureau of Economic Analysis should provide current quarterly seasonally unadjusted data for all components on the product side and as many components as feasible for the income side of the national economic accounts" (U.S. Department of Commerce 1977, p. 184).

It is difficult to be against the provision of unadjusted numbers except on the basis of cost and feasibility. In this connection I should like to point out that approximately one-fifth of retailers do not maintain inventory accounts on a monthly basis; even the unadjusted numbers for such firms are imputations and need not give information on what actually happened. To obtain true unadjusted numbers for such firms, we would first have to induce them to keep books.

Even when firms keep books, they may record transactions inconsistently: for example, a borrower may accrue interest monthly; a lender might only record it semiannually when received. Unadjusted numbers in such cases would lead to an intensification, not a mitigation, of transaction discrepancies.

In any event, truly unadjusted data do not exist for all components of the NIPAs, even on the product side. If any unadjusted series is cooked up with imputations for transactions not actually measured, I do not understand how "a clear accounting relation be established on a quarterly basis between the NIPA receipts and expenditures and independently derived financial transactions" (U.S. Department of Commerce 1977, p. 183).

The Bureau of Economic Analysis (BEA) does provide unadjusted estimates for the product side of the accounts, corporate profits, and items entering the government accounts on a retrospective basis as part of the July revision. BEA has asked for funds to develop current quarterly measures on the product side and research the ability to estimate unadjusted income estimates. BEA hopes to have these sometime in the next five years, depending on funding. My personal view is that this will do little to improve the sectoral discrepancy problem in the flow of funds, which is indicated in table 8.3 is in the annual numbers.

The report points out, "Consistency in timing is a problem mainly in bank-related claims" (U.S. Department of Commerce 1977, p. 184), but it makes no proposals regarding any new data programs to improve bank-related statistics. I believe the absence from chapter 9 of a recommendation to improve bank data to be a major lost opportunity for the report. In effect, chapter 9 diagnoses an illness and then fails to recommend a therapy.

With respect to corporations, chapter 9 recommends, "The Securities and Exchange Commission should explore the feasibility of tabulating the quarterly and annual reports filed by all registered large nonfinancial corporations to provide an integrated statement income, balance sheets and sources of financing" (U.S. Department of Commerce 1977, p. 185). I have no quarrel with such a recommendation, if considered in isolation. However, I think it is a retrogression in the context of the statistical system as a whole. There has been a distinct tendency to withdraw coverage of small firms in our statistical system as evidenced by (1) the cuts in sample size suffered by the Statistics of Income program of the Internal Revenue Service in recent years, (2) the Federal Trade Commission's elimination of manufacturing firms with assets under $250,000 from the Quarterly Financial Report sample, and (3) the general propaganda blitz against federal paperwork burdens on business. In these circumstances I view as distinctly unhelpful a suggestion that the major data improvement for nonfinancial corporations in the F/F accounts be limited to registered companies only. Such an approach would be justified only if small firms were either negligible or behaved the same as large firms. Neither is the case.

If I were asked for recommendations in this areas, I would suggest the Federal Trade Commission resume sampling births and small firms, add a sources-and-uses-of-funds schedule to their questionnaire, and expand their industrial coverage. I would also urge the systematic editing and tabulation of Schedule M of the corporate tax return, which reconciles the income tax return with the company balance sheets. I believe this program would reduce the large corporate sector discrepancy in the F/F's, which in 1978 exceeded in amount 22 of the 27 financial transaction categories shown in the F/F statement for nonfinancial corporate business. A reduction in the corporate sector discrepancy will be matched by a similar reduction in the household sector discrepancy, given the residual nature of the allocation process.

With respect to state and local governments, chapter 9 recommends that "the Census Bureau should collect quarterly data on cash and security holdings of State and local governments" (U.S. Department of Commerce 1977, p. 185). I agree with this, and would also collect the liability side of the balance sheet. I would do so because in some years there have been large differences between the data on state and local

bond issues and retirements used in the F/F's, and changes in outstanding debt collected by the Census Bureau. Collecting the outstanding debt quarterly would outflank the problem of combining data for disparate fiscal year-ends and provide a better control on the bond issue and, particularly, the bond retirement data.

The next recommendation is that "the Bureau of Economic Analysis should provide quarterly measures of fixed capital outlays, stocks, and capital consumption charges by sector and by type of capital as part of the national income and product accounts" (U.S. Department of Commerce 1977, p. 186).

