THE NATIONAL ECONOMIC ACCOUNTS OF THE UNITED STATES

HEARINGS

BEFORE THE

SUBCOMMITTEE ON ECONOMIC STATISTICS

OF THE

JOINT ECONOMIC COMMITTEE

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THE NATIONAL ECONOMIC ACCOUNTS OF THE UNITED STATES

TUESDAY, OCTOBER 29, 1957

CONGRESS OF THE UNITED STATES,
SUBCOMMITTEE ON ECONOMIC STATISTICS OF THE
JOINT ECONOMIC COMMITTEE,
Washington, D. C.

The subcommittee met at 10 a. m., pursuant to call, in room 1301, New House Office Building, Hon. Richard Bolling (chairman of the subcommittee), presiding.

Present: Representative Bolling.

Present also: John Lehman, acting executive director and James Knowles, staff economist.

Representative BOLLING. The subcommittee will be in order.

To begin with, I would like to say that both Senator Sparkman and Congressman Talle hoped to be here, but Senator Sparkman is in Europe and Congressman Talle was unavoidably detained.

This morning the Subcommittee on Economic Statistics holds the first of two panel discussions on the subject of the national economic accounts statistics.

The Joint Economic Committee has been interested in these data from the beginning of its work. The Employment Act itself provides for a consideration of the current and foreseeable trends in the economy and their implications for public and private policies, which necessarily requires that data be available in the form of a set of national economic accounts.

The first section of our monthly publication Economic Indicators is devoted to these accounts, and its first table gives recent data for the summary items in the national income, expenditures and savings accounts estimated by the National Income Division of the Office of Business Economics in the Department of Commerce.

The full committee has, at regular intervals, had its staff prepare for our use a nation's economic budget showing recent and prospective trends in income, expenditures, and savings for each of the major sectors—consumer, business, and government. This format has been used also for studies of the longer-range outlook for the economy and its problems, for example, Potential Economic Growth of the United States During the Next Decade, published in 1954.

We also have kept up with the development of other types of national accounts, such as the flow of funds and the interindustry type of analyses, though these have not been used intensively in our current work as a committee.

Consequently, the committee, in recent years, through this subcommittee on economic statistics, has had a continuing interest in improving the various national economic accounts. Some improvements were called for in the original statement on statistical gaps which the committee published in 1948. Improvements have been recommended in other committee reports each year since that first report.

When we learned that Dr. Bowman had contracted with the National Bureau of Economic Research to set up a national accounts review committee, we looked forward with great interest to hearing the results. In today's session we shall hear from Dr. Raymond Bowman, Assistant Director for Statistical Standards of the Bureau of the Budget, and from the members of the national accounts review committee, which was set up by the National Bureau of Economic Research at the request of Dr. Bowman. Tomorrow a panel of users and producers of such statistics will discuss the findings and recommendations of the report from their particular points of view.

In view of the fact that the report of the national accounts review committee was made to the Bureau of the Budget, I think it very appropriate, Dr. Bowman, that you lead off our discussion of this report, and that you introduce the members of the review committee.

Dr. Bowman?

STATEMENT OF RAYMOND T. BOWMAN, ASSISTANT DIRECTOR FOR STATISTICAL STANDARDS, BUREAU OF THE BUDGET

Mr. BOWMAN. Thank you, Mr. Chairman.

If I may, I would like as the first item to transmit to the committee officially the report of the national accounts review committee, as submitted to the Bureau of the Budget by the National Bureau of Economic Research. The errata and omissions noted in appendix H have been marked on the copy.

Representative BOLLING. I take pleasure in officially receiving it. It will be reproduced in full in the appendix of this record.

(See appendix, p. 101.)

Mr. BOWMAN. As you know, the report was prepared by a special committee of experts appointed by the National Bureau of Economic Research, under a contract made for that purpose by the Bureau of the Budget. I therefore take pleasure in introducing to you the members of the committee:

Mr. Raymond W. Goldsmith, chairman, who is a member of the research staff of the National Bureau of Economic Research.

Mr. V. Lewis Bassie, who is professor of economics at the University of Illinois.

Mr. Gerhard Colm, chief economist, National Planning Association.

Mr. Richard Easterlin, associate professor of economics, University of Pennsylvania.

Mr. Edwin B. George, director of economics, Dun & Bradstreet, Inc.

Mr. Joseph A. Pechman, member of the research staff, Committee for Economic Development.

Mr. Roy L. Reierson, vice president, Bankers Trust Co.

Mr. Richard Ruggles, professor of economics, Yale University.

Mr. Lazare Teper, research director, International Ladies' Garment Workers Union.

Thank you, Mr. Chairman. I believe that now it would be in order for Mr. Goldsmith to present the report of the committee; is that correct, Mr. Chairman?

Representative BOLLING. That will be entirely satisfactory.

Mr. BOWMAN. With the chairman's consent, I would like first to read a very brief statement to give some background for the report and for the Budget Bureau's objectives in organizing the study.

Representative BOLLING. Proceed as you wish, Mr. Bowman.

Mr. BOWMAN. Mr. Chairman, the Bureau of the Budget very much appreciates the opportunity which the Subcommittee on Economic Statistics of the Joint Economic Committee has provided for reviewing the report and recommendations of the National Accounts Review Committee.

The statistical work of the Federal Government has been significantly advanced by the interest which the Joint Economic Committee has shown in the development of more adequate and better integrated Federal statistics to provide a basis for sound policy decisions. The needs for improved economic and social intelligence are felt by all segments of our economy—by business, labor, and research organizations, as well as by the legislative and executive branches of our Government—and the active, informed interest of the Joint Economic Committee in efforts to meet these needs is a continuing source of strength and encouragement to the various statistical agencies and to the Office of Statistical Standards in the Bureau of the Budget.

The report which you are reviewing today—the National Economic Accounts of the United States: Review, Appraisal and Recommendations—was prepared by a committee of experts appointed for that purpose by the National Bureau of Economic Research at the request of the Bureau of the Budget.

It is not my intention this morning to attempt to summarize this report, since the experts who prepared it are here for that purpose. Perhaps I can be most helpful if I summarize the background of the report by indicating, briefly but as specifically as possible, what ideas led to the Budget Bureau's request for a special study of our national economic accounts.

The need for improved economic statistics stems from the importance of prompt and accurate information on the functioning of our economy in reaching wise policy decisions—decisions that recognize the indirect as well as the direct effects of a given policy. At present, for instance, there is pressing need for improved knowledge about prices and inflationary pressures.

Similarly, we need to know more about profits, wages and productivity, and about the relationship of these factors to prices. The character of investment, the sources from which funds are provided, the willingness of individuals and businesses to spend and to save, and the ability of the financial institutions to facilitate saving and investment—information on all these elements is requisite to the maintenance of an economic climate for high-level prosperity without inflation.

Many specific recommendations for improvements in Federal economic statistical programs were presented 2 years ago to this subcommittee in the excellent reports prepared by the 5 consultant com-

mittees appointed by the Board of Governors of the Federal Reserve System. Those committees were organized in response to your request to the Federal Reserve Board for a study of the adequacy of our statistics on inventories, savings, and business and consumer expectations.

The Joint Economic Committee's present study of prices in relation to economic stability, and its recent collection of materials on productivity, prices, and incomes are further evidence of its direct interest in and concern with the adequacy of the basic data on which policy decisions in these areas must rest.

Although there is wide recognition of the needs for improved economic measures, there is less general agreement on how these needs can most appropriately and most efficiently be filled. We cannot create the kind of information we need by the wave of a magic wand. Whether for initiating a new series or revising an existing series, we must consider a whole complex of questions concerning the way in which the information is collected, the concepts and definitions used to define the elements of information sought, the relations to other series, the availability of the data, the reporting burdens imposed, and budget requirements.

Everyone is familiar with the problems of costs and reporting burdens as they relate to the collection of statistics, but there is generally less recognition that, in order to serve their purposes adequately, statistical data must be properly integrated: That is, they must be parts of a consistent whole rather than independent series which cannot be combined or used together with confidence.

We must make sure that appropriate relationships have been considered, and for economic data, it seems to us, the most useful and practicable system of organization is provided by the national economic accounts.

The various national accounting systems not only serve special purposes in themselves, but in addition, provide a consistent frame of reference for seeing that necessary associated data match appropriately. They also reveal what data are lacking and what data are inadequate, inaccurate, or not prompt enough.

It was with these objectives in mind that the Bureau of the Budget requested the National Bureau of Economic Research to undertake a review and appraisal of our national economic accounts. As the agency responsible for coordination and improvement of Federal statistical programs, we sought expert guidance for a better integrated program to meet the needs of basic economic analysis.

In our opinion the report does provide an excellent source of guidance and should aid materially in developing a truly useful and valid Federal statistical program.

The report speaks for itself. Particular points and specific recommendations must, of course, be subject to further exploration with the statistical agencies concerned, and their implementation must also be subject to overall budget review. It is our hope and expectation, however, that much of what is here recommended can be accomplished in our efforts to achieve the goal of a statistical program which will correctly, and promptly, depict the operations of our economy.

Representative BOLLING. Thank you.

Mr. BOWMAN. Thank you, Mr. Chairman.

Representative BOLLING. If I understand correctly, the next panelist we will hear is Mr. Raymond W. Goldsmith, Chairman, National Accounts Committee, and member of the research staff, National Bureau of Economic Research.

STATEMENT OF RAYMOND W. GOLDSMITH, CHAIRMAN, NATIONAL ACCOUNTS REVIEW COMMITTEE

Mr. GOLDSMITH. Mr. Chairman, with these hearings before the Joint Economic Committee the national accounts may perhaps be regarded as having come of age, not only as an occasional purveyor of information for other purposes, but as a branch of economic analysis in its own right.

Dr. Bowman has just told you how our committee and our report came to be, and why a review of the system of national accounts is regarded as an important aspect of the statistical and economic activities of the Federal Government. I do not, therefore, have to start with an apology. Nor do I need to take your time with summarizing our own recommendations, since we have tried to provide such a summary as succinctly as possible in chapter I of our report. All I shall do in the short time available is to indicate how the committee arrived at its recommendations and then to state as clearly and forcefully as I can the essence of our findings and recommendations. In doing this, I trust that I reflect the views of all members of the committee, but please understand that the statement I am making has not been examined by the other members of the committee, and that this also applies to the other statements of committee members which you will hear this morning.

The committee operated from November of 1956 to this June. During this period all members gave to the committee's work considerably more of their time than is often the case in such enterprises. This, indeed, was necessary since, except for our efficient secretary, Mrs. Alice Jones, we had no staff.

We made it a point carefully to ascertain the experience and needs of the main groups of users of national accounting data—Government officials, business executives, labor economists, and just plain academic economists—by means of individual and group meetings and by distributing 3 questionnaires which yielded about 100 replies, some fairly voluminous and many quite interesting.

We then proceeded to draft our report, allocating first drafts of the various sections to different members of the committee. You will see some reflection of this division of work in the allocation of subjects to the three members appearing here this morning with a statement.

Finally, we went over these drafts in a series of committee meetings and hammered out the report which you have before you. We regret that the limited time we had prevented us from giving as much attention to some problems as we should have wished and forced us to omit the discussion of a few, usually minor, aspects altogether.

While not every member agrees with every single statement and conclusion in the report—you will have found evidence of some of these agreements to disagree if you have read the full report—I think that I may claim that there was a meeting of minds on the practical recommendations and that the report is the result of a genuine cooperative effort.

If I had to condense our findings and recommendations into 1 or 2 pages, I would venture to formulate them approximately as follows and would hope that all my colleagues agree with the substance of my statement:

1. We find that the quality of the estimates in our national accounts is by and large as good as the primary data available and the funds allocated to their processing and analysis permit. Although we make a large number of suggestions for extending and improving our national accounts, the committee wants to state as emphatically as possible that these suggestions are not a reflection on the competence or the diligence of the organizations that have been working in this field, particularly the National Income Division of the Office of Business Economics in the Department of Commerce. Great progress has been made in the last 10 years in the development of our national accounts but our needs for accurate, up-to-date and detailed national accounting data simply have increased even more.

2. Taking everything together, the United States probably still leads the world in the field of national accounting, but the margin has become much narrower during the last decade. We must now make a considerable effort to keep our lead. If this be jingoism, make the most of it. I plead guilty to wishing to keep the United States in front in this field.

3. We are convinced that the development of a flexible integrated system of national accounts comprising the national income accounts, the money-flow statements, the input-output tables, the balance of payments, and the national balance sheet, is the most important long-range objective in this field. To this point I shall return in a moment.

4. The improvements in the national accounts which we recommend often call for more and better basic statistical data. These improved data would be of use not only for the national accounts, but in many other fields of economic and business statistics. This point must be kept in mind in assessing the cost of the committee's recommendations.

5. The committee is fully aware—and I am now quoting verbatim from our report—that the recommendations it is making will cost money. Even the present scope of national accounting work within the Federal Government could not be maintained for long unless additional funds were forthcoming, since the present level of output in this field has been possible only at the cost of undermaintenance.

A decision clearly must be reached in the not too distant future regarding the importance of an adequate system of national accounts for government, for business, agriculture, and labor, and for economic research. If the importance and potentialities of such a system are anywhere near what the committee believes them to be, a substantial increase in the funds spent on national accounting work by the Federal Government is required and is fully justified even under the strictest requirements of economy compatible with efficiency in government.

In particular, a substantial increase in the staff of the National Income Division of the Department of Commerce, which now provides all our national income and product estimates, is an urgent necessity and a prerequisite of many of the committee's recommendations. Such an increase is the more urgent, as the size of the Division has been reduced by about one-fourth since 1950 while its responsibilities have expanded.

The few minutes that remain to me I shall use to expand on one of the points just made—the need for an integrated system of national accounts—and to discuss a few of the problems that the long-range development of such a system raises.

This does not mean that I regard the improvements that can be made in the next few years in the national accounts as minor in extent or small in importance. Indeed, most of our report has been devoted to just such suggestions that can be put into effect in the near future, and you will find the summary of such a high priority program in chapter I of our report. But these suggestions are individually often of technical nature and of interest primarily to regular professional users of the national accounts, and they do not lend themselves easily to summarization. If any questions arise in connection with them, my colleagues and I will be glad to answer them as best we can once we have completed our statements.

When we talk of developing an integrated system of national economic accounts, we are thinking essentially of four bodies of data which hitherto have had fairly independent lives. The first of these, of course, are the national income accounts. They register the value of the output of finished goods and of services within the Nation and the incomes that flow to various groups—households, business, government—as a result of their contribution to output.

Secondly, there are the flow-of-funds, or money-flow, statements, which show the funds received by the various institutional sectors in the economy, in the aggregate and by type, and indicate the uses which these sectors make of their funds.

Third, we have input-output tables which trace in detail the purchases and sales of raw material, semifinished goods, finished commodities, and services among industries, using a much finer industry and commodity classification than is possible in income accounts and in money-flow statements.

There are, fourthly, the national and group balance sheets. These, the latest of the elements of the national accounts to be developed, list for the various groups and for the Nation as a whole the value of tangible and intangible assets and of liabilities, in the aggregate and by types, and show the difference between assets and liabilities of each group, usually called its net worth or equity.

Even this brief description may have indicated how closely related these four bodies of data are. One would first expect a nation, or a group within it, to have—like every self-respecting business—both an income account to register incomings and outgoings, and a balance sheet to reflect assets, liabilities, and net worth. Anyone familiar with accounting would also be aware of the close connection between the income account and the balance sheet, evidenced for instance in the fundamental relation that undistributed earnings in the income account are equal to the change in earned net worth in the balance sheet. The relation between the income account and the flow-of-funds statement is even closer in principle. These are, in essence, but two alternative ways of classifying the same transactions, though they differ considerably in detail. The flow-of-funds statement, for example, includes transactions in existing assets, concentrates on financial transactions, and treats financial institutions in much greater detail than the national income accounts.

Input-output tables, finally, can be regarded as putting on a gross basis a body of transactions which is netted in the national income account; that is, all so-called interindustry transactions, such as the purchase of steel by an automobile manufacturer or a purchase of canned peaches by a supermarket. In that function, input-output tables are a supplement—and, for some purposes, a most important one—to the national income accounts which show only purchases of finished commodities and of services by ultimate buyers.

When we recommend a progressive, though gradual, integration of these bodies of data, centering around the income and products accounts, we mean that they should use either identical definitions, classifications, and valuations, or, to the extent that differences must continue, that they would permit a translation from the terms of one system into those of another. Practically speaking, the goal is a system the parts of which fit conceptually and statistically, and can be used together without the need of complicated or publicly unavailable adjustments.

We do not ignore that the integration of these four bodies of data will take time; that it will jolt some old-established practices and conventions; that it should not prevent the use of the constituent elements for the different purposes of analysis they were originally developed for; and that it must not impede the continuous development and improvement in each segment. We are convinced, however, that in the long run an integrated system of national economic accounts will serve the needs of all users better, with less confusion, and at less cost. Such an integrated system may allow us to take full advantage of the promises which the general introduction of electronic accounting in business and Government holds out for national accounting.

It has not been among the committee's assignments to deal with the administrative implementation of its recommendations. But the committee could not entirely avoid to give some consideration to these problems.

First, then, we have little doubt that, as far as collection of basic statistical data is involved, decentralization is here to stay. This means that, as before, the national economic accounts will have to be built up from primary statistical data which are collected by numerous independent agencies within the Federal Government.

Secondly, the committee regards it as essential that at the summary level a single integrated system of economic accounts be published at regular intervals in a single document organized, though not necessarily prepared, by one agency.

Thirdly, the committee believes that competent staff economists and statisticians specializing in national economic accounting be close to the makers and advisers on economic policy and serve as a link between the statistician responsible for drawing up the national economic accounts and the officials who will use them in the formulation of economic and fiscal policies.

Let me conclude with a trite and partly repetitious but nevertheless true and relevant comment, also taken from our report: One only gets what one pays for. If the administration and the Congress want to continue the process of slow but continuous reduction in the resources devoted within the Federal Government to national accounting work—a process that has been going on over the last few years—they

should face the fact that it will be impossible to carry out any of the more important improvements in the national accounts suggested in this report, or even to maintain the accounts in their present scope, quality, and promptness.

It is the users of the national accounts in business, labor, agriculture, and Government who would be the primary sufferers from such a development and who would suffer from it in terms of less reliable, less adequate, and less up-to-date figures on which to base their policy decisions than are available now or could be available to them with relatively modest additional effort and expense.

Thank you, Mr. Chairman.

Representative BOLLING. Thank you, Mr. Goldsmith.

I believe the next statement will be Mr. Edwin B. George, director of economics for Dun & Bradstreet, Inc.

STATEMENT OF EDWIN B. GEORGE, DIRECTOR OF ECONOMICS, DUN & BRADSTREET, INC., NEW YORK, N. Y.

Mr. GEORGE. Mr. Chairman, it was an exceptional privilege to have the opportunity to serve on the National Accounts Review Committee with these eight gentlemen who are seated before you. My interest in these matters goes back a good many years, and I have participated during these years in many discussions of both the theory and practice of national accounting.

As one of the less technical members of the committee, I think I can take the liberty to say—without running the risk of being accused of immodesty—that the talents that went into the writing of this report are among the best in the country in this very difficult and complicated field.

Since our chairman has already summarized the major recommendations, I will confine my remarks to two specific areas that are of particular importance to the users of the national accounts—the estimates for periods shorter than 1 year, and for geographic areas smaller than the country as a whole.

As between these two aspects of national accounting, we are in much better shape in respect to geographic estimates than we are in respect to short-term estimates. The Department of Commerce recently published a complete revision of its State income estimates back to the late 1920's—a revision which has provided a wealth of new information on the distribution of income among the States.

From the standpoint of sheer numbers, it is probably true that the State income estimates are used more frequently than any other single breakdown of our national income statistics. They are used for marketing analysis, for the estimation of State and local tax revenues, for the allocation of Federal grants-in-aid, and for research in a wide variety of regional and State problems, and I would add at this point for the plotting of coordinates for the estimating of bomb damage by defense authorities. It is not surprising, therefore, that our committee received a great many suggestions for the extension of the State estimates.

However, it is the committee's view that the emphasis by the Federal statistical agencies in the foreseeable future should be to expand and improve the accounts for the Nation as a whole. This is not meant

to imply that no further research on regional, State, or local income and wealth is needed. On the contrary, there is a great deal more to be done, but the committee believes that this work should be done at the State and local level, not primarily at the Federal level.