BEA already supplies capital consumption charges by F/F sector on a quarterly basis. We allocate investment and estimate stocks annually. I view this suggestion as relating to providing investment by F/F sector quarterly. I think this could be done as part of the forthcoming benchmark revision by an adaptation of our annual method.

I have already commented on the recommendation with respect to land.

With respect to disaggregation of households, chapter 9 recommends: (1) speeding up tabulation and refining classification of trust fund survey, (2) exploiting nonprofit data from 1977 census, and (3) separation of wealthy individuals (U.S. Department of Commerce 1977, p. 187). In principle I have no difficulty with these recommendations. I suggest the Federal Reserve should take the lead in urging the other two bank supervisory agencies to join in improving the trust fund survey. Further, I am surprised that no reference is made to the forthcoming IRS tabulations on nonprofit institution information returns. Finally, I have always been skeptical of the imputation of the portfolios of the dead to those of the living, which is inherent in the estate tax procedure. Perhaps a better approach to disaggregating the personal sector would be to use the planned Survey of Income and Program Participation, although this too will have problems in getting data for the wealthy.

The next recommendation is, "The OMB Statistical Policy Division should establish an interagency task force to reconcile operational definitions on international transactions used by The Bureau of Economic Analysis, Treasury Department, and The Federal Reserve System" (U.S. Department of Commerce 1977, p. 188). I understand that this recommendation has been satisfied by the format changes introduced recently in the International Transaction tables.

Finally, the report recommends that "the Bureau of Economic Analysis should prepare a time series on the U.S. international investment position from 1948 forward" (U.S. Department of Commerce 1977, p. 188).

This is a good recommendation. It should be noted, however, that it involves reformating the investment position data for years prior to 1971

in order that the presentation from 1948 through 1969 agree with the quarterly statement of international transactions. This is a sizable operation for which BEA requested funding and which has been denied. Furthermore, this effort will not change the statistical discrepancy in the International Transaction table, since there are no new data for the 1948–69 period, and thus will not contribute to the resolution of the discrepancy problem in the F/F's.

Chapter 9 concludes with a description of the large offsetting discrepancies in the household and business sector. As I mentioned earlier, nothing in this chapter will lead to an early resolution of this.

In this section the report says, "Another possible source of discrepancies is through incorporation of noncorporate business or, statistically the same thing, purchases of noncorporate businesses by corporations" (U.S. Department of Commerce 1977, p. 189). Data on depreciation claimed on tax returns casts some doubt on this hypothesis. In table 8.4, the corporate share in tax return depreciation fell from 1968 to 1974, while the partnership share increased. This is not conclusive evidence on which way the legal form of organization has shifted: if partnerships were increasing the use of accelerated depreciation methods more than corporations were, or investing in assets with shorter lives than corporations were, the increase in the share of partnership depreciation would be consistent with a shift toward the corporate legal form. Nonetheless, I find it difficult to believe that these shifts are a major source of the statistical discrepancy in the household and corporate sectors, at least in the past decade or so.

To summarize, this chapter of the report makes only one recommendation for data improvement that gives any hope of resolving the statistical discrepancy problem—research on land. It omits three others that I think would give some hope of resolving the problem—expansion of the Quarterly Financial Report, tabulating schedule M, and improved reporting of bank data. It is true that the tabulation of schedule M is recommended elsewhere in the report (U.S. Department of Commerce 1977, p. 47), but I think the recommendation should also have been referenced in chapter 9 because of the strategic role data from schedule M could play in reducing the statistical discrepancy in the nonfinancial corporate sector of the F/F's.

Reference

U.S. Department of Commerce, Office of Federal Statistical Policy and Standards. 1977. *Gross National Product Data Improvement Project Report.* Report of the Advisory Committee on Gross National Product Data Improvement. Washington, D.C.: Government Printing Office.

Table C8.3 **Comparison of Personal Saving Rate in NIPAs with the Flow of Funds, 1968–78**

Year	Personal Saving as Percent of Disposable Personal Income[a]		Disposable Personal Income ($Billions)	Personal Saving ($Billions)	
	NIPA	F/F		NIPA	F/F
1968	7.1	8.2	593.4	41.9	48.8
1969	6.4	6.5	638.9	40.6	41.8
1970	8.0	9.0	695.3	55.8	62.5
1971	8.1	9.0	751.8	60.7	67.4
1972	6.5	9.4	810.3	52.6	75.9
1973	8.6	10.3	914.5	79.0	94.4
1974	8.5	10.0	998.3	85.1	99.5
1975	8.6	11.1	1,096.1	94.3	122.1
1976	6.9	9.8	1,194.4	82.5	117.5
1977	5.9	8.3	1,314.0	78.0	109.0
1978	6.1	8.1	1,474.0	89.4	119.6