Local private or Government research units have a large potential comparative advantage in this area over a Federal unit. The local groups may be able to utilize information that might be overlooked in Washington; they are more familiar with local conditions and problems; they can discern the meaning of isolated data in relation to community activities more shrewdly; and they are in a better position to enlist the support and cooperation of local experts.

Federal statistical agencies would, of course, be available for assistance on such projects—as they have on many an occasion in the past. But the initiative should come from the State or community. Progress along these lines has already been made—by teams of the Chicago Federal Reserve Bank working in Milwaukee and Indianapolis, by a research group of the National Planning Association working in Mobile, Ala., Kalamazoo, Mich., and Gloversville, N. Y., and by university technicians in many States. These studies are admittedly a small beginning, but they demonstrate the tangible benefits of initiative at the local level.

As I have already indicated, our short-term estimates are in a less satisfactory condition. As our report indicates, business and labor economists are almost unanimous in their opinion that the presently available short-term estimates should be greatly improved. Their interest in short-term estimates is, of course, understandable, in view of the uses to which the national accounts in business and labor organizations are put.

There is no lack of interest in the long-term or structural aspects of the economy, but for the practical man the most important question is likely to be: How is the economy faring now and how is it likely to fare in the months ahead?

I know that members of this subcommittee will not be surprised to learn that the official national income statistics available to the practical economist who is asked to answer this question for his firm, labor union, or trade association are not adequate. The staff of your committee called attention to numerous gaps in our current national accounts data in its report entitled "Statistical Gaps"—a report published more than 9 years ago. What may be surprising to the subcommittee is that relatively little progress has been made to fill these gaps since that report was written. You will find in chapter VIII of our report a discussion of our recommendations for improving the short-term estimates in the national accounts. Among the more important recommendations are the following:

1. A speedup and improvement of the quarterly estimates of corporate profits;

2. Publication of quarterly data on new orders and expenditures for producers' durable equipment by type of equipment and possibly by users;

3. Separation of Government expenditures on capital equipment from other purchases of goods and services by Government, also by quarters;

4. Supplementation of the annual flow-of-funds estimates by a quarterly series.

Each of these recommendations is important, but I should like to emphasize a fifth recommendation that is particularly relevant to the current situation. As you well know, much of the increase in the gross national product since the beginning of 1957 is the result not of an increase in output but of the rise in prices that began more than 2 years ago.

We know, within a fairly reasonable degree of accuracy, what the dollar value of our gross national product has been during each of the first three quarters of this year, but we can only guess how much of the increase is the result of rising prices.

The fact that official estimates of the gross national product, corrected for price changes, are not available means that the practical economist who is following current trends closely is forced to make his own judgment. More often than not, he will make a "guesstimate" on the basis of available price information; in some cases, he may pull a number out of thin air.

I am certain that the cost of the time and effort devoted by non-Government people to this problem exceeds by a large margin the resources needed by the Federal Government to prepare a reliable official estimate that would be available to everyone. In other words, we are simply wasting resources by denying the Department of Commerce and other Federal agencies the few people they may need to make these estimates on a continuing basis, and much more thoroughly than any of us can do.

I suggest that, in this day and age, in an economy that is subject to continuous and often rapid changes; it is not a luxury but a necessity to have reliable quarterly data on the gross national product and its components in constant, as well as in current prices.

In closing, I should like to add a few words about a subject which always comes up when improvements in Government statistical programs are suggested. I refer to the problem of costs.

In this day of tight budgets and sputniks, there are many important claims on the Federal Treasury. I do not want to suggest that the Federal statistical programs are as important as our missile program or other expenditures that are essential for our national survival. However, based on my contacts in private business, I think it is fair to say that, in our zeal for economy, we have put the Federal statistical agencies on a starvation diet.

In my view, this is an example of economy carried to the point of wastefulness, because sound public and private policies to promote growth and stability cannot be made on the basis of inadequate statistical information.

I should like to emphasize, therefore, the following statement which appears in chapter I of our report:

> The relatively small increase in these [statistical] outlays that would be necessitated by the committee's recommendations is not only compatible with increased economy and increased efficiency in Government and business, but is essential to accomplish these goals given the widespread private and public use of these data. It would be false economy to abandon or postpone much-needed improvements in our economic intelligence. In terms of improved business management and more rational Government policies, hardly any other expenditure by the Federal Government promises higher dividends.

Thank you.

Representative BOLLING. Thank you, Mr. George.

Next is Mr. Gerhard Colm, chief economist of the National Planning Association.

STATEMENT OF GERHARD COLM, CHIEF ECONOMIST, NATIONAL PLANNING ASSOCIATION

Mr. COLM. According to the division of labor suggested by our Chairman, Dr. Goldsmith, I will discuss the Committee's recommendations relating to the Government sector in the national economic accounts. This sector represents 20 or 25 percent of the national account total. It is significant that I don't know whether it is 20 or 25 percent, and I will come back to this number.

The Government account sector poses particularly troublesome problems for national economic accounts. Our knowledge concerning the dollar transactions of the various governmental units is derived primarily from Government budget documents. However, the basic budget concepts and budget classifications which are used have been developed primarily for purposes of budget control and not for purposes of economic information.

The job of adjusting budget data to satisfy economic account needs is like fitting a square peg into a round hole. I propose to deal in this brief statement with two general questions, namely:

1. The concept of Government transactions used in presenting national economic accounts;

2. The economic classifications of Government expenditures.

1. The concepts of Government transactions: The Commerce Department had to do quite a bit of chiseling of the peg in order to make budget data approximately consistent with other national account data. National economic accounts are on an accrual basis; therefore, Government data also have to be converted as far as possible to an accrual concept.

Furthermore, the purchase or sale of existing assets had to be separated from current outlays and receipts, because this transfer of existing assets does not change the national production total. As a matter of fact, so much adjustment needed to be done that the Commerce Department's concept of Government transactions has become quite different from the concepts used in the official budget document.

The budget document recognizes two budget concepts—the administrative budget and the consolidated cash budget of the payments and receipts, receipts from and payments to the public. The Commerce Department's national account concept of the budget also recognizes two varieties: (1) "Government purchase of goods and services," which is a component part of the gross national product and is presented in the summary tables; and (2) a more comprehensive Government receipt and expenditure account which is presented only once a year in the special account table of the Annual National Income Supplement of the Department of Commerce.

Thus, my earlier statement that the Government accounts for 20 or 25 percent of the national account total depends upon which concept of the Government sector is adopted, whether it includes or excludes the so-called transfer payments.

The report of the Review Committee recommends that the Department of Commerce should publish each year a reconciliation between

the original Federal budget data and the Government sector data in the national economic account. Publication of such a reconciliation would, we believe, somewhat reduce the present confusion created by the use of several different budget concepts.

The Committee's report makes specific recommendations concerning the basic tables of the national economic accounts. Many of these recommended changes apply to the basic form in which the national accounts are computed and tabulated. However, the Committee also recommends the addition of a summary table which would be particularly useful for evaluating policies.

This suggested summary table, a copy of which is attached to my statement, and is also included in chapter V, page 42, of the committee's report, would identify Federal, State, and local government transactions, and would specifically include Government transfer payment items as well as expenditures for goods and services.

It would be desirable to publish this information quarterly. This summary presentation is similar to the form now used as table 1 in the Economic Indicators, but includes additional details which may be of special interest in connection with economic policy considerations.

The Committee maintains that Government programs have an impact upon the economy, whether they involve the purchase of goods and services or transfer payments. Therefore, both groups of expenditures should be shown in tables used for evaluating the impact of Government policies, and not only the purchase of goods and services as now appears in the summary statements of the Commerce Department.

2. Classifications of Government expenditures: Much progress has been made in recent decades in presenting more meaningful classifications of budget expenditures and revenues than were available previously. However, some of the useful classifications developed for the Federal Government are not equally applicable to State and local governments.

Also, some of the classifications in the Federal budget—that is, for national defense—differ from those used by the Commerce Department and both differ from those used by international organizations like NATO. Thus, the Committee recommended that efforts should be made to achieve greater uniformity in the functional classifications or, at least to explain unavoidable differences in concept and definition.

The Review Committee recommends that Government expenditures be classified by administrative expenditures, developmental expenditures, and additions to capital assets. Such a classification is presented in one of the special analyses of the Federal budget.

Every economist using Federal budget data appreciates this special analysis in which current expenditures, outlays for aid, for development programs, and additions to Federal assets are separated. The Committee recommends, however, a somewhat finer subclassification of the additions to Federal assets and also proposes that an effort be made to obtain similar estimates for State and local governments.

In recommending such a classification of expenditures the committee does not wish to suggest that an independent capital budget be developed; that question was not within the scope of its assignment. In addition, as part of the proposed national balance sheet to which

Dr. Goldsmith has referred, the committee recommends periodic estimates of Government assets. The annual statement of additions to national assets could then be used for making current estimates of the Government's capital stock.

Finally, the committee recommends an economic cross-classification of Government expenditures—either on an accrued or cash expenditure basis—by program and detailed object classification. An economic object classification—that is, according to wages and salaries, purchase of goods, payment for transportation, et cetera—now exists only with regard to obligationary authority. However, this is of limited usefulness.

It would be more desirable if such a classification system could be developed for actual Federal expenditures consistent with the standard industrial classification and for expenditures of State and local government, at least on a sample basis. A cross-classification tabulation of Federal Government expenditures would probably require a coding of all vouchers according to agency, program, and economic type of expenditure.

Transcribing the information would involve a considerable effort and would be costly. Such an effort deserves consideration, however, because the result would be of value both for the Congress and the executive branch as the basis for evaluating current progress on various programs.

Moreover, such detail would be essential if, at some time in the future, a new input-output or interindustry study would be undertaken. As Dr. Goldsmith has mentioned, it is the opinion of the committee that such a new study would constitute one important segment in a comprehensive and integrated system of national economic accounts, and then we should be ready also to provide the appropriate data for the Government expenditures.

In addition to the recommendations in these two areas, the committee considered the conceptual problems involved in treating Government interest and military and economic foreign aid in the national economic accounts. If the members of this subcommittee should wish to discuss some of these other problem areas at greater length, I shall gladly answer any questions which might be raised.

Improvements in our economic information concerning the Government sector are important not only because the Government is a relatively large sector in the economy, but also because changes in it are most directly subject to deliberate Government determination.

The Employment Act requires that all "plans, functions, and resources" of the Government should be utilized to accomplish the purposes of the act. It is my conviction that the quantitative guides for such determination can and should be improved. We recognize that this area is a special concern of this committee.

I appreciate the opportunity to have taken part in this cooperative effort and I am grateful for your patience in hearing testimony of such a technical nature. Thank you.

(Mr. Colm submitted the following sample table for the record:)

Summary of receipts and outlays for the economy

Sector	Receipts				Outlays					Excess of receipts (+) or outlays (−)
					Goods and services					
	Goods and services	Taxes	Transfers	Total	Current	Producer durables	Taxes	Transfers	Total	
1. Consumer households										
2. Nonprofit institutions										
3. Enterprises:										
(a) Nonfinancial private corporations										
(b) Financial private corporations										
(c) Nonfarm unincorporated enterprises										
(d) Farm enterprises										
(e) Government enterprises										
4. Government:										
(a) Federal										
(b) State										
(c) Local										
5. Foreign countries										
6. Subtotal										
7. Adjustments for intermediate purchases, transfers and statistical discrepancy										
8. Gross national product										

Representative BOLLING. Thank you, Mr. Colm.

Next, and I believe the last prepared statement, is by Mr. Richard Easterlin, a member of the research staff of the National Bureau of Economic Research, and associate professor of economics at the University of Pennsylvania.

STATEMENT OF RICHARD A. EASTERLIN, ASSOCIATE PROFESSOR OF ECONOMICS, UNIVERSITY OF PENNSYLVANIA

Mr. EASTERLIN. Mr. Chairman, before presenting the committee's recommendations relating to constant dollar estimates of national product I would like to indicate first the meaning and use of the constant dollar estimates and second the adequacy of the estimates we now have.

I think everyone is familiar with the meaning of constant dollar estimates. Today gross national product amounts to well over $400 billion, while in 1937 it totaled less than $100 billion. It is well known, however, that the higher 1957 figure reflects not only a greater output of goods, but also a generally higher price at which each is valued.

Frequently it is desirable to remove the influence on the national income totals of the change in the level of prices, and for this purpose the current-dollar estimate for each year—that is, the estimate expressed in dollars of purchasing power current in that year—is adjusted for the average change in prices from some base year.

The result, called a constant dollar estimate, is a series of national income figures in which the purchasing power of the dollar is constant from year to year. Such estimates are sometimes referred to as estimates of real national income or product.

What are the uses of constant dollar estimates? While there are many, the following are perhaps among the most important from the viewpoint of public policy:

1. Business cycle analysis—without constant dollar estimates it is not possible to say to what extent a change in gross national product from one year or one quarter to the next is due to a change in the physical volume of production and to what extent to a change in prices.

Clearly, in order to formulate proper policies for stabilizing the economy, it is essential to know whether the total volume of physical output is rising or falling and to what extent there are significant variations in the degree of change among the principal types of output—particularly between investment and consumption.

2. Productivity measurement—we are interested also in tracing changes in the Nation's productivity, as reflected, for example, in the average output per man-hour of work. We wish to know whether productivity increase in this country is becoming more rapid or slowing down, and how it compares with the rate of increase in other Nations. We wish to know in what industrial sectors of the economy productivity is increasing fastest, and in what sectors it lags behind. Answers to questions such as these require constant dollar estimates of national product and its components, supplemented by matching estimates of man-hour employment.

3. Appraisal of changes in levels of living—another very important use of constant dollar estimates is that of appraising changes in the Nation's level of living. For example, a constant dollar estimate enables us to determine whether the average volume of commodities and services per member of the population is higher in 1957 than a year or a decade ago, and if so, whether this higher level is due to a greater supply, say, of food and clothing, or automobiles, or defense goods.

Similarly, these estimates help us to compare the level of economic well-being of different groups in the population, by indicating for example, what changes are taking place in the distribution of real national income between persons in high- and low-income groups, between the farm and nonfarm population, and among members of the population in different parts of the country.

How well do the present constant dollar estimates serve these purposes? For business-cycle analysis, constant dollar estimates are needed for each quarter of the year. However, the etimates now published are only on an annual basis.

Actually, unofficial quarterly estimates are now made, but more work is needed to test and improve these estimates. Also, the annual estimates are not present in sufficient product detail for satisfactory analysis.

With regard to productivity measurement, no regular constant dollar estimates for individual industrial sectors of the economy are made, and hence adequate analysis of productivity change is not possible. The present constant dollar estimates are perhaps best suited for appraising the overall change in the Nation's level of living, though even here more detail on specific categories of product would be helpful.

However, there are no constant dollar estimates made for individual groups within the total population, and comparisons among these groups are consequently handicapped. These inadequacies, it should be added, are not a reflection on the national income division, which has hardly the staff required to develop the current dollar estimates.

Because of the fundamental nature of the uses to which constant dollar estimates are put, the committee assigns very high priority to further work in this area. Its principal recommendations are as follows:

1. Development of quarterly constant dollar estimates. As indicated above, unofficial estimates of this type are presently made. Hence, much of the necessary groundwork has been completed, and with only a small amount of additional work official estimates could be released on a regular basis. Eventually these figures should be given in detail as fine as that available for the present current dollar quarterly estimates.

2. Expansion in detail of the annual constant dollar expenditure estimates. Some extension in the detail of constant dollar consumption expenditure seems feasible at the present time. Over the longer run, estimates are particularly needed on consumers' and producers' durables of various types, and on Government purchases of goods and services.

3. Development of a constant dollar distribution of gross national product by industry of origin and a corresponding distribution of man-hour employment. This is essential for analysis of productivity change in the economy. At the present time it appears that the needed estimates can be developed only for a very crude industrial distribution—agriculture, households and institutions, government, and "all other industry." The major gap is detail on the real product of the nonagricultural sector of the economy.

4. Development of additional price indexes. A series of conferences should be initiated among interested users and producers to review the present constant dollar estimates, to survey the needs for development of additional price data and indexes for use in strengthening and extending constant dollar estimates of both national product and input-output data, and to recommend an integrated program for meeting these needs.

Though last among the major recommendations, this is in a sense the most urgent. A review of the type suggested is necessary for many of the longer run extensions of the constant dollar estimates recommended above. Moreover, it is basic to improving the quality of the present estimates—estimates that have not yet been subjected to a thoroughgoing review and revision—as well as to strengthening those extensions of the estimates which are believed practicable in the near future.

The price data and indexes presently used have been assembled for purposes other than the development of constant dollar estimates of national accounts data. If usefulness for national accounts purposes were also recognized, substantial improvements in the constant dollar estimates could be expected.

Thank you, Mr. Chairman.

Representative BOLLING. This is the last of the prepared statements. Before I call on the other members of the group I would like to say a few things in the hope that it will help focus the subsequent discussion. First, I will have to say what I conceive to be the purpose of the subcommittee.

None of us, as you know, on the subcommittee are ourselves technicians. We try to become sufficiently knowledgeable so that we can serve as a transmission belt to our colleagues on the needs and reasons for the needs in this particular field. I personally have been much interested not only by the report, but by the comments on the report and am personally, as I am sure most of my colleagues in the Joint Economic Committee, convinced of the necessity for what is the key point in this discussion—the expenditure of a relatively small amount of funds in the interest of vastly improving what are in effect the raw materials for the decision for policymakers both public and private.

Actually, the amount of money involved in the requests that have been made by the administration of the Congress in the last few years is exceedingly small. That is not a criticism of the administration's level of request, but the amount is minute when compared to any other program.

Leaving entirely out of this what the administration requests are, the difficulty that I have as an individual and as chairman of the subcommittee, that my colleagues of the subcommittee have, is to persuade our colleagues of why it is important that such and such a program be increased.

As amateurs, we are not able to discourse in technical language. If we could, it would be difficult for our colleagues to understand us. What we need are good, sharp examples of why these statistics are valuable not only for government policymaking, but how it is valuable to the private sectors, business, labor, and so on. If all of you would keep that in mind—a good many excellent things have already been said—and try to furnish us with sharp illustrations that we can use, it would be very valuable to us.

Now I will call on each of the remaining members of the committee.

Mr. V. Lewis Bassie, director of the Bureau of Economic Research and a professor at the University of Illinois.

STATEMENT OF V. LEWIS BASSIE, DIRECTOR, BUREAU OF ECONOMIC AND BUSINESS RESEARCH, AND PROFESSOR, UNIVERSITY OF ILLINOIS

Mr. BASSIE. At this point I should like to comment on only one minor point. It may have been noted that there appears a seeming inconsistency in the tables presented by the committee. I refer to table A–1 and table B–1 in which the presentation of the foreign data, our relations with the rest of the world, are treated somewhat differently.

Now, this arises out of a minor difference of opinion on the part of some members of the committee. Those who are interested in the basic structure of the accounts prefer it set up as in table A–1, and others who have perhaps a somewhat greater interest in current analysis and are used to thinking in terms of net foreign balance, had some preference for it to appear as in table B–1. What I want to make clear at this time, however, is that this is a very minor, you might say a trivial issue. The basic, substantive point that the committee wanted to recommend we were all fully agreed on; namely, we wanted the gross figures on trade, on services, and on grants and remittances to be shown.

Regardless of the exact form of presentation, whether it is as in table A–1 or table B–1, if the gross figures are shown, then it is merely a matter of arithmetic to get at either the gross availability or the net balance on the precise form that the analyst may desire in using it. For that reason, the majority of the committee felt that it was not necessary to resolve this minor issue and let it stand, since there was complete agreement on the changes which would make the data most useful to all users.

Representative BOLLING. Thank you.

Mr. Joseph A. Pechman, member of the research staff of the Committe for Economic Development.

STATEMENT OF JOSEPH A. PECHMAN, RESEARCH STAFF, COMMITTEE FOR ECONOMIC DEVELOPMENT

Mr. PECHMAN. Mr. Chairman, I would like to illustrate the practical needs for some of these data. Perhaps these illustrations will give you some ammunition to support the appropriation of additional funds for statistical purposes.

Today there is a great deal of talk, and there has been for many years, about the welfare of small business. Actually there are very, very few data on the activities of small business. We don't know much about them. The entrepreneurial income estimates in the national income accounts are built up from inadequate materials, particularly in the case of the current year figures. Statements that small business is not doing as well as large business are usually based on data from a sample of corporations which, as you know, constitutes a very small proportion of all small business, since small businesses are for the most part not incorporated.