Source: U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business*, July 1982; U.S. Department of Commerce, Bureau of Economic Analysis, *The National Income and Product Accounts of the United States*, 1929–76, statistical tables, September 1981; Federal Reserve Board, *Flow of Funds Accounts, Second Quarter 1981*.
[a]The saving rate with F/F data was computed with F/F personal saving in the numerator and NIPA disposable personal income in the denominator. An alternative saving rate could be computed using the F/F personal saving in the numerator but adding the excess of F/F saving over NIPA saving to NIPA disposable personal income in the denominator; this alternative would be lower than the F/F personal saving rate column by .1 or .2 percentage points. The F/F personal saving is F/F individuals' saving adjusted to NIPA concepts.

Table C8.4 **Depreciation Reported on Business Income Tax Returns: Percent Reported by Legal Form of Organization, by Selected Industries, 1968 and 1974**

	Sole Proprietorships		Partnerships		Corporations	
	1968	1974	1968	1974	1968	1974
All nonfarm industries	9.5	8.0	5.7	8.4	84.9	83.6
Agriculture services, forestry, and fisheries	51.9	49.1	11.8	13.6	36.2	37.3
Mining	10.6	8.5	7.3	10.0	82.1	81.5
Contract construction	26.0	26.8	9.0	5.8	65.0	67.4
Manufacturing	1.4	1.3	.8	.7	97.8	97.9
Transportation	11.5	14.2	1.3	3.0	87.1	82.8
Communication, and electric gas, and sanitary services	.4	.3	.2	.4	99.4	99.3
Wholesale trade	14.3	10.7	5.0	3.1	80.7	86.1
Retail trade	28.5	21.2	6.8	4.8	64.7	74.0
Finance and insurance	4.4	2.1	2.7	2.0	92.9	95.9
Real estate	5.5	5.4	39.1	63.4	55.3	31.3
Services	29.7	22.4	10.3	15.1	60.0	62.5

Note: Computed from data published by the Internal Revenue Service in *Statistics of Income*

Comment Stephen Taylor

It is gratifying to see John Gorman's concern about statistical discrepancies stated in public and discussed at some length. Users of statistical systems tend to find the discrepancies a nuisance to be set aside and often cannot understand the attention put to them by producers of the systems, such as BEA, or, for the flow-of-funds accounts, the Federal Reserve. Discrepancies are nevertheless prima facie evidence of inconsistency, and therefore of error, and they provide at least a starting agenda for further statistical research. Lack of discrepancy, incidentally, does not demonstrate the converse case of lack of error or even lack of inconsistency and is not an occasion for complacency, but in the real world of national financial accounts that is not a problem: the flow-of-funds system has 20 or more separate discrepancy accounts that lead active lives and that must be watched constantly for their rather complicated interactions with one another. They give almost no occasion for complacency.

The data improvement projects for flow-of-funds in chapter 9 that John Gorman discusses are not aimed solely at reducing discrepancies, but he is too hard on them when he says that only one is directed at improving

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the household discrepancy. As Gorman points out, all of the household items are measured in the system as residuals by use of reported information from other groups in the economy. As a result, data improvements over a very wide range of activities redound to better measures of household transactions and condition, and the proposals in chapter 9 deserve more credit for this purpose than Gorman gives them. Recommendations for both more current state and local government figures and more standardized international flow categories go directly toward better household estimates. The request for more complete NIPA data in seasonally unadjusted form also goes in this direction, since a large part of what is not known in actual quarterly form is household income and consumption.

The obviously largest problem in household discrepancies is in business data, as mentioned both in chapter 9 and in Gorman's discussion. Almost any improvement in measures of business activity can be expected to raise the quality of household residuals, through direct or indirect channels, and Gorman mentions this. He disagrees, however, with the chapter 9 recommendation to mine SEC-mandated financial statements for a better picture of large corporations, feeling instead that more weight should be put into measuring small business.

This seems to be primarily a disagreement in strategy. Data on small business activity is unquestionably deplorable and deteriorating, but the chapter 9 proposal was made in a climate of rising protest against the paperwork burden of reporting to Washington and of tightening budget constraints on all types of statistical work in the federal government. The SEC reports already exist and would require zero additional paperwork by business, whereas the route that Gorman prefers would involve more reporting and more statistical work. There is considerable question whether the SEC reports can be applied meaningfully to national accounts, but with the commercial development of computerized versions of those data on a company basis it has become even easier to explore the possibility now than at the time the chapter 9 recommendation was first written.