It is curious that, in this important public policy area, neither the Congress nor the administration has anything to go by. Everybody thinks that we ought to improve the welfare of small business, but we don't have the facts to help us formulate appropriate policies. The national accounts can provide an excellent basis for summarizing information on small business that would be needed to answer these questions.

It is rather interesting, it seems to me, that for one segment of small business, namely, the farm segment, there is a great deal of information. We have not only income accounts for farmers, we also have fairly good balance sheets. I have no doubt that if we spent for statistical work on small business the same amount of money we spend on farm statistical work we would have a much larger and much more useful body of information.

Obviously, the lobby of small, nonfarm businessmen is not as powerful as the lobby of small-farm businessmen. It seems to me that a committee like the Joint Economic Committee could do a great deal of redress the balance.

Another illustration of the kind of improvements needed is data on the amounts of income not reported in the available source material. Usually, we use tax data or census data to estimate the incomes of individuals or businessmen. Now, when you add up the incomes from these sources you find that the total runs substantially less than the national income.

The practitioners in the art of national income estimating make corrections for this underreporting. But they acknowledge that these corrections are in many cases guesses.

One body of information that has been utilized in the past is the information from the audits of income-tax returns. Such a study of the underreporting on tax returns was last made for the years 1948, 1949, and 1950.

That study, which was called the Audit Control Study, was based on a very large sample of individual income-tax returns in the first year; in the second and third year corporation and excise-tax returns were also included in the sample. This study was made by the Internal Revenue Service, and it provided some very useful and interesting information.

One interesting bit of information, for example, is that the incomes of small-business men as they are reported on tax returns is vastly understated because of errors in underreporting their gross incomes and the overreporting of their deductions.

The information for the 1948 study has been published. The information for the 1949 study will be partially published very soon. So far as I know, the data have been collected for 1950 but have not even been tabulated. And no further plans are now being made by Internal Revenue Service, probably on grounds of economy, to make such studies in the future.

Now, we don't need an audit control study every year since the extent of underreporting by the various groups of income recipients will not change radically year by year. A study made every fifth year would be sufficient. It would be useful primarily to improve the administration of the income tax and, as a useful byproduct, it would help improve the national economic accounts.

So here is another practical way in which one can support improvements in statistics and, in this particular case, it would also improve the management of the Government.

A final illustration of practical needs is in the field of income distribution. Interest in the distribution of income has lagged as compared with the late 1930's when the well-known phrase "One-third of the Nation is ill clothed, ill housed, and ill fed" originated. But we have by no means eradicated poverty in this country. If we are to do this job well, we ought to know better than we do now how big the job is.

Admiral Hedly, we have annual distributions of income and many people use them. These estimates show that for the last several years there have been very few changes in the relative distribution of income, that is, the proportion of income received by, say, the bottom 10 percent of the income distribution has not changed very much.

But the official data do not provide, in my opinion, distributions of what might be called economic income, meaning the total income of individuals in the income distribution. I won't go into details. I will just give one illustration.

The available distributions do not include the capital gains of individuals. They are not included because national income—a measure of the net output of the economy—excludes capital gains. On the other hand, as respects the welfare of indivduals, the relative welfare of individuals in different parts of the income distribution, the amount of capital gains, both realized or unrealized, is extremely important.

There are many other features of income distribution that we don't know anything about. In my view, we ought to fill in some of these gaps as soon as possible. Our report recommends that for the next census year, 1960, a real effort be made by all agencies of the Government to combine their resources in order to obtain better results than in the past. If the Census Bureau were to cooperate with the Federal Reserve Board, with the Office of Business Economics in the Department of Commerce, and with the Internal Revenue Service, I have no doubt that the 1960 census would provide the basis for the preparation of the best income distributions we have ever had.

Thank you.

Representative BOLLING. Thank you, Mr. Pechman.

Mr. Roy L. Reierson.

STATEMENT OF ROY L. REIERSON, ECONOMIST AND VICE PRESIDENT, BANKERS TRUST CO., NEW YORK CITY

Mr. REIERSON. Mr. Chairman, before offering a couple of illustrations, as suggested by the chairman, may I reiterate a sentiment expressed by Edwin George.

I also am a nontechnical member of this committee, and as such can speak with frankness. I have been greatly impressed by the high level of technical and professional competence of the members of this committee, by their diligence and industry, by the careful investigation and thoughtful study that underly the recommendations of this committee, and by the full and free discussion in which all members participated in the formulation of these recommendations.

These are carefully considered recommendations by a thoroughly competent group of experts, made after careful study, and I think quite clearly justify the energetic and active support of the joint committee.

Several illustrations of the importance of improving our national economic statistics and of achieving greater integration between the various systems of statistics, as recommended in the report of the technical committee, come to mind as the result of my business experience.

A subject in which my company has a continuing interest is the evaluation and appraisal of the flow of savings, on the one hand, and investment demands, on the other hand. This is basic to a continuing review of trust investment policy. In this effort, we have encountered great difficulties by virtue of the lack of adequate data on the sources and uses of investment funds for the economy as a whole. Important gaps exist in the available information and data on the flow of savings and their use are not presently integrated into the system of national

economic accounts. The result is that some years ago we in Bankers Trust Co. began to make our own estimates; in recent years, a number of other financial institutions and associations have undertaken similar projects. This is wasteful of resources. I am confident that the total outlays by the institutions and associations working in this field would add up to a substantial figure and that the job could be done much more efficiently and reliably by Government agencies with only a modest increase in appropriations.

We, together with other commercial banks, have an interest in appraising the trends in, and the outlook for, bank loans and the task would be facilitated if the recommendations of the technical committee were to be implemented. In this field there is a question which has been a subject of widespread discussion—namely, has credit restraint affected small borrowers with greater severity than large businesses? This is the sort of question which has implications for public policy, yet there are no adequate data available upon which to base a reliable answer to the question.

Our committee has stressed the need to improve the underlying benchmark data upon which estimates in the national economic accounts are based. The need for improving the accuracy of these estimates is most pressing in a period in which no strongly defined trends are evident in the aggregate levels of business activity. One troublesome question involves the interpretation of the data on consumer expenditures. These data have evidenced buoyant strength for several months. Unfortunately, however, the data are being revised and this has posed the question as to whether the indicated strength in consumer spending is real or reflects largely these statistical revisions.

Another troublesome question currently of widespread interest is the trend and distribution of corporate profits. In an enterprise economy, profits play a most important role, yet estimates of aggregate corporate profits are frequently late, and are revised rather frequently and sometimes rather substantially. We need better corporate profits data and more information about the behavior of profits by size and other characteristics of business corporations. And the data on profits of unincorporated businesses are far less reliable than are the data on corporate profits with all their shortcomings.

Inflation is a subject that is receiving much attention currently, as well it should. Our present array of economic statistics does not permit the sort of analysis that is required to identify, measure and explain the various inflationary forces at work in the economy; nor are the national income account data currently available on bases that permit a measurement of the effect of inflation by means of a comparison of output, in various sectors, measured in real and current dollar terms. Several of the recommendations of the technical committee have a direct and immediate relationship to the problems posed by inflation.

Thank you, Mr. Chairman.

Thank you very much.

Representative BOLLING. Thank you, Mr. Reierson.

Mr. Richard Ruggles, professor of economics, Yale University.

STATEMENT OF RICHARD RUGGLES, PROFESSOR OF ECONOMICS, YALE UNIVERSITY

Mr. RUGGLES. I would like to say a few words with respect to this problem of integration, or fitting together all the pieces of the statistical data of the Government.

Our present economic statistics of a national economic accounting type have been an evolution over the past 20 years—the depression, World War II, and the growing recognition of the Government's responsibility for stabilization. All of these things have given rise to the development of data that can be used in tackling various aspects of these problems.

But this evolution has not been one that has been carefully planned, so that the prices fit together.

The national income accounts that were developed in the Department of Commerce played a very great role during World War II in planning for problems of taxation, mobilization, et cetera. But after the war the problems of monetary management and control made it obvious that we needed more information on the flow of funds in the various sectors of the economy, and the Federal Reserve undertook the development of data in this area. Simultaneously the Bureau of Labor Statistics was studying input-output data, trying to project full employment patterns for the postwar period, and to measure productivity gains in the various industries.

More recently it has become obvious that the flow of funds structure is not sufficient to analyze many of these problems, and that we are going to need information on the assets, liabilities, and liquid positions of various sectors of the economy in order to make a more adequate appraisal of inflationary pressures and the problems of full employment. Now, finally, the last ingredient that has been injected is the Government budget and the record of Government expenditures. Gerhard Colm has already indicated the different forms that these records take, such as the appropriations budgets, on the one side, and the national income record of Government expenditures on the other side.

Now, all of this material gets to be extremely confusing partly because what appears to be the same item in the different systems may show different figures. What we mean by integration is that some attention should be given to putting these pieces together in a single system of economic accounts where reconciliation is not required. If you look at the flow of funds data, for example, you will see pages of detailed reconciliations of the difference between, say, consumer expenditures in the flow of funds account, and consumer expenditures in the national-income accounts; similarly with respect to Government budget data different totals appear in different systems.

Rather than becoming more complex and more technical, I think even a small amount of effort could integrate and simplify these various systems of accounts into one overall system. The report that the committee has proposed suggests ways of doing this, but this is not something in which eight people sitting around a table for a few months can lay the path for the next decade. This is something that is going to take some attention and some resources. But the resources and attention devoted to it would save a large amount of duplication

of effort and provide an orderly framework for future work and development. It would point up the statistical gains that have been mentioned here by Mr. Pechman. For example, in the system of national economic accounts we suggested there is a place for capital gains, both realized and unrealized, but the fact that there are no figures opposite those entries emphasize the fact that the statistics are lacking. What we need, I think, is putting the house in order, a little more simplicity in it, and some work to achieve that.

Thank you.

Representative BOLLING. Thank you, Mr. Ruggles.

Mr. Lazare Teper, research director of the International Ladies' Garment Workers Union.

STATEMENT OF LAZARE TEPER, RESEARCH DIRECTOR, INTERNATIONAL LADIES' GARMENT WORKERS UNION

Mr. TEPER. Labor organizations, just as much as business organizations and the legislative and executive branches of the Government, are vitally concerned with analyses of economic changes for policy formulation.

The need to appraise economic developments is particularly felt at this tme because a slowdown in the tempo of business activity is now in the making. It is unquestionably an accident, but my consciousness of the current conditions is made keener today since it is the anniversary of a memorable date in 1929 when the stock market crashed.

National income accounts play an important role in the analysis of economic developments. They provide us with a synthesis of statistical intelligence about the performance of the economy. While national economic accounts enable us to view the economic scene as an entity, these data also enable us to study the interrelationship of the different parts that make up the economy.

In the case of the organization with which I am connected, the International Ladies' Garment Workers' Union, national account statistics are used regularly in the preparation of reports on the conditions in our industry and the economy. These analyses, made by our research staff, are submitted periodically to our general executive board and at our conventions. They are publicized in the publications of our union and are released to the trade press and other information media. Those of us who take part in the preparation of these analyses find satisfaction in the fact that they do help to develop a better understanding of the economic issues confronting union leadership.

Similarly, the research department of the American Federation of Labor and Congress of Industrial Organizations makes extensive use of national account statistics in their studies of the economic scene and in the evaluation of economic policies on the different segments of the Nation's population, to cite but one example. The results of these studies are widely distributed to nuion officials, union members, union publications as well as to the public at large.

The available data provided by national system of accounts form the kernel of much of this analytical work. Within the limits of resources available to it, the National Income Division of the Commerce Department is doing an excellent job in providing periodic

estimates of national product and income and its components. Yet, as the report of our committee indicates, the existing system of accounts should undergo considerable overhauling.

As the committee report makes clear, national economic accounting estimates are a byproduct of utilization of a mass of statistical information gathered by many governmental agencies other than the National Income Division. In most cases, such data are gathered because of other special needs rather than those of national accounting. This method of data collection, as the committee report makes clear, is here to stay.

However, there are many existing gaps in the body of our statistical work which must be closed. Their existence is undesirable both from the standpoint of the public which needs much of this information as well as (more specifically) because the availability of such data will have a decided bearing on the improvement in the quality and timeliness of estimates made for national accounting purposes.

Let me illustrate. If we want to study the role played by corporate business in our economy, we are held back by inadequacy of data. Thus while we do have periodic information on the levels of corporate profits, we do not have information regarding the levels of corporate payrolls.

However inadequate is our information on the corporate sector of our economy, the available data on the unincorporated sector is even worse. I do not propose to go into detail. The report of our committee speaks eloquently on this point.

Let me cite another example. With the growth of our society, an increasingly larger fraction of the Nation's labor force finds employment in executive and administrative positions. While this development is important, we do not have adequate data to show the differences in the growth of the nation's payrolls for those at the bench by comparison with those in executive and administrative positions.

Even the personal income information is inadequate. The data, as presently published by the National Income Division omit, for example, information on incomes realized in the form of capital gains. While there are good conceptual grounds for this procedure, there are equally valid considerations for the inclusion of capital gains into personal income statistics. I personally believe that this reform is of importance because of the additional light the more complete information can throw on consumer behavior.

The existing data on the distribution of personal incomes is also far from adequate. The information is needed not only for the study of the changing patterns of income distribution but also for the formulation of many economic and marketing goals by business, labor and government.

The closing of many gaps in our basic statistical structure is a prerequisite for the improvement of the system of national accounting.

Another recommendation of our committee deals with the development of an integrated system of national accounts.

This is one of the more important of our recommendations. Integration of accounts should facilitate analysis of data, provide the neccesary crosschecks on the different types of related data, help to improve the general accuracy of these estimates, and facilitate a better understanding of national accounting data by its users.

The importance of national economic accounting is no longer a matter of debate. Both labor and management find the data of great value. I hope therefore that the executive arm of the government will see fit to recommend to the Congress that the funds needed for the major improvement of the Nation's system of accounts will be made without much delay and that the Congress will see fit to allocate the funds needed for the implementation of this undertaking.

Representative BOLLING. Thank you very much.

Mr. REIERSON. Mr. Chairman, may I make an impertinent observation?

I think it is a sign of the changing times that the reference to the anniversary of the stock market decline in 1929 was made by a representative of a labor union and not by a representative of a Wall Street bank.

Mr. TEPER. Most of the banks are trying to forget it.

Mr. REIERSON. I, in fact, did not know that this was the anniversary.

Representative BOLLING. Mr. Bowman, would you care to make any comment at this time?

Mr. BOWMAN. Mr. Chairman, I would like again to thank the committee as it is here assembled for a very excellent job. As I read the report, heard the discussion of it, I think that all of the hopes I had when this group was organized have been achieved.

Well, I won't say all of the hopes—the implementation of many of the things that are in the report of the committee has not yet been achieved. I think the responsibility for that falls partly on the executive department and partly on the legislative department.

I want also to thank the committee, the Joint Economic Committee and the Subcommittee on Economic Statistics, for the encouragement that they have given all through our work in improving the Federal statistical program.

I want again to say thanks for making it possible for us to bring this report to the stage of a hearing and to have it printed as a report of the Joint Economic Committee's hearings on economic statistics.

Thank you, Mr. Chairman.

Representative BOLLING. Does any member of the panel wish to add anything to what he has said before we start with questions?

I call first on Mr. Knowles.

Mr. KNOWLES. I first would like to emphasize a couple of things which were called to my mind by the discussion this morning.

One of them is that strictly as a user of these statistics, and I think some of the people at the table, members of the Review Committee, would feel the same way, one of the key phrases in the summary of this report is that the present system in its present scope, quality, promptness, et cetera, will not have long endurance unless something is done about budget for the maintenance of these statistics which apparently is not being carried on at the level necessary due to lack of resources.

I would like to call attention, too, since the point was raised by Mr. Colm, to the different types of budgets that the staff has tried to supply the Joint Economic Committee. For some 7 or 8 years the staff has prepared a statement each February which is published as a supplement to the report of the committee, setting forth at least the totals of receipt expenditures and surplus of deficit on these differ-

ent accounting bases and relating them to the analysis of the economic situation and outlook which it presents.

I note that in the October Survey of Current Business the Office of Business Economics has now presented this same type of analysis in between their periodic more detailed reviews. These are still, as were our own, on an annual basis, however, and I assume that your report recommends something more than that. But it is, I think, marked that even with their present resources they have been able to help us as far as they have.

The first question that I would raise for the entire panel is whether or not your work on this committee has raised some issues in your mind that would give us some leads. You refer to the task forces set up by the Federal Reserve Board at the request of this committee in 1954, and which apparently eased your own burdens.

They certainly have been of assistance to the Congress.

My question is: Have you got some other leads where you think such a task-force type of operation might not bear some fruit if we were to request some undertaking in the future?

Do any members of the panel have a suggestion of an area or type of question to which such a task force might be put?

Mr. GOLDSMITH. As we said in the report, there are two areas in which the basic statistics that are used in the national-income accounts are probably weakest relative to the stresses which are put on them. The first has already been mentioned. That is unincorporated or small business.

The status of our information in that field is just one of scandalous ignorance. I wrote this 5 years ago and the statement is about as true now as it was then.

We all realize that this is a field in which you cannot get something, or at least, not much, for nothing, simply because of the fact that you have to collect the data from a substantial sample out of a very large population, and that is an expensive procedure. But we think that it is essential to go to this expense if we want to close this main gap in our economic intelligence.

This is so complicated a problem, as we have indicated at various points in the report, that it probably calls for an interim stage with a task force working out in detail what really should be done.

I doubt whether we would immediately jump here to specific recommendations. We make a number of them, but they are mostly in the style of saying "consideration should be given" to proceeding this way or the other. The working out of these different approaches, the evaluation of their relative merit and the assessment of their cost are things that could very well be done by a specialized task force.

The second field is one which to some extent was covered by one of the Federal Reserve task forces, namely, capital expenditures. However, that task force on purpose limited itself to a few aspects of the problem and made only a very brief report.

I think next to unincorporated business, and probably not quite with the same desperate urgency, there is a field here for a task force.

We do not know enough at all about details of capital expenditures. We really know nothing, once we go beyond the pure fact that so many dollars have been spent in this quarter on this or that type of durables. We do not know, for instance, how long do they last; what is the way in which they depreciate?

These are all data which are necessary for some important aspects of the national accounts. First, they are necessary in order to make realistic and intelligent estimates of depreciation. We discussed that in the report. One of the suggestions is that in addition to the present depreciation estimates which are essentially based on original cost, an alternative estimate or a substitute estimate be prepared which is based on replacement cost, so that people who prefer the replacement cost estimate for one or the other reason at least have the figures.

This again is an example where various rather crude estimates have been made by people outside. There was nothing else they could do. Probably if you add together what has been spent on these individually rather unsatisfactory efforts, and I may say they are rather unsatisfactory because I made one myself, the sum is probably larger than would have been needed for one substantial effort by the Government that would have yielded better figures.

We need this type of information, second, when we want to build up an estimate of national wealth. We don't know enough about the life of durables. The whole field of capital expenditures and what happens to capital expenditures after they are made, including the question of how fast they become obsolete, again is so broad that the intermediate stage of a task force may be indicated.

Third, of course, there is, as Professor Easterlin has indicated in his summary, the whole field of price indexes as deflators of national product and income. That may also be a field where before starting a large-scale actual program a task force would do some good in clarification and in developing a consensus of opinion.

My colleagues, of course, may have a few other fields in which they think an organization of this type would be helpful.

Representative BOLLING. Do other members of the panel wish to comment on the question?

Mr. PECHMAN. I would like to caution you against overusing the task force device. After having served on this Committee, I am convinced that more money spent on actually getting data rather than discussing how to get the data would be more helpful now. The task force device should be used only in cases where there are very, very difficult problems, either conceptual or statistical, which can be solved only with assistance from outside the Federal Government.

From my observation and contacts, the personnel of the statistical agencies of the Government are very capable people and can handle the problems that would be involved in implementing most of the recommendations in this report.

Consequently, I would suggest that you limit, as Mr. Goldsmith has already said, task forces to big problems as how to obtain data from small business.

I would regard that as an important area.

I am not sure, however, that it would be useful to have a task force on capital expenditures. Here, it seems to me, we ought to let the Federal Government agencies start to work with more funds before outsiders begin to kibitz. Otherwise, we are likely to delay them even more.

Representative BOLLING. Mr. Knowles, do you have any more questions?

Mr. KNOWLES. I have which I think would be proper to address to Mr. Bowman. It is this:

The basic recommendation here of an integrated system, appears to rest in part on the designation of an agency somewhere in the Government which presumably is going to exercise the leadership and have, I assume, the research staff to make sure that the concepts and methods are similar, and that some sort of integration actually occurs and is not just discussed.