In closing, a comment on Gorman's table 8.4: the statistical discrepancy that arises for incorporation of existing noncorporate businesses is a continuing condition if there is in fact a tendency for new enterprises to start in unincorporated form and to become corporations once they are well underway. The table 8.4 figures on distribution of business by form of organization say nothing about whether there is such a continuing flow of enterprises from one form to another but only that if there is it is a relatively stable process over the period in the table.

The Improvement of Price Data
Albert Rees

The National Income and Product Accounts use price data to deflate expenditures measured in current dollars and thus to estimate changes in real output. Deflation procedures are of greater importance when the price level is changing rapidly, as in the past decade, than when it is relatively stable. For this reason interest in the proper measurement of prices has never been greater than it is now.

Price data used for deflation can be improved in two basic ways. First, the coverage of the price series can be broadened by pricing additional kinds of goods and services, so that the movements of one set of prices need not be inferred from the movements of another. Second, the quality of existing price series can be improved.

Chapter 7 of the Report of the Advisory Committee on Gross National Product Data Improvement concentrates on the first of these two basic kinds of improvements. For example, it recommends the development of separate rent indexes for single-family homes and for units in multiple-unit structures: these could be used to improve the imputation of rent for owner-occupied housing. The report also recommends that the Producer Price Index (formerly the Wholesale Price Index) improve its coverage of equipment items, such as large aircraft, ships and boats, and computers, which would greatly strengthen the deflator for producers' durable equipment. It further recommends exploration of the feasibility of developing new price indexes covering the construction of various kinds of industrial facilities, for which output price data are now based in substantial part on input prices.

All of these recommendations, and several others like them, seem to me to be sound and important. However, the focus of chapter 7 on broadening the coverage of price indexes has led to a relative neglect of improvements in the quality of the price series already included. To be sure, the report cites several earlier studies that deal with this issue, specifically the report of the Stigler Committee (*Price Statistics* 1961), the Ruggles study (1977) of the Wholesale Price Index, and the forthcoming book on the prices of durable goods of Robert J. Gordon (forthcoming). It also recommends in general terms support of the ongoing efforts of the Bureau of Labor Statistics (BLS) to improve its price indexes. But it does not lend its authority to those detailed recommendations of the Stigler Committee, Ruggles, or Gordon that are still relevant for the improvement of pricing in areas now covered by price indexes.

Most existing price indexes used in deflation are components of either the Consumer Price Index (CPI) or the Producer Price Index (PPI)

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produced by the Bureau of Labor Statistics. Both indexes have recently undergone extensive revisions resulting in substantial improvements. The CPI now has weights based on a much broader universe of consumers than the old index. Many of the improvements in both indexes result from the introduction of probability sampling of vendors and products. This should deal adequately with one major past complaint about these indexes, which was that their vendor and product samples used to remain unchanged for long periods, a situation that could create substantial biases in estimates of price change. Finally, the new Producer Price Index has eliminated the double-counting of items that characterized the old Wholesale Price Index. The meaningless overall index for all commodities has been discontinued (see Early 1978)

A number of other issues have not yet been dealt with or are under study. The staff of BLS is well aware of these issues, and the purpose of raising them here is *not* to call them to the attention of BLS. It is to help make others aware of them so that the research community can support BLS when it seeks authorization and funding to implement further changes.

One of the principal issues raised in the Stigler Report (*Price Statistics* 1961) and by Stigler and Kindahl (1970) concerns the difference between list prices and actual transactions prices. Transactions prices may include discounts from list or other concessions to buyers that vary with the tightness of the market. As the Report of the Advisory Committee notes, list prices are therefore stickier than transactions prices. When used as deflators, they will tend to overstate the fall in real output during a recession. The Consumer Price Index has long collected transactions prices for goods where discounts are important, such as automobiles and major appliances. The Producer Price Index now includes some transactions prices, particularly for metals and chemicals. It may be desirable to extend the use of transactions pricing to additional areas of the PPI.

It will, of course, never be possible to capture in a price index all of the varied and ingenious changes in terms of sale that affect the true prices of commodities and services. Such cleverly disguised changes in transactions prices are particularly likely in periods of substantial excess supply or excess demand at posted prices. For example, the Council on Wage and Price Stability (COWPS) was told by aluminum fabricators that, during the aluminum shortages of 1973, fabricators were expected to resell their scrap to primary aluminum producers as an implicit condition of receiving continued supplies of primary metal. One efficient fabricator who generated less scrap than was expected of him told COWPS that he felt he had to buy scrap for resale on the open market at prices above those paid to him by his supplier of primary aluminum.

The same industry provides evidence of opposite kinds of price behavior. In 1975, when major producers of primary aluminum were pro-

ducing at about 75% of capacity, a few small producers were operating at much higher levels, although their posted prices were the same. One may surmise that their transactions prices were not the same without knowing how this was arranged.

A second major issue affecting price indexes concerns the timing aspects of price quotations. Ruggles has produced valuable data showing the distribution of PPI price series by whether the series refers to the time of order or the time of shipment. The report supports BLS plans to move more price quotations to a time of shipment basis, which is the appropriate basis for deflators. However, series on prices at the time of order are also of interest for other purposes. They will serve as a better leading indicator of general price changes than will prices at time of shipment.

I should like to point out that the distinction between time of order and time of shipment is only one of the timing issues that need to be considered. Another major distinction is between prices under new contracts and prices under continuing contracts. This issue affects both commodities sold under long-term contract, such as steam coal to utilities or crude petroleum to refiners, and payments for services such as rent and mortgage interest rates. Studies of the cyclical behavior of prices will find the movements of prices on new contracts of greatest interest. On the other hand, the average price under all contracts in force is clearly the relevant measure for deflators, and the same is true for the use of price indexes in cost-of-living escalator clauses.

The BLS practice on this issue is not consistent. At the time data were collected for the Ruggles report, coal was priced on the basis of average realized unit selling price, which includes prices under old contracts. Domestic crude petroleum was priced on the basis of spot prices posted by buyers, which presumably reflects short-run demands for quantities in excess of any being received under contracts. In a Laspeyres price index, it would be consistent to have separate series on spot prices and average existing contract prices, together with base-period data for use as weights on the fraction of output sold on each basis. Data on average realized sales prices from sellers who sell on both bases will reflect the movements of both kinds of prices, but they will also reflect shifts in the relative importance of the two arrangements. This is consistent with the use of current value weights in the broad construction of deflators, although deflators are generally based on Laspeyres price indexes at the item level.

A much more important example of the timing problem concerns the pricing of rent and mortgage interest in the CPI. Rent has always been priced as the average monthly rental under existing leases or unwritten commitments, the appropriate concept for deflation and escalation. Changes in mortgage interest, however, are based on the rates quoted on new mortgages beginning in a given month. The effect of this is to give fluctuations in mortgage interest rates a disproportionate effect on the

CPI. When interest rates rise, there will then be a corresponding tendency of cost-of-living adjustment clauses in collective bargaining agreements and the legislated formulas that govern transfer payments to overcompensate the average recipient of such income. This issue deserves attention both from BLS and from the Council on Wage and Price Stability. One solution to the problem would be for BLS to collect and publish mortgage interest rates on both bases, but not to include the separate series on rates on new mortgages in more aggregative indexes. The problem in this instance does not affect the deflator for personal consumption expenditures, since the imputed rent on owner-occupied housing is based on the rent of rental housing.

The final issue I should like to mention concerns adjustment for quality change. The present practice of the Bureau of Labor Statistics and the Bureau of Economic Analysis (BEA) is to make an adjustment in a price series for quality improvement in a product when data can be obtained on the cost to the producer of making the improvement. The Report of the Advisory Committee quotes a BEA paper which states that such data are not always available, and that quarterly movements in the affected series will therefore appear as price changes rather than as output changes. Presumably we can all agree that more data on the costs to producers of quality improvement would be desirable.

There is, however, a much more important aspect of quality change that the report does not consider. This is what may be called "costless" quality improvement resulting from technical change. Of course, such improvement is not really costless, since it usually results from prior investment in research and development. But it is "costless" as BLS and BEA use the term if it does not cost the manufacturer more to make the improved product.

These issues are being considered at much greater depth at other sessions of this conference, and their further exploration here would not be appropriate.

The Advisory Committee on Gross National Product Data Improvement was asked to consider improvements within the framework of the existing National Income and Product Account rather than to consider changes in that framework. Given this charge, chapter 7 of their report does a very good job. Its sins, if there are any, are all sins of omission rather than commission. Its recommendations are sound and pertinent and should be carried out to the extent that available resources permit.