I think the subcommittee might be interested in knowing whether this means whether there is any legislation that is needed or whether there is authority already in existing statutes, particularly those setting up the Division of Statistical Standards of the Bureau of the Budget, that will enable you to go as far as you believe the report requires.

Mr. BOWMAN. That is a very interesting question, Mr. Knowles. It probably has an answer. Whether I am going to be able to give it or not is another question.

I would like to comment on it. I also would like to comment on what Mr. Pechman said.

I think that there is a time for task forces of this sort, and I think there is a time to forget about task forces. I think the task forces we have had up to date have been very helpful. If we have any task forces from now on, in my opinion, they should be directed to what I think Mr. Goldsmith meant by an interim stage, a task force of workers on how to do a job, not on whether the job needs doing.

This is the sort of thing that is hard to get people interested in. In the field of unincorporated enterprise for instance, we all know that the present data need to be strengthened, but frankly we don't know how to do it. I think if we did know how to do it, we would have to find some way of overcoming the resistance of the people who would have to supply the information.

This is true in many areas. It is all right to say we need more data on corporate profits and we need such information monthly or quarterly, but you remember that for the last 9 years we have come over here with a request for a quarterly survey of financial data for trade and mining corporations, in addition to the data for manufacturing corporations that we now get. For 9 long years we have received no support for the collecting of that information.

Now, I should like to comment on the authority which the Bureau of the Budget has to achieve a better integration of the Federal statistical program, particularly through the national accounts. In my opinion, by the way, use of the national accounts as an integrating framework is the only way to bring about satisfactory integration so far as economic data are concerned. At the same time I would like to point out that the national accounts do not provide an integrating principle for other types of data for which we are also responsible—and we cannot forget or ignore those other interests.

Now, I think that the executive department has sufficient authority to carry out the recommendations in this report with regard to the development of an integrated system of national accounts and, as I understood Mr. Goldsmith's statement, the further development and improvement of individual types of accounts for specific and special purposes.

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The committee has been careful not to make any organizational recommendation, strictly speaking. It may well be that some time from now greater centralization may be necessary for some phases of the formulation and development of the accounts.

At the present time, I believe that under the authority which the Bureau of the Budget now has—which as I think you all recognize, stems basically from its position as a staff agency for the President—we can do a great deal to overcome some of the difficulties in the way of an improved and integrated set of accounts.

But I would not want you to think that this is easy, or that it is ever merely a matter of authority. The type of integration that is involved here between accounts developed by the Board of Governors of the Federal Reserve System, the Department of Commerce Office of Business Economics, and the Bureau of Labor Statistics work on input-output—the attempt to bring about integration in this area by authority alone is not in my opinion possible. Before any progress can be made in this direction there must be genuine and rather general recognition of the need for it. It seems to me the work of this committee will help a great deal in that direction.

It is my hope and really my expectation that we can achieve a great deal that is laid out in this report. At the same time, I am not blind to the fact that as time goes on we may need to introduce into the statistical program of the Federal Government more centralization than we now have. And I make that statement, realizing that it has broad implications.

Thank you, Mr. Chairman.

Mr. KNOWLES. This is one additional question that might be helpful to raise for the subcommittee. The review committee did not, and this was wise, give any indication of what they thought the range of error is in the present estimates.

Recongizing that it is as good as you can do with the data and resources available, I think there was a clear implication nevertheless that they were far from perfect, but they did not specifically undertake to assess their range or error from time to time.

I am wondering as a practical matter, as practitioners in the field, whether the panel or any of its members want to help the members of the committee in examining the economic indicators in this quarter by saying what as a practical matter they regard as a significant change in the figures.

If they change a million dollars from quarter to quarter, is it significant, or is two billion or three billion dollars or some other figure the magic number?

Mr. GOLDSMITH. Clearly even the last concrete question, what size of change is signficant, can be investigated only with respect to a specific item. Let us assume you posed it in relation to total gross national product. I do not think that anybody could answer it. It is not that no answer has been attempted.

As you know, numerous attempts have been made by one method or the other to get a quantitative expression of accuracy of the national account estimates, as well as of other similar statistical aggregates. This generally has not worked because these figures are not of the type where an answer can be given on the basis of probability theory.

Even where we use sample data in national economic statistics—we

don't do that much, as you know in national accounts—all that we can estimate is the sampling error. However, everyone who has worked with these figures knows that the sampling error will generally be quite small relative to the other errors that may affect the results of a sample survey, errors which may result from the way in which the questions were formulated, from the inability of respondents to recall data, and from their disinclination to give correct answers.

When we work, as we do in most of the national accounting data, from a mosaic of aggregate data of the most various kinds, it is almost impossible to make a quantitative estimate of error in any of the aggregates.

You would first have to go back to each of these hundreds of little stones out of which the aggregate is built up. In some cases you could attach some estimate of error to the figures. But—No. 1, the limit would have to be fairly wide and, No. 2, you don't know how to combine the errors in the individual series.

It is one of the advantages of this mosaic character that we may hope that some of the errors are offsetting, but we don't have detailed knowledge of the extent to which this is the case.

The only estimates of this type that have ever been made have been of an entirely subjective character. A number of people who worked on the figures put down their own guesses as to the degree of accuracy, and such individual guesses were then averaged. That undoubtedly is better than nothing since it is the people who make up the figures or who work with them who probably have the best judgment, but it is not in any way a scientific assessment of error.

Personally, I would like to see a substantial change in, say, gross national product before feeling the change is significant.

The practice, fortunately, is to deal only in tenths of billions of dollars—maybe it would be better to deal only in billions—and I have no hesitation in saying with respect to the figures you are inquiring about that any change under a billion dollars is not significant. However, that may not help you because, of course, you want to know as you indicated, whether we need a $1, $2, $3, $4, or $5 billion change in the rate of annual product to be significant, and I doubt that anybody can give you a convincing answer.

I suppose the best thing still would be to ask a number of people closely working with the figures and abide by their answers if anything like a consensus of opinion developed.

We did make an indirect attempt while working on our report to get at the problem. We made some tabulations of the extent to which estimates have changed. You know that for most of these items we have a preliminary estimate and then as more of the basic material becomes available, revised estimates are made and these revisions are continued for several years until finally benchmark estimates are at hand.

Such an investigation of changes in estimates is not without value and I personally would wish that more of it were done in and outside of the Government, and would be done more systematically, because it is possible and even likely that for some items the revised figures bear a systematic relationship to the original figures.

There are, for instance, a few items in which in the last decade or so the experience has been that the revised figures are generally below or

generally above the original figures and while we don't always know why that is so, for the time being we might regard those as empirical relationships which are of some value for current analysis.

Apart from these two suggestions, a careful study of how revisions have changed original estimates and a sort of consensus of informed producers and users of these statistics, I really don't see any way to answer your question.

In the last few years attempts have been made by methods of mathematical statistics, but I am not too much impressed by the results, although future attempts may prove more successful.

Representative BOLLING. Thank you.

Would you like to comment on that?

Mr. BASSIE. I should like to point out, first, that this question is obviously one that depends on the item considered, but I also want to say that it depends on the situation in which we find ourselves.

Now, in the third quarter of this year, according to estimates I have made, the gross national product in real terms was down slightly from the second quarter, by perhaps something less than a billion, which is only a fraction of 1 percent.

Yet it seems to me that in this situation this is a significant difference. There have been already two references here to the anniversary of 1929, and I think we can all agree that our economy is not readily subject to control.

In the next few years I believe we shall have a problem of trying to establish control. It will be a different kind of problem than we have had in the past 10 years, but, nevertheless, a very important one.

At this table there have been a number of references to the lack of progress in our statistical data—pointing out that the situation is much the same as it was 5 or even 10 years ago.

Now, I think it is quite understandable that Congress and other branches of the Government should be concerned with the great national problems of the day and that this leads to a certain amount of slighting of statistics of all kinds. Perhaps we shall always be dealing with emergencies that divert attention away from statistical needs.

However, I hope in the next few years in attempting to establish control over the economy, we will not lose sight of the need of the kind of statistics discussed in this report.

If control is ever to be established, it will, in my opinion, be only through planning that is dependent on this kind of information.

Representative BOLLING. Thank you, Mr. Bassie.

Mr. LEHMAN. I don't want Mr. Goldsmith to be left with the charge of jingoism, and this question may somewhat blunt it.

The question is whether adequate statistics are more or less important to an economy such as ours where economic decision-making is largely decentralized in the individual firm, labor union, or in the consumer, as against an economy where economic decision-making is centralized in the Government.

Mr. GOLDSMITH. That is a question very close to "have you stopped beating your wife." In some respects you can argue such figures are more necessary for an economy like ours. Certainly one thing more necessary for an economy like ours is to make available generally as many figures and as many alternative estimates as possible.

Although we don't know very much about what national income accounts the Soviet Union has internally, we do know what they publish and that is of very little value. However, many people suspect that internally they have quite a bit more because we can't believe they would try to administer their economy on the basis of only the data that are published.

But in our case we need good figures, and they become valuable only when they are published.

I am glad you made the point, because I want to stress that in a number of cases we need publication of alternative estimates.

We don't pretend, as possibly could be pretended in a controlled economy, that anybody including a Government agency knows exactly what the right definitions and what the right figures are.

As you heard this morning, and as you can infer from reading the report, on some items, and some items of importance, there is a difference of opinion over what the right figures are.

All that the committee has been pleading for is that wherever there are reasonable alternative estimates for which there is a substantial demand from different types of users, provided it does not entail an unreasonable amount of work, these demands should be satisfied by the official estimators.

You may ask why doesn't everybody roll his own. There was a time when that was more or less done, and could be done, but national account estimates have become, because of their size and complexity, such enterprises that nobody outside of the Government can seriously undertake them on a continuous basis.

Hence, there is necessarily created a monopoly in the provision of one of the most crucial types of information.

That cannot be avoided, and I don't think there is any great harm in it so long as the situation is recognized and no attempt is made to limit users to only one set of figures, where reasonable alternatives exist.

Let us take a problem that has not been specifically mentioned, military assets. There are differences of opinion whether durable military assets and whether or not durable consumer goods are a part of saving, private or Government.

I don't think this question can be settled one way or the other, conclusively, but the quantitative difference is large enough to make it necessary to have both estimates.

Take, for instance, military durables. We get a completely different picture of the course of saving and investment in the postwar decade depending on whether we include military durables or exclude them (as is, of course, the common procedure) because we had a large stock at the end of 1945 which was of fairly recent vintage, but was subjected to rapid depreciation and obsolescence. If we include military durables, then, of course, we get quite a low level of investment in the first few years after the war and a rapid increase when we began catching up in connection with the Korean war.

The picture thus is substantially different, depending on the treatment of military durables and similar observations can be made regarding consumer durables.

For instance, in 1950–51, there appears in the statistics a sudden increase in personal saving. This movement is partly due to the

omission of consumer durables from saving. If you adhere to the opposite view which in the committee was in the minority, but which I think is favored by a number of economists, that consumer durables do constitute a form of saving, then, you get quite a different shape of the curve. As you know, at the time the Korean war started there was a great stocking up on consumer durables and that movement fell off rather sharply shortly after. You therefore get much less of a sudden jump in personal saving if you include consumer durables.

Which of these statistics is the more accurate one, if one can use that word at all, or the more useful one to the analyst, is a question, but there are certainly some people who prefer the one, some the other, and both should be served by what necessarily is the only purveyor of statistics of this type.

Representative BOLLING. Thank you.

Gentlemen, I want to thank you on behalf of the committee and the subcommittee, for your contribution as a committee and as individuals, and to assure you that to the extent of our ability, insofar as the Congress has anything to do with it, we will try to see that there is some implementation to your recommendations.

If there is nothing further, the committee will stand in adjournment until tomorrow morning at 10 o'clock.

(Thereupon, at 12:10 p. m., the committee was recessed, to reconvene at 10 a. m., Wednesday, October 30, 1957.)

THE NATIONAL ECONOMIC ACCOUNTS OF THE UNITED STATES

WEDNESDAY, OCTOBER 30, 1957

CONGRESS OF THE UNITED STATES,
SUBCOMMITTEE ON ECONOMIC STATISTICS OF THE
JOINT ECONOMIC COMMITTEE,
Washington, D. C.

The subcommittee met at 10 a. m., pursuant to recess, in room 1301, New House Office Building, Hon. Richard Bolling (chairman of the subcommittee) presiding.

Present: Representative Bolling.

Present also: John Lehman, acting executive director and James Knowles, staff economist.

Representative BOLLING. The subcommittee will be in order.

This is the second of 2 days of panel discussions concerned with a report entitled "The National Economic Accounts of the United States: Review, Appraisal, and Recommendations," of the National Accounts Review Committee, which was set up at the request of the Bureau of the Budget by the National Bureau of Economic Research, under the chairmanship of Mr. Raymond Goldsmith.

Yesterday Mr. Raymond T. Bowman, Assistant Director for Statistical Standards of the Bureau of the Budget, and the members of the National Accounts Review Committee, presented the report, and discussed the committee's major findings and recommendations with the subcommittee.

Today we are pleased to welcome a panel of users and producers of national economic accounts statistics. Our general order of procedure will be to have the opening statements of each participant presented, summarizing the views, first, of the various users of the statistics, then of the representatives of the three major producing agencies, and following the statements a period of discussion and questions.

Before the statements are presented, I want to say that I am happy that Mr. Bowman is with us again today.

I understand, Mr. Bowman, that you have some material which you feel would be appropriate to insert at this point.

Mr. BOWMAN. Yes, Mr. Chairman, I wish to insert in the record, with your permission, a statement from the Bureau of the Census indicating their review and comments on the report.

Representative BOLLING. That statement will be inserted in the record at this point.

(The statement referred to is as follows:)

DEPARTMENT OF COMMERCE,
BUREAU OF THE CENSUS,
Washington, October 24, 1957.

Mr. RAYMOND T. BOWMAN,
Assistant Director for Statistical Standards,
Bureau of the Budget,
Washington, D. C.

DEAR MR. BOWMAN: In response to your request of August 30, we are submitting herewith detailed comments on the National Bureau of Economic Research report, The National Economic Accounts of the United States: Review, Appraisal, Recommendations.

The National Bureau report is a comprehensive and forward looking statement. It sets forth a broad objective—an integrated set of national-income accounts. It also recommends many improvements in the details of each set of these accounts. Some of these improvements would involve substantial expansions and adaptations of the present statistical collection program. While we are appreciative of and interested in the recommendations with respect to the organization and integration of the accounts, I feel it would be most helpful to concentrate our comments at this time on the recommendations affecting the collection of statistical information by the Census Bureau.

The impact of the recommendations on the statistical agencies of the Government would be very great. We have in mind here the impact not only upon the National Income Division of the Office of Business Economics, but also upon the statistical collection and data-processing agencies, such as the Bureau of the Census. It is now well recognized that the costs of preparing basic data are well in excess of the costs of arranging them for special uses, such as the national income accounts. Thus, it appears that, on a one-time basis, it would cost about $3 million to carry out the principal recommendations regarding new data collection, in the areas ordinarily covered by the Census Bureau and specifically commented on in the appended list.

We are attaching detailed comments on each of the recommendations involving the collection of data. We have organized our comments on each of these items under 4 headings: (1) The time that would be required to compile and publish the data, (2) the level of reliability of the resulting figures, (3) known alternative procedures, if any, (4) costs. The comments are grouped into the following parts: (1) manufacturing and trade statistics, (2) Governments' statistics, (3) construction statistics, (4) population statistics, and (5) others.

The Census Bureau is in general sympathy with this program to improve the national income and related accounts, and believes that many of the improvements in Census Bureau reports recommended by the National Bureau report can be accomplished at moderate expense with the help of a reasonable increase in staff. Some of these improvements have already been started on the Census Bureau's own initiative or have been listed among desirable projects to be initiated as soon as funds can be secured.

It should be noted, however, that as a primary producer of original data for general purposes, the Census Bureau has to consider other statistical projects in competition with those established on the basis of national income considerations. We receive urgent requests for other new projects or expansion of existing projects to meet the operating needs of Federal Government agencies, welfare agencies of State and local governments, and business concerns. Moreover, our experience with projects in new fields convinces us of the desirability of adequate discussion with the business concerns, households, or individuals that furnish the data and of considerable testing and development work on any new project.

In view of these circumstances the attached detailed comments can serve best as a basis for discussion with users rather than as final recommendations. Similarly, the cost figures should be viewed as indication of general magnitudes rather than accurate estimates. We will be glad to work with members of your staff and the Office of Business Economics to carry forward such additional programs as may prove feasible. If you feel it would facilitate such work, we would be glad to designate a member of our staff to serve as the Census liaison with members of your staff and the staff of the Office of Business Economics on this program.

Sincerely yours,

ROBERT W. BURGESS,
Director, Bureau of the Census.

COMMENTS ON NATIONAL INCOME AND RELATED ACCOUNTS RECOMMENDATIONS AFFECTING CENSUS DATA COLLECTIONS PROGRAMS

PART I. MANUFACTURES AND TRADE STATISTICS

A. "Detail on sales by manufacturers and by retailers by commodity line (or by departmental or other detailed grouping) and by major buyer groups; including the purchases of durable goods cross-classified by type of commodity and industry of buyer." This is item (4) in the list of high priority recommendations for improvement in the basic data (I.6) (text ref: ch. VII, sec. 4).

Neither in the above text reference or elsewhere in the text does there appear to be material relevant to the recommendation regarding retail sales by commodity line. The only reference to the subject which has been located has been in Mr. Jaszi's statement in appendix E. Mr. Jaszi's recommendations are as follows:

"8. Retail sales extrapolation: The extrapolations of the commodity flow benchmarks are based largely on retail sales data by line of trade; these data do not lend themselves to an accurate estimate of detailed commodity composition. The feasibility of collecting key commodity information in connection with the retail trade survey of the Census Bureau should be explored.

"9. Annual commodity flow estimates: The possibility of making annual estimates by an abbreviated commodity flow method is being studied. These would serve as partial substitutes for the extrapolations based upon retail sales. These estimates would probably require somewhat greater commodity detail in the annual survey of manufactures, and annual margin information comparable to that needed for the benchmark estimates.

"10. Reconciliation of estimates based upon censuses of manufactures and retail trade: A basic statistical problem in this area warrants further research; consumer commodity aggregates estimated by the commodity flow method (involving a buildup from the manufacturing census) are much higher than estimates based directly on the retail trade census. (N. B.—The latter must not be confused with the estimates, referred to in point I.8, in which retail-sales data are used only as extrapolators.) Information should be developed to facilitate the analysis of this discrepancy. Provision in the retail-trade census of commodity breakdowns as detailed and as comparable as possible with the commodity breakdowns of the manufacturing census would be a significant step in this direction, but other techniques should also be explored."

As is well known, the collection of retail commodity line information was discontinued in the 1954 census (partly because of the criticism of the marketers, as reflected in the AMA advisory committee and partly because of the budget outlook at that time). The indicated budget ceiling for the 1958 census would appear to preclude the reinstatement of this item, the cost of which probably would be about $1 million. The difficulty of reconciling manufactures and retail figures, referred to by Mr. Jaszi may be a reflection of the fact that the 1948 (and previous) retail census figures could provide totals for virtually none of the merchandise lines because it was not feasible to request the same line breakdown for all retailers. This same limitation of course would exist if the 1948 census approach were to be used in the 1958 census.

We have experimented with measurement of retailers' purchases as an alternative to measurement of sales. One experiment required photographing of a sample of purchase records of a sample of retailers. While the project probably could be made to yield the desired results, the cost would be prohibitive. To provide for 200 commodity groups a measure of total purchases of each item and of purchases in each of the kinds of business where important would cost in the 5 to 10 million dollar range.

A less costly approach would require retailers to record their purchases during a specified period of a small number of items (a rotating sample would be used in which different retailers reported purchases in different periods and different lists of commodities). For cost in the 2 to 3 million dollar range data for about 150 items could be provided. It should be noted, however, that these "items" would not account for all retail sales (perhaps they would account for one-fourth of sales) and as they would have to be clearly defined would tend to be "narrow" (e. g., it would be feasible to designate tiems like refrigerators, TV sets, etc. but not broad groups like appliances).

Whether this approach (sometimes called the diary method) would provide information which would be very helpful in the commodity flow work in the national accounts (or even whether it would be desired by marketers and retailers)

has not been determined. Perhaps data for some commodities or groups of commodities could be used even though data were lacking for the others.

The following summarizes our conclusions on this proposal:

(1) Timing: Data on retail sales or purchases could be provided from the 1958 business censuses—tabulations would be available in 1960.