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Some Comments on Papers on the Creamer Report

Daniel Creamer

Murray Foss gave me two directives: (1) to be a discussant of that part of Morris Cohen's paper dealing with the "overview" and of Alfred Rees's paper on "The Improvement of Price Data," and (2) to respond to anything else that moves me to comment. I interpret the latter as an invitation to ramble, which at my age comes naturally.

The practice of attaching the chairman's name to the sort of report we have prepared certainly fails to be fully informative and seriously slights the contribution of others. I should like to emphasize that the writing of the report was a staff effort. Norman Frumkin made the single largest contribution in the research, the drafting of chapters, and overseeing the final draft through publication. La Verne Collins's contribution was also a major one in the preparation of report materials and in writing. Lou Weiner prepared the chapter on price data and, before ill health overtook him, he further assisted us by persuading Stephen Taylor to take responsibility for the chapter on flow-of-funds estimates. Needless to say, the members of the advisory committee provided guidance throughout, saved us from numerous (but, as Morris Cohen has demonstrated, not from all) errors, and were fully supportive. We also appreciate their forbearance from complaining when their one-year commitment was stretched to four-and-one-half years.

The last point leads directly to Morris Cohen's first remark. He refers to the four-and-one-half years from the inception of the project to the completion of the report and the additional lapse of 18 months until publication. This delay is characterized as "deplorable." Since I have no responsibility for the printing delay, I agree with Morris that that delay is certainly deplorable.

The matter of the four-and-one-half years to prepare the report, I think, is worth a few comments. Certain features of the original design of the project meant delays were inevitable. The budget of $80,000, even in 1973 prices, is not a generous sum. In addition to myself, there was to be a

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staff of three who were to be on half-time loan (not reimbursable) from regular full-time employment in federal agencies. My own input was also restricted to half-time. Until mid-1975 this was necessary because of my continuing commitment to the Conference Board. After that date a half-time schedule just about matched my energy level. Having my base in New York City was the source of some inefficiencies. This experience suggests to me, and this is my reason for dwelling on it, that, if sponsoring agencies are to avoid deplorable delays, they should provide budgets adequate for full-time staff and direction and not entrust the project to a nonresident who does not have the energy for a full-time commitment.

Beyond the sponsors' mistakes must be mentioned the approach that I imposed on the project. To carry out the assignment, it seemed to me that it was essential to deal with the nuts and bolts of a vast network of interlocking estimates. To master these details on a half-time basis is time-consuming, especially since the last detailed description of the construction of the national accounts published in 1954 was obsolete. Another necessary step was the review of each proposed recommendation by the appropriate data-collecting agency in order to have the benefit of their judgments on relevancy, feasibility, and cost. This too is time-consuming. Perhaps one may argue that we overwhelmed ourselves by concerning ourselves with so much detail. Less detail would have shortened the time required. However, to have done so would have probably undercut another objective of the project, namely, to provide the Office of Federal Statistical Policy and Standards with a management tool to assist in further developing the economic statistics of the federal statistical system. This objective, it seems to me, is better served by the degree of detail that we attempted to provide.

Now for a few remarks on more serious matters. There are three or four points in Morris Cohen's paper to which I would like to respond. Morris notes correctly that there is no mention in the report of capital stock estimates. I had every intention of addressing the subject, in part because this has been a subject of special interest to me. Despite the four-and-one-half-year interval, time was up before I got around to it.

There is one aspect of the subject that seems to have escaped attention. It relates to the measurement of increments to capital stocks in short time periods, say, up to one year. For such intervals, capital expenditures are an inadequate basis for estimates of increments to gross capital stocks if the estimates are to be used for measurement of capital productivity, capacity, and capacity utilization. Capital expenditures as a concept is weak in that they include progress payments for capital items not only not yet installed but not yet completed or received. Much more relevant are "additions to depreciable assets" in a given period. This statistic, I should think, is readily available from enterprise accounts. If I were asked for another recommendation, without benefit of review by the advisory

committee, it would be for BEA to add a question on its company plant and equipment survey on additions to depreciable assets in each quarter. A similar recommendation would be relevant to the Census Bureau for its Annual Survey of Manufactures.

Since shipments are a closer proxy for gross additions than capital expenditures, it occurs to me now that BEA might want to review its current methodology in estimating quarterly producers' durable equipment by type. For most of the items the procedure entails an averaging of shipments and expenditures.