(2) Reliability: At the national level, accuracy of 2 to 5 percent (depending on the item), at the one sigma level, could be achieved. This is a sampling error only. Bias could be considerable, especially if the 1948 type procedure is used.

(3) Other possibilities: There appears to be no alternative to "merchandise sales" or "purchase diary" except that presumably the provision of figures on the distribution of manufacturers' sales by commodity group and class of customer (supplemented by the wholesaler distribution) would make collection of figures at the retail level unnecessary.

(4) Cost of merchandise line sales: About $1 million; for purchases by means of retailers diary approach, about 2 to 3 million dollars.

No estimate has been prepared for the provision of data more frequently than at census intervals because of the cost. Possibly data for a relatively few items could be collected currently at a nonastronomical cost but whether this would be sufficiently helpful is not known.

Retail margins.—Mr. Jaszi's recommendations also require retail margin estimates so that sales at retail level can be deflated (and a determination of the share of manufacturers' sales at the retail level thereby made possible). In previous censuses, a sample of census names has been used to identify tax returns from which figures permitting computation of the margin can be derived. This procedure could be repeated in the 1958 census (cost about $15,000—greater if more detail is required). An alternative which probably would meet the needs of the Office of Business Economics would be the collection of appropriate data in the 1958 census from a sample of establishments (probably the annual sample) for the computation of "value added." This project might cost in the fifty- to one-hundred-and-fifty-thousand-dollar range for estimates, by about the same kind of business spread as provided in the monthly retail trade report, with a 1 to 2 percent error at the one sigma level for all kinds of business combined. Data could be provided in 1959. The same information also could be provided each year between censuses at the same cost per year.

It should be noted, with respect to the "value added" estimates that (1) what is the appropriate definition of value added for retail trade needs to be determined; possibly a definition compatible with the data on the tax form can be developed; (2) if the definition is compatible, it might well be that census collection of data would not be justified. In that event, the OBE needs could be met by tabulations of either "value added" or "margin" from the tax form.

B. Distribution of manufacturers' sales by class of customer: In approaching the 1954 census of manufactures, the Bureau planned to include a general inquiry that would provide a distribution of manufacturers' sales by class of customer despite the fact that there were grave misgivings about the reliability and significance of the data compiled from the 1939 census. However, the Advisory Council on Federal Reports and others stated that many manufacturing companies did not have the records to provide such data on the usual establishment report used in a census of manufactures. Furthermore, they argued that such data should be compiled in reference to the particular sales pattern of individual industries, both for the purpose of making the data more useful and for the purpose of asking questions that were likely to follow the record-keeping systems of the particular industries. Accordingly, special distribution of manufacturers' sales inquiries were developed as a result of the negotiation with industry groups. This proved to be a major undertaking and it was possible to prepare such inquiries for only 30 or 40 industries. There would seem to be little question but that this would be the best approach from the point of view of the usefulness and reliability of the final results. However, the cost of developing the special inquiries for all of the more than 90 percent of the industries not covered in 1954 would be beyond the staff resources of the Census Bureau at this time, but it would appear possible to extend the distribution of sales coverage to some additional industries in 1958 within present budgetary and staff resources.

Our preliminary findings, based on the review of the record keeping systems of large corporations, would seem to indicate that the best hope of providing across-the-board data on distribution of manufacturers' sales in 1958 would be to conduct a special survey with the following characteristics: (a) It would be a sample; (*b*) it might prove necessary to collect the data at the company level or company-product group level; (*c*) it would require a careful handling

of the records for manufacturing plants and sales offices and sales branches of companies having such multiactivity establishments and would require a special treatment of independent manufacturing establishments as contrasted with the multiunit manufacturing companies.

We are now completing a new study of recordkeeping practices in manufacturing companies. On the basis of this study a more definitive evaluation of the possible methods of collecting distribution of manufactures sales data can be made in the month of November. At that time, an estimate will be provided as to the additional cost, if any, of developing these data.

C. "The financial situation of noncorporate business profits, capital expenditures, investment and withdrawal of capital by owners." This is item (1) in the list of high priority items (I. 6) (text reference: Ch. XI, sec. 2. a).

For convenience in treatment of the subject, it is divided into the following parts:

(1) Annual income statement and balance sheet data for partnerships; annual income statement data for proprietors.

(2) Current (monthly or quarterly) income statement data and balance sheet data for partnerships and proprietors.

With respect to (1), the obvious source of data would appear to be the tax form—the difficulty to date has been to obtain a timely tabulation of the data. Because the logical first approach would be to speed up the tabulation of the tax form sample by IRS (the feasibility of doing this has been indicated by the IRS Division of Research and Statistics), no cost estimate for collection and tabulation by the Census Bureau is provided.

The Census Bureau's retail sample would be appropriate for the collection of current data, providing the data are collectible. To determine collectibility, a sum of about $50,000 would be needed. There, of course, is a serious question whether some items (e. g., cash on hand and in bank) could be obtained because of the difficulty of segregating business from household accounts. The fact that balance sheet information is not required on the tax form for proprietors probably is largely a reflection of the lack of adequate records and of certain conceptual difficulties of separating household from business.

Assuming that a test would confirm the possibility of collecting much of what is desired, it would appear desirable to use a "random part" approach to the collection of data—that is, to avoid burdening proprietors with a request for figures for a large number of items and to avoid the request for sufficient information so as to permit the derivation of such items as profits for an individual business, the sample would be devised so that different items were requested from different parts of the sample, but with the desired figures derivable from the composite sample.

Assuming collectibility of the data along the lines noted above, measures of the major balance sheet and profit-and-loss items for each of the noncorporate retail, wholesale, and service trade universes, with about a 5-percent sampling variability, probably could be collected quarterly for an annual cost of about three hundred to three hundred and fifty thousand dollars.

An alternative approach, referred to in chapter XI, section 2a, page 22, is described as follows:

"This suggestion provided for drawing a probability sample of a few hundred, or at best a few thousand, respondents among the 4 million unincorporated enterprises now in existence, and envisaged intensive examination of respondents' records by interviewers thoroughly familiar with accounting methods. These interviewers would reconstruct the respondents' income accounts and balance sheets and would calculate the desired figures from their records, instead of relying on respondents to produce the required information from memory or with the help of occasional consultation of their papers."

This approach presumably would have the merit of assuring accuracy of the figures which respondents report. This is an important consideration in view of the limitations of the records maintained by many unincorporated businesses. However, it would be anticipated that the cost of the operation would be in excess of the project described above as the same size sample would be required to achieve the same variability, and the cost of the "interviewers" would be considerable. Also the introduction of the "interviewers" into the recordkeeping of these businesses could bias the results. There is a further question whether this type of procedure would be acceptable to the proprietors of the unincorporated businesses.

D. The problem of balance sheet information and unincorporated businesses referred to in the quote below has been covered in II above.

"9. Lack of a comprehensive and consistent balance sheet for unincorporated business enterprises. At the present time practically the only available data are limited to the tabulations of balance sheets of partnerships submitted with their tax returns which is now being undertaken on a biannual basis by the Internal Revenue Service. The scarcity of reliable information on the different items of assets and liabilities of unincorporated business is probably the most important single factor preventing a considerable improvement in the quality of our national balance sheet (XIV. 15)."

E. The committee made the following comment on inventory reports:

"The committee finds itself wholly in accord with the views expressed in that report and merely reiterates the following recommendations for special emphasis: That agencies compiling inventory statistics cooperate and integrate their efforts more closely; that negotiations be conducted with business concerns to improve inventory reports in various respects; that reports for independent retail stores be expanded; that additional information be obtained on accounting practices and on the price significant for deflating book values in various lines; and that inventories be consistently broken down by durability and destined end use in addition to the present classification by industry or type of business (XI. 24)."

The committee objective to get measures broken down by durability and to deflate book values could be achieved for retail trade by the random-part procedure now being tested in the Business Division. This procedure provides for the development of a catalog of all items sold by retail stores and the collection of end-of-month physical counts of selected items held by individual establishments along with the selling price of each. By limiting the number of items which any store has to report to a very few, but varying the items reported among stores in accordance with a probability pattern, monthly measures of total inventories, durable-goods inventories and nondurable goods could be prepared monthly at an annual cost of about $250,000 to $350,000. The measures for total and for nondurables would be expected to have a sampling variability of 3 percent for level and 1 percent for month-to-month trend (1 sigma level); for durables the corresponding figures would be 4 and 2 percent, respectively. It is believed that the random-part method would eliminate the types of bias inherent in the present inventory figures and that final data could be produced within 30 days after the end of the month. (At a small additional cost, a preliminary estimate could be produced at about 10 days after the end of the month.)

Although the present method of deriving retail inventory estimates is based on a very small sample, with estimates chained to annual measures, it does not appear that there is need for sample expansion as sampling variability is quite low. Expansion of kind of business detail, however, would require an increase in sample.

F. Consumption of materials, parts, components, etc., for use in constructing 1958 detailed input-output tables.

In the last several censuses of manufactures, the Bureau has expanded the information collected on consumption of individual materials. In the 1954 census, most of the industries producing primary materials or other bulk products were reasonably well covered in terms of the consumption of materials. In fact, the proportion of detailed materials bills accounted for by detailed materials measured in the 1954 census approached two-thirds. Our present investigations would seem to indicate that most of the remainder, i. e., the proportion not measured in terms of specific materials purchased, consists of complex intermediate parts and components usually consumed in great variety by individual establishments whose records concerning these multitudinous items are not generally organized or summarized in a manner that would make it feasible for them to report their imputs either in terms of specific products or in terms of groupings according to industry origin classified by SIC industries. It would appear, therefore, that it is not possible to achieve any marked increase in the proportion of materials covered in mass surveys such as the census of manufactures. Rather, our findings suggest that the development of information on the consumption of parts and components in industries producing complex products can best be achieved by a series of sample surveys in which a highly trained staff of professional interviewers would be necessary. It would appear that a cost of from $50,000 to $100,000 would be necessary for several years to develop and maintain these data which are vital to an adequate input-output table.

It should be noted that the development of such additional materials consumption data would not be equivalent to constructing an input-output table. A number of additional complicated operations such as the estimates of the flows through the nonmanufacturing sectors, the final demand or autonomous sectors, the balancing out of the rows and columns and the like would still remain to be done. No attempt is made to estimate the cost of these operations or the data problems involved.

The study of recordkeeping practices referred to above will enable us to make a more complete statement of this problem in November.

PART II. GOVERNMENTS STATISTICS

A. Quarterly nationwide statistics on State and local government finances (XI, 30)

The report recommends that the Census Bureau undertake "quarterly sample surveys with respect to major components of State and local government finances; i. e., at least tax collections, construction expenditures, and wage and salary payments."

Comments.—We have no questions to suggest as to the desirability or feasibility of this proposal, and concur in the committee's observation that the suggested surveys would provide a basis for "relatively close overall measures of current trends in State and local government finances."

(1) Timing: A period of 6 to 9 months would probably be desirable for planning, testing, and initial development of the proposed quarterly financial surveys. Thereafter, it should be possible to report findings regularly within 60 to 90 days after the period covered, as suggested in the committee report.

(2) Reliability: Such surveys should produce nationwide figures subject to sampling variation of approximately 1 percent for totals of such relatively stable financial items as salary and wage payments and tax collections. A somewhat greater variance would be likely for estimates of construction expenditure, and for subclasses of various financial aggregates.

(3) Alternatives: We believe that collection of these data primarily by mail canvass, as seems intended by the committee report, is feasible and appropriate. We have no alternative suggestions to make.

(4) Costs: To conduct such regular quarterly sample surveys would require approximately $120,000 per year.

B. Intercensus statistics on State and local government finances, by State (XI, 32–33).

The committee proposes, in line with the recommendation made in 1954 by the Intensive Review Committee on Census Programs "that biennial surveys be conducted between governmental censuses, to supply estimates on the finances of State and local governments" and that the first such survey "be taken for fiscal year 1949."

Comment.—To carry out this recommendation would involve applying to an enlarged sample of local governments the forms and procedures that are now used each year to obtain data from a relatively small sample of local governments. The present limited sample yields only national estimates; the enlarged sample would be designed to provide State-by-State findings. Our observations on the points stated in your October 1 memorandum are as follows:

(1) Timing: Relatively little advance preparation, design, or testing work would be needed to institute such an expanded financial survey. If conducted on a biennial basis, as proposed by the committee, explicit scheduling of operations would probably involve a timelag for the publication of findings ranging from 11 to 15 months after the period being reported. For example, data for fiscal 1959 would presumably become available sometime between November 1960 and March 1961.

(2) Reliability: Key financial aggregates for individual States, based on such a survey, would probably be subject to sampling variance ranging from about 1 to 3 percent, with most subordinate items involving somewhat greater variance. The level of reliability would depend not only on the volatility of various items but in part on the pattern of Government finances within particular State areas and on the interval that had elapsed since the last preceding census of governments.

(3) Alternatives: We would urge that such expanded coverage and reporting be provided on an annual basis rather than only biennially as the committee proposes. Such an approach would avoid the limitations inherent in an inter-

mittent series as compared with an uninterrupted series of annual data; it would permit more efficient scheduling of operations so that the results of each survey could become available with several months' less timelag after the period covered; and, with an annual collection of annual data, response error in the mail-reported figures could be more easily detected and eliminated. The Census Advisory Committee on State and Local Government Statistics has consistently for several years expressed the view that the lack of annual State-by-State estimates on State and local government finances is the most serious deficiency in the present Government statistics program of the Bureau.

(4) Costs: The suggested enlargement of sample coverage could be carried through at a cost of approximately $125,000 for each State-by-State survey handled on a biennial basis. If handled regularly each year, the cost per survey would be somewhat less, probably about $100,000 per year. These figures assume that the survey would be designed to provide not only State aggregates for local governments as a whole, but also a breakdown of major components by type of government. If the latter type of detail were not to be provided for, a somewhat smaller sample and somewhat lesser total costs would be possible.

The committee report includes a number of other comments and recommendations that have some bearing on the Government statistics program, but which appear less likely than the recommendations discussed above to call for extensive additional survey operations by the Census Bureau in the near future. Following are brief comments on these other portions of the committee report.

C. Employment and payroll data (IX. 5)

The committee report says: "The sample of the census surveys of State and local government employment and payrolls should be enlarged and consideration should be given to taking them every 3 to 6 months instead of only once a year."

Comment.—The present surveys of public employment conducted annually by the Census Bureau for the month of October provide relatively detailed findings by State, by function, and by type of government. Each such annual survey involves a total cost of approximately $30,000. It would undoubtedly be possible to conduct additional similar surveys, covering other particular months each year, at approximately the same cost per survey. However, it may be questioned whether such additional operations would be justified if the other two major recommendations (discussed above) for expanded current survey work on governmental finances are carried out, and especially if State-by-State figures on State and local government finances are developed on an annual basis rather than only biennially.

D. The periodic census of governments (XI. 30)

The committee report says: "It is essential that the census of governments, which is now being conducted for fiscal year 1957 for the first time since 1942, should be repeated once every 5 years as now provided by law.

Comment.—It seems reasonable to presume that this explicit statement by the NBER Committee is intended to indicate its nonacceptance of the suggestion made in 1954 by the Intensive Review Committee on Census Programs, that the frequency of the census of governments be reduced from a 5-year to a 10-year-interval basis. The Census Advisory Committee on State and Local Governments Statistics has also formally expressed its unanimous belief that the quinquennial frequency now authorized by law needs to be maintained and carried out.

E. Reconciliation of census and national income series relating to governmental finances (XI. 33)

The committee proposes that the National Income Division prepare supplementary tables indicating the relation of its published series on governmental receipts and expenditures to Federal Government amounts that appear in the United States Budget and to published census statistics on revenue and expenditure of State and local governments.

Comment.—The Governments Division has occasionally in the past worked with the National Income Division in preparing summary unpublished reconciliation statements of this nature, and will be happy to provide whatever data or assistance it can to the National Income Division in carrying out this recommendation.

F. Sectoring of Government financial data (XII. 9)

The committee report suggests that, in the preparation of flow-of-funds accounts, distinctive amounts be developed concerning general government, gov-

ernmental enterprises, governmental financial agencies, and Government trust funds.

Comment.—We believe that the classification structure now used in census collection and reporting of data on the finances of State and local governments will permit and facilitate such sectoring. However, to the extent that present census practices appear to involve difficulties for the National Income Division in carrying out this recomendation, Governments Division staff would be glad to consider such possible modifications of existing coverage or data classification as might solve such problems.

G. Nonfinancial assets of State and local governments (VII.27 and XIV.5)

The committee report emphasizes the dearth of basic data on property holdings of governments, and recommends that "The Governments Division of the Bureau of the Census be asked to explore what records concerning assets are available in the hands of State and local governments. Depending upon the outcome of such explorations, consideration should be given to the inclusion of questions concerning nonfinancial assets of State and local governments in a future census of governments or to conducting a special sample survey in between census years."

Comment.—It would be possible for the Governments Division to explore this subject at any of varying levels of intensity, involving research and possible test activities costing anything from a few hundred dollars upward. Enough is already known on the subject, however, to permit one fairly definte observation concerning the committee's statement—namely, that if any effort is actually undertaken within the early future to develop statistics on property holdings of State and local governments, it should be limited to sample-scale survey work, rather than involving an attempt to deal with this subject in connection with the census of governments. The census is inherently an extended-coverage operation which can reasonably be expected to obtain data only on those subjects that are reflected, with some degree of reliability and uniformity, in the official accounts and records of most individual governments. This condition is not met with respect to governments' property holdings.

H. Data on governmental purchases, by type of commodity (I. 6–7 and VII)

The committee report points out the need for such statistics in connection with the preparation of comprehensive input-output data.

Comment.—In April 1952 the Governments Division conducted a detailed study (in connection with the governmentwide exploration of input-output statistics) concerning the feasibility and possible methods of obtaining such information concerning State and local governments. Major results of that study included:

(1) Preparation of a suggested 74-item classification of State and local government payments according to "objects of expenditure" which could, to a considerable degree, be related to the standard industrial classification;

(2) The conclusion that neither mail canvassing nor the reference use of published financial reports could be expected to supply, as to most sizable governments, a basis for comprehensive and reliable detail on the distribution of their expenditures by type of commodity and service purchased; and

(3) The conclusion also, however, that relatively detailed statistics of this nature could be developed by intensive and careful assembly of figures from the official accounts and records of individual governments. To develop nationwide estimates in this manner would, however, involve a relatively large and costly operation.

PART III. CONSTRUCTION STATISTICS

A. The current value of construction

Because of the broad economic importance of construction and the serious inadequacies of existing data, as well as because of the special needs for construction information arising from the requirements of the national economic accounting figures, we agree that the steps necessary to develop adequate construction statistics should be given high priority. For general use, we believe that the necessary improvements should be made in data for all types of construction simultaneously.

The Bureau's views on the procedures that might yield the desired improvements in construction data are indicated in a separate document now being prepared for the Bureau of the Budget commenting on Professor Bratt's Appraisal of Statistical Information in the United States. In general, it would appear that these improved procedures—which will require radical departure

from past methods—should be based primarily on area sample surveys of construction started and construction progress, supplemented by reporting on individual large projects started and underway throughout the United States.

Comments on specific recommendations on construction statistics are made below.

B. Value of real estate

Two alternative approaches are considered: one, a survey of residential property, the other a survey of tax assessments supplemented by a survey of real property transfers.

(1) Residential property surveys: As indicated in the report, information has been available only for owner-occupied homes. It should be possible to update the figures available from the 1950 housing census in the near future with information collected in the 1956 national housing inventory. It is feasible to collect this type of information on all residential real estate and more particularly for all single-family homes. If value is to be accepted as the owner's opinion as to "what the property would sell for in the current market," these data should be available within 7 or 8 months after initiation of the planning work. It is expected that total value of all residential real estate or of single-family homes would have a sampling variation of approximately 3 percent. The current population suvey or an annual housing inventory survey, if undertaken, would provide an adequate sample. Whichever sample is used, the cost to collect and publish data on values of all single-family homes would be approximately $35,000 per year; data for all residential properties would cost approximately $80,000 per year.

(2) Assessments and transfers: For the 1957 census of governments that is now underway, figures have been assembled as to the officially recorded (i. e., assessed) valuations of all locally assessed taxable real property, by broad-use categories—residential, commercial, industrial, acreage and farms, etc. Information has also been obtained on the sales price and assessed value of each of a scientifically selected sample of all transfers of real property that occurred during a 6-month period of 1956, as a basis for calculating average levels of assessment by State and by class of property for recently transferred realty.