This distinction may explain the difference between the movement of commodity-flow estimates (essentially shipments) and survey estimates based on expenditures. This seems to puzzle Morris Cohen. In a given quarter they need not show the same relative movements. Both concepts should be measured since they serve different analytical uses.

The second point that I have selected from Morris's paper is his concern over the estimator's failure to make explicit use of year-end business accounting adjustments. These adjustments Morris points out can make a "whale of a difference" in a company's reported profits. The effect of this failure, I should think, is much less serious than Morris suggests. NIPA estimates depend on aggregates of company reports, and this allows for the possibility of adjustment errors being offsetting to a significant degree.

The third item is his final plea "to lean toward the contemporary recording of economic events, even if the trade-off is a somewhat less accurate measurement of secular trends." May I suggest the trade-off may be more costly than stated. This is particularly true if among the requirements for achieving more accurate recording of the recent past is to have larger samples and higher response rates. This typically means less timeliness. Are users ready to accept this? Of course, advances in enterprise use of computer technology for record keeping and reporting may change this.

Alfred Rees, as is Morris Cohen, is a gentle critic of our report, or more specifically in Rees's case, of our chapter 7 on "Improving Price Data." He seems to agree with what we said but mildly chides us about what was left unsaid, our sins of omission. Clearly his points are valid, and we do confess to the sins. The inclusion of the specific points noted in his paper certainly would have made for a more balanced discussion. My only response is a rationalization developed in retrospect. The reason for the omissions, I suppose, is that we were much impressed by the revision plans of the BLS both for the CPI (then in progress) and for the Producer Price Index. The perceptive and imaginative character of the planned revisions suggested to us that our most helpful course was to recommend as strongly as we could that BLS be given the resources to implement its plans with all due speed. If this were done, we were confident the more

glaring deficiencies of the price indexes (mentioned and unmentioned) would be eliminated. Still fuller discussion might have undercut the degree of emphasis we wanted to place on this major recommendation.

In Ronald Kutscher's paper, our errors of omission from the perspective of measuring economic growth are for the most part requests for new aggregates and for finer sets of disaggregation. These specifics are one with his final observation that in addition to examining whether the auto parts were the best available we should also have explored whether this auto was the correct form of transportation. (Is there not another question implied: From where to where do you want to travel?) I understand Kutscher's sense of dissatisfaction with our report on this score. However, our report seemed required and feasible with reference to the quality of the auto parts that we were directed to scrutinize and to suggest specifics for improving. To deal with the proper form of transportation was stipulated as being out-of-scope.

Nonetheless, I should mention that our outlines for the final report at one time provided for an epilogue on the probable new data needs for the NIPA accounts over the next 10 years—an attempt at a forward look. The long struggle to complete what has now been published precluded the preparation of the epilogue. But all that happens is for the best. We now have Richard Ruggles's perceptive analysis of new directions for the national accounts together with those of Ronald Kutscher from a more limited perspective. I am sure these statements give us a better start on new directions than any statement I might have completed.

And now a concluding word to say we much appreciate that the Income and Wealth Conference took our report seriously, virtually unseen—at least seriously enough to have placed it on the agenda. We hope you conclude that a fair number of the objectives expected of the report have indeed been met.

A Bureau of Economic Analysis Perspective

Robert P. Parker

I would like to say a few words about the Creamer Report from a BEA perspective. Clearly, the preparation of this report has been beneficial to BEA. Specific changes that have resulted from the report have been enumerated in an article that appeared in the March 1979 issue of the *Statistical Reporter*. Although I won't repeat the listing of improvements already in place or shortly forthcoming, there has been definite progress. BEA already has adopted some of the recommendations. For example,

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BEA now makes available at the time of the release of the preliminary GNP estimate its projection of key series for which data for the quarter are missing. The published monthly personal income series has been expanded to include personal taxes, outlays, and saving. Also, funds to prepare constant-dollar defense purchases are now part of BEA's budget, and the resulting series have been incorporated into the published GNP estimates. Work also is progressing at BEA on many of the other Creamer Report recommendations. These projects include the reconciliation of the GNP and the FRB industrial production index, improving the Plant and Equipment Expenditures Survey, introduction of BLS price data into the deflation of exports and imports, and the estimation of capital stock by industry.