This project is not yet far enough along to comment firmly and in detail as to the precision of estimates of current real property values which might be based upon the findings. It can be anticipated, however, that a derived estimate of the current value of residential property would be more precise than estimates similarly obtained for certain other classes of realty, or for the total of locally assessed taxable real property. This is because a major portion of all the transactions for which information has been obtained involve residential properties, principally one-family residences. With the smaller universe and generally lower rate of turnover that applies to certain other classes of realty (particularly commercial and industrial properties), information for them must rest on far fewer sample transactions. We would like to stress the difficulties of implying that value of nonresidential real estate is a market value of such properties. There are many sectors which cannot be given market values, and for which values based on other criteria would have to be used.

C. The distribution of ownership on nonresidential real estate

It would be possible to conduct such an ownership survey, including planning, testing, actual collection of data, and publication in a 15- to 16-month period. This program would encompass the use of several resources in the Bureau and considerable planning and testing to determine an efficient and reliable technique. With little experience upon which a cost can be estimated, I assume that such a survey may cost between $225,000 and $275,000 depending on concepts and detail of classes of real estate. It should be possible to combine this survey with the one collecting value of nonresidential real estate. Sampling variation cannot be estimated with precision at this time.

PART IV. POPULATION STATISTICS

A. Strengthening the present State income estimates

(*a*) "Consideration should be given to the addition of a question in the decennial censuses to determine whether the wage or salary worker is employed in the same State in which he resides. Tabulations based on the replies to this question would be useful not only for the preparation of State income estimates, but also for analyses that are now being conducted in a number of cities on the problems of metropolitan areas." (IX. 4)

Comments.—Present plans for the 1960 census include some type of question on place of work, if funds are available and feasible procedures can be worked out. Tabulation of the information desired might cost up to $100,000, if based on the 25-percent sample.

(*b*) "The State tabulations of income data collected in the decennial censuses should be cross-classified by type of income (wages and salaries, self-employment income, and other income), by class of worker (public or private employees, or self-employed) and by industry." (IX. 5)

Comments.—Again, if place of work is included in the 1960 census of population, these tabulations would be feasible, and could be incorporated into the special tabulation proposed above in 1 (a).

B. Integration of field survey and tax-return data

"The committee recommends that in connection with its annual survey of income, the Census Bureau should provide these classifications (i. e., multiple cross-classification of family units in the field surveys by income-size classes, by numbers of earners in the family, and by types of incomes received by each income recipient in the family) periodically, say once in every 3 or 5 years. We also recommend that a subsample of the census sample be matched with the corresponding tax returns for these years in order to complete the bridge between the two sets of data." (X. 3 and 4)

Comments.—Detailed cross-classifications of the income data from the current population survey of the type described can be provided at a fairly moderate cost ($1,000 to $3,000), but would have limited reliability in some of the small cells. A matching study of income data from current population survey and tax returns would provide useful results and could be undertaken if problems of confidentiality of the information can be solved.

C. Data on low incomes

"The committee recommends that particular emphasis be placed by field surveys in the near future on low-income units. This will require more adequate samples for the low-income classes in order to provide statistically reliable estimates of the numbers of families and unattached individuals in the various socioeconomic groups mentioned above. Special efforts should also be devoted to improving the data for low-income families by means of special probing questions or other devices. Requiring special attention is the extent to which the number of low-income units, particularly unattached individuals, may be overstated in the surveys because the units are enumerated and their family status determined in 1 year whereas the income information obtained pertains to the preceding year in which they may have had entirely different living arrangements, e. g., lived as members of another family unit on whom they were dependent for support. Finally, an effort should be made to obtain income histories covering a period of several years to determine the persistence of low incomes among families over a period of time. The census of 1960 will provide many data on the characteristics of low-income groups. We attach special importance to the satisfactory tabulation of these data since much meaningful information could thus be provided at low cost" (X. 9 and 10).

Comments.—For some years, the Bureau has recommended special studies of low-income families to supplement the information provided by the decennial census and annual income surveys coordinated with the current population survey. In fact, this was one of the items specified in the proposed "5-year" plan for current population survey submitted recently at request to the Bureau of the Budget, outlining various proposals for expansion in current statistical programs during the next several years. In brief, the following would represent the kind of future program that might meet the needs expressed by the National Accounts Review Committee:

1. At a cost of perhaps $75,000 to $100,000, a special tabulation of 1960 census data could be made which would define the dimensions of the problem for the Nation as a whole and for important geographic areas, and provide much meaningful information about the socioeconomic characteristics of low-income families. This could be supplemented by a matching study against BOASI records to obtain wage histories for a subsample of low-income family members, as an aid in evaluating persistence of low incomes. It is not recommended that special questions directed to low-income families be included in the census interview itself, but that such more detailed inquiries be reserved for sample surveys or followup studies.

2. On a periodic basis—perhaps biennially or less frequently—families identified as low income (below a certain established standard) in the annual current population survey income surveys would be interviewed in a special followup visit to obtain supplementary information about the reasons for and persistence of their low incomes and other facts needed for a detailed appraisal of their situation. This kind of program would provide not only previously unavailable information about the low-income group but an indication of how its size and composition is changing over time and under different economic conditions. Such periodic surveys might be supplemented by various record checks (OASI wage histories, unemployment compensation records, etc.) and perhaps even some longitudinal studies of a subgroup—that is, an annual followup of the same families over time to see how their circumstances change and for what reasons. The overall cost of such a program might be around $100,000 to $150,000 for each year in which a survey is undertaken.

D. Expenditures and savings by income classes

"The committee believes that surveys of expenditures and saving by income classes should be a regular part of the statistical program of the Federal Government. Plans should eventually be made to make such surveys once every 5 years in sufficient detail to provide estimates of the outlays by consumers for the major categories of expenditures (e. g., food, clothing, shelter, consumer durables, etc.). However, before such surveys are made on a regular basis, considerably more experimentation will be needed to refine techniques of data collection in order to reduce nonreporting or underreporting by respondents" (X. 10 and 11).

Comments.—The committee recommended more frequent surveys of consumer expenditures and savings in relation to income level, but did not specifically relegate this function to the Bureau of the Census. In fact, there was some implication that the Bureau of Labor Statistics—which conducted the last full-scale study in that field in 1950—might be the natural repository for such a program. We have long been interested in collection of data in this field and have done some experimental work during the past few years. In addition, we will this year be collecting detailed information on expenditures as part of a survey of recent social-security beneficiaries being undertaken for BOASI. We believe, however, that our most useful role at this time might be in experimenting with and testing different approaches. For example, there is much interest in knowing whether a comparatively short questionnaire and interview could provide useful results, as compared with the highly detailed and lengthy procedure used by BLS. Another possibility often mentioned would be to obtain information on a monthly basis and aggregate expenditures for the year, in lieu of asking about the year as a whole retrospectively as is now done. An allocation of perhaps $100,000 might be needed to advance this kind of experimentation.

E. Regional, State, and county distributions

"Requests are frequently made by Government officials, research workers, and businesses for breakdowns of the national income size distributions by region, for particular States, and even for counties. The collection and tabulation of data to such detail requires samples of a size that would be prohibitively expensive and it is doubtful whether the Federal Government should devote its resources, except for the decennial censuses to the collection of these data. There is no reason, however, why the State governments cannot undertake to make such sample surveys either directly or through competent sampling organizations. The Census Bureau has cooperated on a number of occasions with State governments on a contract basis. This year, for example, it is conducting special income field surveys for New York State and the District of Columbia. The committee hopes that the Bureau will be able to continue to satisfy in the same cooperative spirit similar requests in the future" (X. 13 and 14).

Comments.—The Census Bureau stands ready to conduct surveys in cooperation with any State. Moreover, in our 5-year plan for current population survey, we recommended future cooperative work with State governments on some kind of matching-fund basis, where the Federal Government would provide somewhat more financial support than in the New York State survey cited by the committee. An initial Federal allocation of around $300,000 was suggested for this purpose, provided that a sufficient number of States indicated an interest in such a program.

F. Plans for the 1960 census

"The committee has been informed that in all probability a household schedule will be used rather than the line schedule which was employed in the 1950 census. This change will have an important bearing on the usefulness of the income data, since it will be feasible to collect information separately for each family member rather than for the family head and for all other family members as a group. The committee strongly recommends that this change be made.

"The committee also believes that the next decennial census should be made the occasion for a concerted effort on the part of other Federal agencies to fill many of the statistical gaps in our knowledge about income size distributions. Plans should now be made for: (1) matching studies between census data and tax returns; (2) tabulation by the census of cross-classifications for combining census and tax return data; (3) an audit control survey by the Internal Revenue Service to obtain estimates of underreporting on tax returns; (4) more detailed census questions to obtain better data on the characteristics of the low-income groups; and (5) a supplementary survey designed to obtain estimates of expenditure and saving patterns by income groups and by other significant characteristics of consumers. We would hope that future decennial censuses will continue the collection of such data. With appropriate supplementation by smaller and less ambitious sample surveys in intercensal years, the Nation would then have a continuous body of data on income size distributions which would shed adequate light on numerous important economic and social questions." (X. 14 and 15.)

Comments.—We would be glad to cooperate in any of the projects outlined above for matching studies of census income data with data from other records. As for other recommendations contained in this section of the committee's report—namely more detailed census questions on characteristics of low-income families, and a supplementary survey on expenditures and savings patterns—it is believed that these rather detailed and complex matters could be pursued much more efficiently through special sample surveys or other means not related to the decennial program. In that context, these subjects are discussed in other sections of the report.

PART V. OTHER COMMENTS

A. The following statement appears in section VIII, page 5:

"From the standpoint of the short-term analyst, it is the change from period to period that is most important. Probability samples that give the best estimates of the total are not designed necessarily to give the best estimates of the change. The sampling error may be small in relation to the total but large in relation to the change. It introduces a disconcerting element of erratic variation into the changes portrayed. It is doubtful, for instance, that the reliability of the estimates of changes in retail sales data have been improved by the more 'scientific' sampling procedures adopted in recent years."

The statement that "probability samples that give the best estimates of the total are not designed necessarily to give the best estimates of the change" is a true statement. It is equally true that a probability sample can be designed to give the best estimate of change. In fact the importance of estimates of change was given a great deal of weight in designing the current retail sample. It is to be pointed out, however, that the fact that more emphasis has been given levels than change in the design has no necessary relationship to the "disconcerting element of erratic variation into the changes portrayed."

Given any measure of change, however small, that is considered important by the analyst, it is possible to design a probability sample that will measure this change, with whatever degree of precision the analyst desires (insofar as sampling error is concerned). The principles of sampling theory will tell one how large the sample must be to meet these specifications. Thus, even though a design puts more emphasis on level than on change, it is possible with this same design to make the sampling errors of change as small as the analyst decides is economically significant. Of course, the greater the reliability of the survey the greater the costs of doing the survey.

Principles of sampling theory make it possible to give appropriate weight in the design to the many purposes to be served by a general publication, and to meet these needs at a minimum cost. For example, in the retail trade series, the large establishments and firms (accounting for nearly 50 percent of the dollar-volume estimate) are taken in the sample and are identical every month. The estimate for the smaller establishments is a weighted average of two other estimates. The first is the estimate of level best for short-term (month-to-month) change, which is a given weight of 80 percent. The second is an estimate

of level which does not employ past data and this estimate has a 20-percent weight. These devices introduced into the retail trade sales series have reduced the sampling error of the month-to-month change to where it is only moderately above the month-to-month sampling error of an equal-sized sample of identical establishments. The year-to-year changes derived from these series have a lower variance than would be derived from the same size sample of identical establishments. At the same time these devices produce a much more accurate level estimate, and comparisons over longer periods of time are also meaningful.

Our final comment has to do with the last sentence of the statement quoted above, which implies that the reliability of the estimates of change have not been improved by the introduction of the sampling procedures adopted in recent years. We do not understand the basis of this judgment. There are a number of reasons to believe that the present sample provides considerably improved estimates of change over intervals of 2 or 3 months or more. We find it difficult to make this evaluation on objective grounds because it is not possible to measure the accuracy of the old series prior to the introduction of probability sampling.

It is only through probability samples that the reliability of the data can be measured. In the absence of a census taken at frequent intervals, the short-term analyst must rely on a probability sample to obtain an objective measure of the reliability of the results. Since, before the introduction of probability sampling, the sampling error of the estimates was unknown, while after the introduction the reliability is known, there is no objective basis for making the comparison between the earlier and the present series.

Perhaps the conclusion by the writer was reached because the data from the judgment sample are smoothed to conform with the way the analysts believe the economy is behaving. It is our opinion that a more useful series is one which is designed to measure the way the economy behaves independent of what the analysts expect.

Some evidence that the analysts were not satisfied with their judgment estimates (despite the "smoothness"), is given by the fact that they made frequent revisions, some of which were very large in magnitude.

B. Statistics on sole proprietorships and partnerships:

The following statement appears in section XI, page 20: "* * * future censuses of manufactures and other businesses should distinguish between sole proprietorships and partnerships in the query on legal form of organization."

The distinction between sole proprietorships and partnerships is made in these censuses and will continue to be made in the 1958 censuses. Statistics for each of these groups are published separately.

C. Tabulation of old-age and survivors' insurance data on payrolls of small firms:

The following statement appears on page IX, 4:

"The most recent old-age and survivors insurance figures on the payrolls of small firms by States relate to the first quarter of 1951. Until recently, these figures were used to correct the excellent State data derived from the unemployment-insurance records for firms employing fewer than eight persons. Beginning in 1956, however, the coverage of unemployment insurance was extended to firms employing four or more persons, so that the 1951 old-age and survivors insurance data cannot be used to make the necessary corrections. The committee recommends that a new tabulation of the old-age and survivors insurance data by States be made for a more recent year and that similar tabulations be prepared periodically, say, once every 3 years, in order to keep the corrections up to date."

In collaboration with the Bureau of Old-Age and Survivors Insurance, the Census Bureau planned tabulations of the small firms for the purpose suggested above for the year 1953. Unfortunately, however, the tabulations for some of the States were not completed and the tabulations for the others were completed too late to be used for the national income payroll data by States. A 1956 tabulation of data for small States has been planned and will be completed early next year.

Representative BOLLING. The first statement will be from Mr. Edward F. Denison, member of the research staff of the Committee for Economic Development.

Mr. Denison.

STATEMENT OF EDWARD F. DENISON, MEMBER, RESEARCH STAFF, COMMITTEE FOR ECONOMIC DEVELOPMENT; CHAIRMAN, EXECUTIVE COMMITTEE, CONFERENCE ON RESEARCH IN INCOME AND WEALTH

Mr. DENISON. Mr. Chairman, I am testifying today in a personal capacity. The report of the National Accounts Review Committee represents the judgments of a highly qualified group of men, and, in my opinion, is an important and valuable document. It gives a fair appraisal of the present status of the national accounts, of the requirements for better source statistics to improve the existing estimates, of the need for additional information to be provided by the national accounts, and of the character of this needed additional information.

With all these aspects of the report I expect that there will be wide agreement both among persons who use the national accounts—and this includes almost everyone concerned with economic policy—and among experts in the preparation of national-income statistics and other national accounting data. The main conclusions of the report, as I see them, are quite simple.

First, we are getting all that we can expect, and perhaps more than we should expect, from the money devoted to national accounting, and particularly to national income and product statistics.

Second, it is idle to expect either any material improvement in the quality of the data or any important extension of the information provided without spending more money.

Third, additional expenditure for both of these purposes would be wise public policy.

The committee powerfully supports these conclusions, and to one familiar with the preparation and uses of national income and product statistics they seem, indeed, to be almost self-evident.

With respect to the value of national-income statistics and the need for more and better information, the reports of the Joint Economic Committee itself surely provide ample evidence.

I would like to supplement the committee report with two comments:

First, I think that everything the committee says with respect to the national-income work of the Office of Business Economics applies equally to its balance-of-payments work. The sharp contraction of a staff that was never large enough was an experience common to both these aspects of national accounting.

The balance of payments is, in fact, an important integral part of the national-income accounts, although it also provides crucial information for consideration of international economic policies.

Second, there is an important effect of inadequate funds that the committee report does not bring out. The preparation of national-income statistics and other national accounting data requires a staff of highly trained, competent, and experienced economic analysts. The work, including simply the maintenance of the existing series, requires much knowledge and judgment, and is of such a character that it can never be routinized.

But individuals of the required qualifications cannot be attracted to perform only the function of maintaining and periodically revising existing series. For a position to be attractive, it must include op-

portunity for economic analysis of the data prepared and for developmental work in the extension of national accounting.

Since continuance of the existing series has had to be a first priority on the work of the Office of Business Economics staff, the main effect of budget reductions has been the contraction of analytical work and the near cessation of developmental research. This has made the work less attractive to competent individuals and this, in my judgment, must eventually affect the quality of even the continuing estimates.

The problem of attracting highly qualified people for this work I believe to be a serious one.

This observation has some bearing also upon the committee recommendation for the addition of a research section in the National Income Division. This recommendation is a good one.

As I would visualize it, however, this research section would not have a permanent staff. Instead, personnel would rotate between the research section and other sections of the Division. This seems necessary both to provide all senior members of the Division with proper scope for interesting work and to make possible the utilization in the development of any particular new series of those staff members who are best qualified.

In addition to its main recommendations, the committee report contains fairly elaborate suggestions for changing the present presentation of accounts and tables and for presenting the information that would be provided by further extension of national accounting.

Much of this detail of presentation would not receive general assent, and I, myself, would disagree with the committee at a number of points.

Except for the recommendation that the national accounting generally should be built around the national-income accounts, with which I agree, the committee properly states that this part of the report is illustrative only and does not represent a firm recommendation. This distinction must be stressed, both to avoid confusion between these details and the main recommendations of the report, which should receive general acceptance, and to prevent any implication that the responsible Government agencies have any obligation to adopt the particular detailed accounting structure set forth here.

The suggestions ought, of course, to be carefully considered by the agencies concerned.

In conclusion, I would express my hope that the committee's urgent recommendations that substantial additional funds be allocated to national accounting will be speedily implemented.

Representative BOLLING. Thank you, Mr. Denison.

Next is Mr. Martin R. Gainsbrugh, chief economist of the National Industrial Conference Board.

STATEMENT OF MARTIN R. GAINSBRUGH, CHIEF ECONOMIST, NATIONAL INDUSTRIAL CONFERENCE BOARD

Mr. GAINSBRUGH. Good morning, Mr. Chairman.

The introduction and development of an integrated system of national accounts promises to rank in historic significance with some of the more widely heralded inventions of recent decades in the fields of the physical sciences. This growing family of income and product

statistics is without question one of the major contributions—if not the greatest—of the economic fraternity thus far in the 20th century.

That is how important I rate the national accounts and believe more and more business users feel the same.

The report prepared by the National Accounts Review Committee is in itself a significant contribution to the literature of national accounting. It goes far to assure future progress by developing an ambitious agenda designed further to improve the value of this key set of social statistics not only for policymaking purposes in Government, but also for business.

I would underscore even more than did the committee the intense interest of the business user and business community in the collection and interpretation of these data.

Two years ago I undertook with my colleague, Morris Cohen, a review of the national-income accounts from the viewpoint of a business user.[1]

Some reference is made by the committee to the series of papers then prepared and presented in the fall of 1955 at the Conference on Research in Income and Wealth (pp. 111–112).

I would like to offer a series of observations on some of the committee's major recommendations and findings as they relate to our current system of national accounts, viewed from the particular vantage point of that paper.

1. Constant dollar estimates: The business user welcomes the committee's emphasis on constant dollar estimates (p. VI–1). As is shown by their own survey of users—

> of the improvements and extensions in the national accounts about which respondents were queried, quarterly estimates of gross national product at constant prices were checked more often than any other question, although the lead was small.

Throughout each successive quarter of 1957, for example, we have been told most of the gain in gross national product has been in price rather than in real terms. The user, however, must await the release of constant dollar data in the President's Economic Report for 1958 for the unveiling of the estimates upon which this conclusion rests—a conclusion important for public-policy purposes and business analysis as well.

Improvement of the contant dollar measures in the national income and product account rightly rates the high priority the committee gives it—"earliest possible implementation" (pp. 1–13).

This endorsement would embrace not only development of a quarterly series, but also finer detail in constant dollar data annually, particularly for personal consumption.

It is worth noting in this connection that the first major sector account for which detailed data were released in current and constant dollars was consumer spending and this was done as early as 1943.