The process of preparing the report and the steps taken to implement its recommendations also have had other impacts on BEA. There has been some improvement in the communication of our needs to other agencies—both those with which we have had limited or no contact in the past as well as those with which we have had continuing relations. The improved communications have increased not only the level of understanding of the role of each agency's data in preparing the NIPA estimates but also the number of people at these agencies who understand our needs. Furthermore, at BEA there has been increased awareness of the role of other agencies in providing our source data and the problems—financial and others—of these agencies in obtaining additional data. This expansion of the understanding of mutual needs and problems in my opinion also will lead to improved NIPA estimates.

While I don't want to diminish in any way the pluses of the Creamer Report for BEA, it also is necessary to consider its minuses. As has been implied by other speakers at the conference, the report itself really has few or no minuses—only limitations. Thus, I would like to discuss the limitations of the report itself and some problems that have arisen in the process designed to implement the report's recommendations.

First, the implementation plan did not take into account the maintenance of the status quo with regard to source data, especially with regard to the sample size underlying key NIPA source series. For example, at the same time the IRS was being asked to increase its budget for certain improvements, they were significantly cutting back on the size of the sample used to prepare the *Statistics of Income* reports. Similar situations developed with regard to the Federal Trade Commission and the *Quarterly Financial Report* and the Department of Agriculture and the *Farm Production Expenditure Survey.*

Second, the implementation plan focuses attention on the recommended improvement items at the individual agency level and not at the total level. Thus, one agency may add to its budget proposal a $50,000

improvement item that is far less important to improving the quality of the NIPA estimates than a comparably priced recommendation to an agency that decides not to push this latter item and request the necessary funding. In other words, the additional money being spent on improvement items is not always being spent for the highest priority items. This development may be occurring because the report did not provide priorities for its recommendations.

Third, the report does not seem to have influenced the level of scrutiny in the forms clearance function performed in accordance with the Federal Reports Act for potential sources of NIPA improvement. This situation is especially true in the case of information collected in interview surveys from which microdata files are created—such as the *Current Population Survey* and the *Survey of Income Program Participants.* This lack of concern for NIPA improvement increases the problems of integrating these microdata files with the macroestimates prepared by BEA.

As for the report itself, I have a few comments. It would have been better had the report provided for an annual or less frequent updating. As it now stands, as we identify new needs for data, there is no provision to supplement the recommendations.

Another problem with the report is that it might have been better had the report emanated from the Office of Management and Budget (OMB) rather than the Commerce Department. Although the Office of Federal Statistical Policy and Standards has been diligent in its efforts to implement the recommendations, OMB, because of its clout with the budget, may have had more success in gaining agency cooperation.

Finally, the report did not sufficiently deal with potential problems facing the statistical agencies who must collect the additional data. There are two specific problems that we see in this area. The first is the pressure to reduce reporting burden; the second, the role of the standards-setting bodies of the accounting profession.

The pressure to reduce the reporting burden runs opposite to the recommendations of the Creamer report to collect more data. It seems to us that something needs to be done to counter the pressure to reduced reporting burden, since the successful collection of additional data can only proceed with the support of the business community. With regard to the accounting profession, the rules underlying "generally accepted accounting principles" do determine the kind of data easiest to collect. Rule changes—such as those affecting leasing and capitalization of interest—can create serious problems in collecting data conceptually consistent with the BEA's needs. What is needed is for the data needs of national income accounting to be seriously considered in the process of formulating accounting rules, as I understand is done in some European countries. While BEA has written position papers on various proposals of the Financial Accounting Standards Board, we see no indication of any

recognition that our concerns are legitimate. We feel that the communication of the importance of the NIPAs, imput-output tables, and International Transaction Accounts to both the business community and the accounting profession is vital to improving the ability of the federal government to collect data to improve the quality and timeliness of BEA's work. A proposal dealing with these problems in the Creamer Report would have been most welcome.

The last topic I'd like to discuss deals with the potential improvement to GNP that will come from the expanded Producer Price Index program of BLS. Several conference speakers have applauded this work, which is designed primarily to generate industry net output prices. The deflation of GNP will benefit from this effort in several ways: more transaction prices, better information on the timing of prices on a delivery basis, and more commodity prices. However, BEA's needs are for commodity and not industry prices. In the short run, BEA would benefit the most by the immediate development of prices for such commodities as ships, computers, and large aircraft, as recommended in the Creamer Report. We hope that BLS will be able to help in this area sooner than is called for in their present plans.

In closing, the Creamer Report has focused widespread attention on BEA's work. Its recommendations will point the way toward improving the statistics underpinning this effort. We see the report as emphasizing, clarifying, and justifying our long-standing quests for more and better data.

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