With productivity estimates as important as they are, not only in model building, but even more in collective bargaining and public investigations of wage-cost price trends, the suggested cooperative effort to match man-hours and constant dollar figures (p. VI–9),

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[1] See The Income Side, a Business User's Viewpoint, in A Critique of the United States Income and Product Account, Studies in Income and Wealth, vol. 22, National Bureau of Economic Research, in press.

should also be put high on the agenda for the months immediately ahead.

2. Greater attention to industry detail: In our earlier critique of national income, we pointed out that business users found disturbing signs of retrogression in the decreasing industry detail shown in the national-income account:

> Rather than being satisfied with less industry classifications, they want more data by finer industrial breakdowns. The more improved their knowledge of national accounting, the greater will be their interest in specific industry information.

The committee places the emphasis on its report on the use of national accounts for economic policy purposes.

In our critique the emphasis was primarily upon the uses of national income for purposes of business analysis leading toward better understanding of the growth and behavior of the economy over the short term as well as the long run.

That so little attention is given by the committee to the need for industry detail may be attributable to the committee's concentration on "overall economic policies for which the national economic accounts are useful" (p. V–4).

National accounting has been developed largely within Government and primarily for Government use. There is thus ample opportunity for the Government viewpoint to be made known and, perhaps too little impact from the outside.

As in the case of other governmental agencies charged with the collection and interpretation of key economic statistics, the National Income Division might benefit from the establishment of an advisory committee composed of the major private users of its accounts.

The Department itself states in advertising its National Income Supplement that—

> business managers and analysts, economists, and students use national income as a basic guide—a necessary statistical tool in the determination and evaluation of long-term business and financial trends.

Even greater use of these accounts would be forthcoming if their adequacy for private needs were under constant review with such a continuing committee.

3. Integration of the national accounts: It is indeed tempting and perhaps highly rewarding academically to propose a reformulation of the scheme and structure of national accounts. True, some progress has already been achieved in the system of input-output measures. Even greater promise has been read into the flow of funds material.

But it would appear prudent to await for more experience with these systems before attempting to integrate them into a single system of accounts (p. V–14 ff.).

The very complexity of a single system of accounts raises serious doubts as to its desirability, at least until its users are far better versed in the concepts, conventions, and measurement techniques of the newer and supplementary accounts.

Each approach has its role to play and its contribution to make. Certainly a bridge between the accounts would be most useful and might not be too difficult to present, as the committee demonstrates; but full-scale integration would appear premature, until we have built up familiarity, experience, and confidence in the newer sets of accounts.

Meanwhile, progress can be made in reformulating and expanding the system of national income and product accounts per se, along the lines suggested by the committee and the National Income Division, appendix E.

Time permits only some capsule comments on a few other basic questions raised by the committee:

4. Deconsolidation of the personal account: We stressed this in our earlier paper on the income accounts. Now, several years later, the committee has also strongly urged deconsolidation, page VII–1. I would hope these successive recommendations will lead to tangible results.

5. Capital gains, realized and unrealized: The proposal for making these estimates, page VII–10, receives my endorsement. Further, the proposed measure of replacement cost depreciation, page VII–41, will fill an important business need.

However, I cannot agree that such depreciation estimates are necessary in measuring capital gains and losses, but, rather, are required as a measure of maintaining capital stock. These estimates of capital gains and losses and replacement depreciation should remain outside the basic income and product framework.

6. Government interest: I would agree that Government interest, other than on war debt, should be included in the account totals, page VII–17. In fact, we emphasized this point in our earlier discussion.

7. Monthly gross national product: Despite the recommendation against monthly gross national product, page VII–2, I still believe that such estimates would have merit. Much of the economy is on a monthly basis.

To the extent that volatility is real, it should be noted; to the extent it is statistical, why not admit it? The preparation of monthly estimates of gross national product would be invaluable as a discipline in current business analysis.

8. Corporate profits: I would underscore the committee's concern over the delay in the quarterly reporting of corporate profits, page VIII–4. A concerted effort to speed up reporting would meet a basic business need.

9. Frequency of revisions: I would call attention to the possible dangers of too frequent revisions, page XI–8. Rapidly changing estimates might tend to weaken the business user's confidence in the accuracy of the figures.

Yet revisions, particularly in current quarterly estimates, are unavoidable. We should recognize that the only answer to this dilemma is to improve the quality.

10. National balance sheet: In view of my long-term interest in this relatively neglected field of social accounting, I approve the committee's recommendation that work begin as soon as feasible, page XIV–16. In fact, I consider this a project of greater urgency, and raise the question, "When do we begin?"

Summary: In closing, may I plead for retaining the identity of the national income and products account. I would weigh carefully a dilution of these accounts in a grand scheme of integration. An important virtue of our statistical system is its diversity of approach. A single superstructure may not necessarily result in a net overall gain.

Representative BOLLING. Thank you, Mr. Gainsbrugh.
Mr. Peter Henle, assistant director of research, AFL–CIO.

STATEMENT OF PETER HENLE, ASSISTANT DIRECTOR OF RESEARCH, AFL–CIO

Mr. HENLE. Mr. Chairman, the Joint Economic Committee is to be commended for holding these hearings to review and publicize the work that has recently been completed by the National Economic Accounts Review Committee. This committee was formed at the request of the Budget Bureau by the National Bureau of Economic Research to make recommendations for improving the Nation's basic statistical tools for analyzing economic events, the national economic accounts.

The committee's report which is now in the hands of the Budget Bureau and the statistical agencies of the Government, provides for the first time a comprehensive summary and analysis of the major statistical weapons which can help us achieve a stable and growing economy.

Historically, the operations of labor unions have not been considered as involving intimate association with such learned devices as the national economic accounts. However, as the scope of union activities has broadened, unions have recognized the importance of relating their policies to a careful analysis of economic developments.

In every activity which unions undertake, in collective bargaining, in legislative programs, and in public discussion, a firm understanding of the Nation's economy, its components, and the direction in which it is moving, are absolutely essential.

Not only for unions, but for all segments of American life and, of course, for Government policy, information is needed which makes clear what is happening to the Nation's economic machine.

The various national economic accounts—national income and product, flow of funds, input-output, balance of payments, and national balance sheets—represent a framework of understanding which serves the interests of all groups, public and private, equally well.

For this reason, American unions have been vitally concerned with the work of the Review Committee and have been pleased to note that one of the individuals selected for membership on this committee has had a background in union research work.

The Review Committee undertook the vital task of reviewing this framework of the national accounts, of developing a sound theoretical basis for them; of disclosing gaps and inadequacies in the figures, and, finally, of recommending improvements that are needed so that the accounts can more effectively perform their function.

We have carefuly reviewed the committee's report. Obviously this report involves many different types of issues all of which cannot be discussed in this brief presentation.

Moreover, we don't feel ourselves technically qualified to pass on many aspects of the committee report.

As a general comment, let me say that the committee certainly has done a thorough and competent job. Its report is written clearly and can be understood, even outside the statistical fraternity. It is a realistic report whose recommendations are not simply the result of

professional daydreams; rather, they are the result of practical men trying to devise workable solutions to difficult problems.

The committee is to be commended for the very painstaking way in which it has reviewed the many different types of statistical data which form the basis for the national economic accounts.

In so doing, the committee has exposed a number of serious deficiencies in our present statistical reporting and has made a number of important recommendations which should be considered not only by the executive agencies in planning their programs for the future, but also by the Congress in passing on the appropriations which are proposed to implement its recommendations.

The committee also devoted considerable time to reviewing the framework in which the various national economic accounts are set. Its recommendations include important modifications of the major accounts relating to gross national product and income.

It also calls for revitalizing the work with regard to the input-output set of accounts, and it proposes new work to establish a study of national balance sheet accounts which the United States has not had for a quarter of a century.

There are several specific recommendations in the report on which we would like to comment.

One, and it so happens that our No. 1 is the same as Mr. Gainsbrugh's No. 1, constant-dollar estimates, a serious problem in economic analysis has arisen in recent years because the figures used in economic analysis to portray the growth of the economy are normally expressed in terms of dollars and thus reflect the influence of the changing level of prices.

Thus, all the various indicators, such as those showing the growth in national output, or the increase in wages, seemingly reflect a higher rate of growth than has actually occurred.

It is important, of course, that these statistics be published in terms of dollars. It is also important that they be published in terms of constant dollars.

The committee's report includes a concise analysis of this issue. It concludes that a substantial expansion of constant-dollar estimates is needed.

We fully support the committee's recommendation, particularly because some serious deficiencies in our economy tend to be overlooked because greater information in terms of constant dollars is not available. Problems of productivity and economic growth cannot be fully understood unless sufficient estimates in constant dollars are available.

Of the recommendations on this issue made by the committee, we think the following are the most important:

1. The development of quarterly estimates on a constant-dollar basis to make possible more accurate current analysis.

2. The preparation of estimates on a constant-dollar basis showing the distribution of the gross national product by industry of origin (Government, business, households, and institutions).

3. The development of matching constant-dollar estimates of output and man-hours for the major nonagricultural sectors of the economy.

Size and distribution of income: We feel it is quite significant that the committee devotes an entire chapter to this special problem. In

the past, anyone attempting to construct a consistent historical pattern showing the distribution of United States income has encountered conflict and confusion in trying to reconcile income data prepared by the three Government sources, the Department of Commerce, the Bureau of the Census, and the Federal Reserve Board.

Trends in distribution of income are a significant factor in measuring the health of our economy. Economists generally recognize the importance of a growing mass consumption base for dynamic economic development. Figures showing the size distribution of income can be a particularly sensitive indicator of any maldistribution that would threaten the healthy growth of our economy.

We strongly support the committee's recommendation that:

> Size distributions of income should remain an integral part of the national accounts, and that the data underlying these distributions should be improved in order to obtain more reliable estimates.

The committee makes a number of specific suggestions for improving the data. We want to call particular attention to two recommendations:

1. The recommendation for a special study of top income-tax returns; and
2. The need to develop additional data on low-income families.

As the committee states, sufficient information is not available at the present time to present a clear picture showing the number and characteristics of the Nation's family units in the lowest and highest end of the income distribution.

Particular emphasis needs to be devoted to this problem.

Capital expenditures: The committee obviously devoted extensive time to discussing the treatment of capital expenditures in the national economic accounts. Perhaps the most complex issue in such a discussion, one called the most contentious problem, is the perennial argument over the merits of original cost and replacement cost as a basis for computing capital consumption allowances.

This is an issue which has implications for accounting practices, tax policy, and Government regulation of business.

The committee, however, recognized that accounting practices for purposes of the national economic accounts has no counterpart in tax policy or general business accounting. The committee made it quite clear that it was considering the problem only from the standpoint of the national economic accounts and that its recommendations—

> Should not constitute the basis for any position on the treatment of depreciation in (such) other areas.

On this thorny issue, the committee was unable to reach a unanimous recommendation. In effect, a majority of the committee recommended that the national economic accounts be so constructed that information be furnished on capital consumption allowances both on an original cost and a replacement-cost basis.

Admittedly, complicated technical issues are involved in this decision. While we understand the reasoning behind a desire to provide useful data on a replacement-cost basis, it is our belief that original cost provides the more logical method for calculating depreciation allowances in the national accounts.

The use of replacement cost for calculating depreciation can create a very distorted picture of the return to capital. If the cost of replac-

ing a given piece of machinery has risen, obviously the value of the machinery itself has increased.

Raising the depreciation allowance without at the same time increasing the value of the machinery and crediting to its owner the appropriate capital gain would give a very distorted picture of the economic effect of the price rise.

The committee recognizes this problem when it states:

> The relative position of recipients of profits and other incomes would be distorted if depreciation allowances as currently calculated were increased to a replacement-cost basis without at the same time revaluing capital assets and assigning the resulting capital gains or losses to the owners.

The committee goes on to make clear that if replacement cost is to be utilized, more information must be fully developed regarding the value of both capital assets and capital gains.

We certainly support the committee recommendation that:

> Estimates of captial stock and of unrealized capital gains to the holders of that stock should be developed as rapidly as possible and incorporated in the national accounts as soon as they become available.

Short-term estimates: Labor unions are among the groups who turn regularly to the latest information on the national accounts not only to provide some indication of the current state of the economy, but also to yield some clue as to its future direction. We are, therefore, particularly interested in improving the value of data prepared on a short-term basis.

While we recognize that it would be difficult, if not impossible, to prepare national accounts on a monthly basis, we want to support the committee's recommended program for expanding the detail available in the data prepared for each quarter.

Input-output: The committee has very properly considered the preparation of input-output tables as one of the five types of national economic accounts. An input-output table provides information showing the flow of commodities and services among various sectors or industries in the economy. This information basic to economic analysis is not readily available from other types of economic accounts.

As the committee indicates, input-output studies "are still in an experimental stage."

However, United States experience in preparing such tables, particularly the work of the Bureau of Labor Statistics, in preparing a comprehensive input-output table for the year 1947, showed great promise and deserves to be reinvigorated.

We, therefore, support the committee's recommendations that the Government resume work on the construction of input-output tables suggesting as a start a relatively simple table on the basis of the 1954 census data, as well as a more detailed study to be based on the 1958 data.

Let me mention in addition two particular points which were not included in the committee's report, but which are related to the issues raised in the report regarding which we have specific suggestions to make.

Additional breakdowns of corporate information: The committee report calls attention to the lack of readily available data regarding the financial situation of noncorporate business. We agree that such information is vitally necessary.

However, we want to call attention to the fact that sufficient information still is not available regarding corporate financial activities. At the present time, for example, information is readily available on corporate profits by individual industries. However, there is an urgent need for data on income originating, on employee compensation, and on wages and salaries for the corporate sector of the individual industries which could be matched with the data on corporate profits. It ought not be too difficult to collect this information since most corporations report payroll data to their stockholders.

Similar detail is needed with regard to the employment data. In each industry the data on full-time and part-time employees ought to be broken down into employees working for corporations and employees working for noncorporate business.

At present, such a breakdown does not even exist for the total corporate sector of the economy.

Breakdown on employee compensation: There is an urgent need for a breakdown of employee compensation and of wages and salaries by function of recipient. The minimum needed is a single breakdown which would make it possible to distinguish between managerial, professional, and semiprofessional employees, on the one hand, and wage earners and clerical and sales workers doing routine jobs, on the other.

Such a breakdown could be based on the census occupational information. In this case, the grouping would be similar to the one used in the Federal Reserve Board consumer finance surveys.

The categories "Professional and semiprofessional workers," and "Managerial workers" on the one hand, and "Clerical and sales workers" and "Skilled and semiskilled workers" and "Unskilled workers" on the other hand, as used by the Federal Reserve Board, could be consolidated into two groups.

Or the breakdown could be made, depending on whether or not an employee was covered by the Fair Labor Standards Act.

In any case, the 1958 business censuses could be used to establish benchmarks.

The lack of such a breakdown presents a serious obstacle to any meaningful analysis of the distribution of the national product.

At the present time, the basic data to compile this information is not readily available. This is an area of information on which the various statistical agencies of the Government need to work together to develop the needed data. We suggest that this be done as promptly as possible.

Thank you.

Representative BOLLING. Thank you, Mr. Henle.

Mr. Robert Johnson, economist and actuary of Western Electric Co.

Mr. Johnson.

STATEMENT OF ROBERT E. JOHNSON, ECONOMIST AND ACTUARY, WESTERN ELECTRIC CO.

Mr. JOHNSON. Mr. Chairman, gentlemen, it is a pleasure to be here this morning and say a few words about the national economic accounts.

My name is Robert E. Johnson. I reside at 6 Skytop Terrace, Upper Montclair, N. J. I am employed by the Western Electric Co. as economist and actuary.

I have spent the nearly 30 years of my working life in the field of economics and related activities, including about 6 years in various aspects of military programs in wartime.

I have reviewed the National Economic Accounts of the United States: Review, Appraisal, and Recommendations, with great interest. I shall have only a few general comments with regard to most of the subjects covered. I believe that others will spend their time in the fields which I shall slide over, but that they may not say much about the input-output sections of the study. I am in general agreement with most that has been said about gross national product, flow of funds statements, balance of payments, and the national balance sheets. There are areas for improvements in each and of about the varying degrees indicated.

I would add one work for emphasis. We can never be too diligent in getting the data rapidly and accurately. Too many users of these data do not take the time to understand the limitations of what they are using. Too often they take the first figures published and use them as though they were final.

Decisions are made on the basis of these first figures. I know that there is no way to prevent the unwise use of the data. All we can ask for is that every effort be made to get the first data as accurate as possible and then attempt through all possible means to educate the users as to the limitations of the information.

Now, I should like to devote the rest of my time to a discussion of the input-output tables. These I find to be potentially the most important of the several sets of data we are discussing this morning. I know that there will be much disagreement with me. Let me discuss these data from three points of view:

1. They provide us with considerably more detail on the interrelationships of finer sectors of the economy.

2. They can provide a basis for economic and mathematical programing.

3. There are certain desirable improvements in the data.

1. We have found, through using such limited and obsolete input-output data as are available, that we are better able to interpret current changes in the economy. We have also been able to better foresee the impacts of new programs, such as the roadbuilding program, on several other sectors of the economy.

Similarly, we have been able to foresee industries which might be affected by the decline in housing starts, the upsurge in capital expenditures by business, the shifting age distribution of the population, and the shifting demand for automobiles and other large ticketed consumers' durable goods.

In my office we are asked each year to project the demand, supply, and prices for many specific commodities. We have found the input-output tables and the supporting industry reports helpful as a point of departure for these studies. They give us a first picture of the supplying industries as well as the using industries.

With this knowledge we can, using specific data from many sources, construct a future demand-supply picture.

Returning again to the input-output tables, we get considerable help in interpreting the cost structures of the industries concerned and have been able to formulate cost and price forecasts. The input-output tables cannot give us our final answers, but they are frequently the important clues which orient the procedures and fill in important pieces of information.

2. In my opinion, the input-output tables are among the most important planning tools available to private industry. I know only too well that the present tables, even if up to date, leave much to be desired, but I believe that they are so far superior to the other information we are discussing today that considerably more time should be devoted to improving them.

We can, from these input-output tables, get some rough orders of magnitude of the interrelationship of many industries. This knowledge, coupled with data gathered from many other sources, permits one to do a better job of planning than would otherwise be the case.

I have observed attempts to do war planning on the basis of the national income and product accounts, and have about reached the conclusion that such work is merely an exercise. I personally have more confidence in planning based upon the input-output tables.

If we can get the proper kinds of data, we shall have a potent tool for private planning purposes. Through the use of electronic computers, and the latest mathematical tools, especially linear programing, resources can be balanced to programs. The use of short resources can be balanced for optimum output, new expansion needs can be better appraised, and the whole economy would tend to operate with less risk of booms and busts.

Moreover, I question that we need fear that this can ever lead to a centrally planned economy. Only the individual engineer or production man will know the tolerances he has in the utilization of short resources. This is the dynamic of millions of American businessmen each utilizing his own special know-how.

3. I am not blinded to the dangers of planning through the use of the input-output matrices. I know the story. For the lack of a nail, the shoe was lost. For the lack of a shoe, the horse was lost. For the lack of a horse, the battle was lost, and because of the loss of the battle, the nation was lost.

The ditty needs serious consideration in the age of the cold war, the atom, the intercontinental ballistic missile, and the earth satellite.

Military programs can fail for the lack of a critical component or raw material. However, the input-output matrices can be substructured with effort to most any desired level.

Furthermore, any system must be subject to analysis. Such analysis, at the moment, must involve at least two critical areas: (*a*) technological changes, and (*b*), prices.

(*a*) Technological changes are constantly occurring in our dynamic economy. Input-output tables by their very nature are out of date before they become available. Therefore, it is incumbent that technological changes be allowed for in using these tables.

(*b*) The document before us states, on page XIII. 2:

> Thus, the tables in their present "open" system form answer primarily the question: What output of raw materials and semimanufactured goods is needed to produce a given volume of final output; or what output of various industries would be needed to meet an assumed demand for final goods and services, a

magnitude which is either identical with or can be derived from gross national product.

I do not believe that the problem is that simple. The gross national product data are always in terms of either constant or current prices. Prices are among the most dynamic elements in our society. Price deflators which are satisfactory for the national income and product accounts may not be satisfactory for converting dollar matrixes to physical terms.

This, then, will call for a matching price matrix. I am of the opinion that some work pointing in this direction was started, but I have seen no indication that the work has been completed and made available for public consumption.

There is one other little problem which I did not find discussed in the document, and that is the matter of the recently revised Standard Industrial Classification. I believe that this will require careful consideration if we are to make any future matrixes comparable with past ones. And there is something to be gained from comparisons over time.

I should not close without expressing my great concern that we are trying to use completely outdated information. We have no official data in the input-output series since 1947. Think of it, 1947 was still influenced by the reconversion from World War II. For 10 years of the most dynamic changes in the history of the world we have no organized data.

Some of us have tried to bring these data up to date in one area or another, as the need was most urgent. But nowhere, to my knowledge, have these most vital data been developed as one coordinated whole. Of course, those of us who use these data would like more data. More, both in breadth and in depth.

Much additional work needs to be done in the development of concepts and adequate data in the area of factor payments and nonfactor charges against final product, both of which were combined into the "Household row" of the 1947 study. Separate information is needed about depreciation, dividends, retained earnings, entrepreneurial income, and compensation for labor.

With regard to the latter, we would like to see, in addition, a division between salaries, wages, and fringe benefits.

But, most of all, we would like to see the basic tables recalculated at least every 5 years so that we might get some concept of developing trends and their rates of change.

Representative BOLLING. Thank you, Mr. Johnson.

Mr. Ernest A. Tupper, manager of the Washington office of the American Can Co., representing the Federal Statistics Users Conference.

STATEMENT OF ERNEST A. TUPPER, FEDERAL STATISTICS USERS' CONFERENCE, MANAGER, WASHINGTON OFFICE, AMERICAN CAN CO.

Mr. TUPPER. I would like to make it clear I am appearing today for the Federal Statistics Users' Conference, and I am not speaking for my employer, the American Can Co.

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The membership of the Federal Statistics Users' Conference, as the list which I am submitting will show, is made up of leading business, labor, agricultural, and research organizations.

One of the main purposes in establishing this conference was to provide a mechanism through which Congress and the executive departments could, upon request, obtain constructive suggestions and objective advice regarding the more important economic and statistical activities of the Federal Government.

We particularly welcome the opportunity to participate in this panel discussion. This is so because, in our opinion, there is no other area of economic and statistical work, in the Federal Government, more worthy of study by your committee than that dealing with the national economic accounts of the United States.

Each member of the Federal Statistics Users' Conference has been given an opportunity to review and comment on the summary of findings and recommendations, which was a part of this report.

In addition, the conference, at its annual meeting in Washington on October 2 and 3, 1957, held a technical roundtable discussion of the summary of findings and recommendations.

The Federal Statistics Users' Conference is impressed with the genuine contribution which the National Economics Accounts Review Committee has made. We warmly endorse, in general, its findings and recommendations.

There are several broad points we should like to emphasize, and I hope you appreciate in trying to speak for labor, industry, economic organizations, and business, I have to be somewhat more general than some of my colleagues.

It is commonly recognized that most important policies formulated by Government, business, labor, and agriculture, and the decisions which implement these policies, are based in a considerable part—or should be—on information provided only in our national economic accounts.

To the extent that these accounts are adequate, the policies which stem in whole or in part from them, and their implementation, can be sound.

To the extent that the accounts are not wholly accurate, complete, available in sufficient detail, or not up to date, the difficulties and dangers of decision making increase.

Uncertainty tends to increase the probability of faulty decisions and the formulation of less than adequate policies. This situation also encourages delays in taking necessary and desirable actions within the Government and in business. Thus the health of the economy may suffer and the strength of the Nation may be impaired.

The National Accounts Review Committee has found that the quality of the present estimates comprising the national income and related accounts is—

by and large as good as the primary data and the funds available for their processing and analysis permit—

that the official estimators have done a competent job.

At the same time, the committee report makes it crystal clear that improvements and extensions in the national income accounts are required, and that these must stem primarily from an increase in the amount of resources devoted to the work.

The committee has made a considerable number of concrete recommendations which would result in needed improvements.

The problem which the Government faces appears to be one of trying to decide how and where, among the various things which need to be done, to make a start.

In this connection, you will observe the report calls attention to the fact that some improvements can be introduced over the short-run, while others will have to be fitted into a long-range program; that to effect improvements will cost money; that because of the diffusion of responsibility for collecting and processing the basic data among a broad range of Government agencies, the difficulties of initiating and financing improvements are substantial; that continuous study of the problems involved in constructing and maintaining adequate national economic accounts, by a full-time staff, is desirable, and, finally, that some form of central guidance is essential if we are to move toward an integrated system of accounts.

It is obvious from the report of the National Economic Accounts Review Committee that there is much which needs to be done. The work which has to be initiated to make needed improvements in the accounts, and to integrate them, so as to make them more useful, involves efforts at different stages in the process of collecting, compiling, and estimating in a number of different agencies.

Because of this, we feel strongly that the immediate first steps in the approach should be to make provision for: (1) Central guidance; (2) a continuing study of the problems of improving and integrating the accounts; and (3) strengthening the staff of the Office of Business Economics in the Department of Commerce.

In view of the importance of the national economic accounts, not only to Government, but to business, labor, agriculture, and the professions as well; because the task of improving them will have to be spread over a period of years, and since the objective can be accomplished only if there are modifications and extensions of the work carried on in a number of agencies of Government, we believe Congress, through your committee, should keep closely in touch with whatever program of improvement may be agreed upon and give it the most sympathetic kind of consideration and support.

There are only three specific points we wish to refer to at this time:

1. When work on the input-output tables was first initiated there was a great deal of doubt outside of Government—and there still is considerable doubt—concerning the value of these figures for any purpose other than as an aid to more complete and effective regulation and control of economic activities by the Government.

Accordingly, there was relatively little enthusiasm outside of Government for this particular project. However, as time has passed, more and more people outside of Government have had an opportunity to review the work which has been done, and to study the potential value of such figures.

As a result, interest in this work has grown significantly. Some business people have decided that these estimates can be of value in connection with planning for facility expansions and other capital investments, and the making of productivity analyses.

We, therefore, believe the potential values of input-output tables should be given further study and consideration.

Now, I would like to supplement my prepared statement a bit in this connection. I think the input-output technique is probably, now, no further advanced than was the work on the national income and product accounts back in 1930, 1931, or 1932, when they were first started in the Department of Commerce, after taking over the work from the National Bureau.

If you had held this hearing back in 1932, I doubt that you would begin to get the kind of support you are getting here today for the gross national product and the national income figures. That is so because there were relatively few people who were sufficiently well educated, at that time, regarding their value, to want to make a presentation to you.

That, I think, is the status on the input-output figures today.

There are a few people, outside of Government, Mr. Johnson, for example, who understand the input-output technique, the value of these figures, and how to use them, but I think it fair to say most people don't. Therefore, I think that explains partly the fact that there may not be more direct and immediate support at his time for undertaking new compilations using this technique. You may be assured, however, that the support will grow.

2. In connection with the publication of national economic account figures we wish to urge that every effort, within reason, should be made to provide figures which will enable both Government and non-Government users of the results to cut their costs of analysis and interpretation.

For example, four times a year, after each quarterly estimate of the gross national product figures has been published, there are literally thousands of people in both Government and non-Government organizations, each of whom must individually undertake the laborious and time-consuming task of converting the figures from current to constant dollars. Much time and money could be saved if the Government were to publish the figures in terms of constant as well as current dollars.

3. The committee which prepared the report calls attention to the need for regional breakdowns, but tends to consider this need as of somewhat secondary importance.

We feel that regional breakdowns—if they can be provided—would be of significant value. A considerable part of the business of the country is conducted by companies with operations extending from coast to coast. These companies, as well as the companies which serve only regional markets, must formulate their production, purchasing, investment, and other important policies and decisions on the basis of changes in economic conditions in the various regions of the country.

Accordingly, we believe the problems, procedures, and costs involved in further developing income and product estimates on a regional basis is worthy of being scheduled for early consideration.

You are very much aware of the fact that any two businessmen, labor leaders, or agriculturalists, will frequently have difficulty agreeing with one another regarding economic problems and their solutions. It is said to be a rare occasion when you can get two professional economists to agree on anything.

Accordingly, we hope you will be genuinely impressed with the fact that in the Federal Statistics Users' Conference all members—busi-

ness, labor, agriculture, and the professional economists—are agreed regarding the outstanding importance of the national economic accounts and the urgent need for improving them.

Finally, the Federal Statistics Users' Conference would welcome an opportunity to help advise the Congress and the executive departments with respect to how a sound and reasonable program of improvement in these accounts can be formulated and executed.

The board of trustees of the conference has authorized a committee on national economic accounts for this purpose.

Our organization is in a position to help tap the background, experience, and technical resources of business, labor, agriculture, and the professions. Thus we should be able to help obtain advice and assistance in connection with both the general and specific problems which will arise in attempting to devise and implement a program of improvement and integration in the national economic accounts.

When and as it appears we might be of help, please feel free to call upon us.

I should now like to offer for the record the list of officers, trustees, and advisers of the conference who were elected to office on October 3, 1957.

I should like also to offer a list of the members of the conference.

Finally, if I may, I should like to offer a statement which Dr. Raymond Bowman presented at our annual meeting which all of the members thought was exceptionally enlightening and which should be a useful document for you gentlemen to have.

Representative BOLLING. The various documents will be received for the record.

(The material referred to is as follows:)

FEDERAL STATISTICS USERS' CONFERENCE—ELECTED TO OFFICE ON OCTOBER 3, 1957

OFFICERS

Stuart A. Rice, chairman
Peter Henle, vice chairman
Rodney W. Markley, Jr., treasurer
Ralph L. Gillen, secretary

ADVISERS

Dr. Gerhard Colm, National Planning Association
Dr. A. D. H. Kaplan, Brookings Institution
Dr. Neil Borden, American Marketing Association
Dr. Ralph J. Watkins, Brookings Institution

TRUSTEES

Business class:
Stuart A. Rice, president, Stuart Rice Associates.
Robert J. Eggert, manager, market research, Ford division, Ford Motor Co.
Dana Hill, manager of commercial research, Continental Can Co.
Vincent A. Perry, manager, economic analysis division, General Foods Corp.
Charles W. Smith, senior consultant, McKinsey & Co.

Farm class:
John A. Baker, assistant to the president, National Farmers' Union.
Robert B. Child, survey supervisor, Cooperative Grange League Federation Exchange, Inc.
Gordon K. Zimmerman, director of research, the National Grange.

Labor class:
Solomon Barkin, research director, Textile Workers Union of America.
Charles Donahue, research director, United Association of Journeymen & Apprentices of the Plumbing & Pipe Fitting Industry of the United States and Canada.

Labor class—Continued
Peter Henle, assistant director of research, American Federation of Labor–Congress of Industrial Organizations.
Lazare Teper, research director, International Ladies' Garment Workers Union.
Nat Weinberg, research director, International Union, United Auto Workers.

FEDERAL STATISTICS USERS' CONFERENCE

ROSTER OF MEMBERS (AS OF OCTOBER 10, 1957)

Advertising Publications, Inc.: S. R. Bernstein, editor, Advertising Age, 200 East Illinois Street, Chicago, Ill.
Alco Products, Inc.: Arthur A. Batts, Jr., director of advertising and marketing research, Schenectady, N. Y.
Alderson & Sessions: Wendell R. Smith, partner, 3 Penn Center Plaza, Philadelphia, Pa.
Amalgamated Meat Cutters & Butcher Workmen of North America: David Dolnick, director of research, 2800 North Sheridan Road, Chicago, Ill.
Amalgamated Clothing Workers of America: Milton Fried, director of research, 15 Union Square, New York, N. Y.
American Association of Advertising Agencies: Kenneth Godfrey, vice president, 420 Lexington Avenue, New York, N. Y.
American Aviation Publications: Arthur J. Newfield, director of research, 1001 Vermont Avenue NW., Washington, D. C.
American Can Co.: Joy B. Misenhimer, assistant comptroller, 100 Park Avenue, New York, N. Y.; or Ernest A. Tupper, manager, Washington office, 1420 New York Avenue NW., Washington, D. C.
American Federation of Labor & Congress of Industrial Organizations: Stanley Ruttenberg, director of research, 815 16th Street NW., Washington, D. C.; or Peter Henle, assistant director of research.
American Gas Association, Inc.: Erwin S. Schwimmer, 420 Lexington Avenue, New York, N. Y.
American Metal Co., Ltd.: George H. Blackett, manager, statistical and economic research department, 61 Broadway, New York, N. Y.
American Radiator & Standard Sanitary Corp.: Jerome A. Cleveland, marketing analyst, 40 West 40th Street, New York, N. Y.
American Stock Exchange: Edward T. McCormick, president, 86 Trinity Place, New York, N. Y.
Architectural Forum: Charles B. Bear, general manager, Nicholas Benton, advertising promotion manager, 9 Rockefeller Plaza, New York, N. Y.
Arthur Anderson & Co.: Leonard Spacek, managing partner, 120 South LaSalle Street, Chicago, Ill.
Argus Research Corp.: Harold B. Dorsey, president, 61 Broadway, New York, N. Y.
Armour & Co.: K. E. Miller, manager, economic research department, general office, 5th floor, Chicago, Ill.
Associated Business Publications: William P. Tidwell, Washington office, 925 15th Street NW., Washington, D. C.
Bank of America: David L. Grove, economist, 300 Montgomery Street, San Francisco, Calif.
Bankers Trust Co.: Roy L. Reierson, vice president, 16 Wall Street, New York, N. Y.
Benton & Bowles, Inc.: Miss Elizabeth Madsen, supervisor, market research, 444 Madison Avenue, New York, N. Y.
Bristol-Myers Co.: John E. Murphy, supervisor, advertising and promotion research, 630 Fifth Avenue, New York, N. Y.
Burroughs Corp.: Charles L. Stevens, director of market research, 6071 Second Avenue, Detroit, Mich.
Caterpillar Tractor Co.: Robert S. Eckley, manager, business research department, Peoria, Ill.
Chase Manhattan Bank: John D. Wilson, vice president, 18 Pine Street, New York, or James Thackara, manager, Washington office, 1625 K Street NW., Washington D. C.
Chemical Market Research Association: Edmund Winterbottom, United States Industrial Chemicals Co., division of National Distillers & Chemical Corp., 99 Park Avenue, New York, N. Y.

Chicago Title & Trust Co.: Arnold C. Schumacher, economist, 111 West Washington Street, Chicago, Ill.
The Coca-Cola Co.: Lewis M. Dugger, manager, trade research department, Post Office Drawer 1734, Atlanta, Ga.
C. I. T. Financial Corp.: Arthur O. Dietz, chairman of the board, 1 Park Avenue, New York, N. Y.
Communications Workers of America: Mrs. Sylvia B. Gottlieb, research department, 1808 Adams Mill Road NW., Washington, D. C.
Conover-Mast Publications, Inc.: Arthur H. Dix, vice president, 205 East 42d Street, New York, N. Y.
Continental Can Co., Inc.: Raymond G. Fisher, director of marketing, Dana Hill, 100 East 42d Street, New York, N. Y.
Cooperative Grange League Federation, Inc.: Robert B. Child, survey supervisor, Terrace Hill, Ithaca, N. Y.
Corn Products Refining Co.: Lawrence D. Gibson, manager, commercial research department, 17 Battery Place, New York, N. Y.
Crown Cork & Seal Co., Inc.: T. Stanley Gallagher, director of marketing, Post Office Box 1837, Baltimore, Md.
Curtis Publishing Co.: Frank C. Strohkarck, manager, research service division, Independence Square, Philadelphia, Pa.
Crown Zellerbach Corp.; Dean Bowman, coordinator of long-range planning, 343 Sansome Street, San Francisco, Calif.
Deere & Co.: Lester S. Kellogg, director of economic research, 1325 Third Avenue, Moline, Ill.
DeVegh & Co.: Prof. Wassily W. Leontief, 1 Wall Street, New York, N. Y.
Dresser Industries, Inc.: F. M. Carlson, economist, Post Office Box 718, Dallas, Tex.
Dun & Bradstreet, Inc.: (to be announced), director of research, 99 Church Street, New York, N. Y.
B. W. Dyer & Co.: Alexander C. Muir, manager, research and statistics department, 120 Wall Street, New York, N. Y.
Farm Journal, Inc.: Mrs. Casilda V. A. Wyman, manager, commercial research, Washington Square, Philadelphia, Pa.
Firestone Tire & Rubber Co.: T. G. MacGowan, director of advance planning, 1200 Firestone Parkway, Akron, Ohio.
First National City Bank of New York: Robert E. Lewis, economics department, 55 Wall Street, New York, N. Y.
Ford Motor Co.: Robert J. Eggert, manager, market research, Ford division, the American Road, Dearborn, Mich. or Rodney W. Markley, Jr., manager Washington office, suite 1200, Wyatt Building, Washington, D. C.
General Foods Corp.: Vincent A. Perry, manager, economic analysis division, 250 North Street, White Plains, N. Y.
General Mills, Inc.: A. W. Harding, manager, market analysis department, 400 Second Avenue South, Minneapolis, Minn.
Gillette Safety Razor Co.: Robert S. Perry, vice president, Gillette Park, Boston, Mass.
Health Insurance Association of America: J. F. Follmann, Jr., director of information and research, 60 John Street, New York, N. Y.
Industrial Union of Marine and Shipbuilding Workers of America: Mrs. Rosalind Schulman, research director, 534 Cooper Street, Camden, N. J.
International Association of Machinists: Carl Huhndorff, director of research, 1300 Connecticut Avenue NW., Washington, D. C.
International Brotherhood of Electrical Workers: James E. Noe, director of research and education, 1200 15th Street NW., Washington, D. C.
International Brotherhood of Teamsters: Abraham Weiss, research director, 25 Louisiana Avenue NW., Washington, D. C.
International Business Machines Corp.; George L. Ridgeway, consultant on public affairs, 590 Madison Avenue, New York, N. Y.
International General Electric Co.: Harvey C. Smith, market analyst, 150 East 42d Street, New York, N. Y.
International Harvester Co.: R. T. Glidden, assistant secretary, 180 North Michigan Avenue, Chicago, Ill.
International Ladies' Garment Workers Union: Lazare Teper, director, research department, 1710 Broadway, New York, N. Y.
International Union of Electrical, Radio and Machine Workers: David Lasser, director of research and education, 1126 16th Street NW., Washington, D. C.

International Union-United Auto Workers: Nat Weinberg, director, research and engineering department, 8000 East Jefferson, Detroit, Mich.
International Woodworkers of America: E. W. Kenney, director of research and education, 418 Governor Building, Portland, Oreg.
Irving Trust Co.: Wesley Lindow, vice president, investment administration division, 1 Wall Street, New York, N. Y.
Jefferson Standard Broadcasting Co.: G. Jackson Burney, Jr., research and promotion, 1 Jefferson Place, Charlotte, N. C.
Kendall Co.: R. K. Vincent, director of raw materials purchasing, 140 Federal Street, Boston, Mass.
Kimberley-Clark Corp.: Leonard E. Pasek, assistant to the president, 128 North Commercial Street, Neenah, Wis.
Kroehler Manufacturing Co.: W. W. Stegman, controller, 222 East Fifth Avenue, Naperville, Ill.
Lehman, Alcuin W., managing director, advertising research foundation, 3 East 54th Street, New York, N. Y.
Eli Lilly & Co.: William R. Spurlock, executive director, merchandising, 740 South Alabama Street, Indianapolis, Ind.
Arthur D. Little, Inc.: Lincoln C. Jewett, manager, 1625 I Street NW., Washington, D. C.
Look Magazine: Wallace Wegge, director of research, 488 Madison Avenue, New York, N. Y.
Loomis Sayles & Co.: W. R. Stark, 140 Federal Street, Boston, Mass.
McCann-Erickson, Inc.: George Park, vice president, 50 Rockefeller Plaza, New York, N. Y.
McGraw-Hill Publishing Co., Inc.: Dexter M. Keezer, vice president and director of research, 330 West 42d Street, New York, N. Y.
McKinsey & Co., Inc.: Charles W. Smith, senior consultant, 60 East 42d Street, New York, N. Y., or Ralph L. Gillen, 1625 I Street NW., Washington, D. C.
Market Research Corporation of America: Dr. Francis E. Lowe, chief statistician, 363 Lexington Avenue, New York, N. Y.
Massachusetts Investors Trust Co.: William B. Moses, Jr., 200 Berkeley Street, Boston, Mass.
Mead Johnson & Co.: C. Merle Crawford, market research director, 2404 West Pennsylvania Street, Evansville, Ind.
Mellon National Bank & Trust Co.: James N. Land, senior vice president, Post Office Box 926, Pittsburgh, Pa.
Merck Sharp & Dohme: Edward J. Carroll, director, economic research, Post Office Box 7259, Philadelphia, Pa.
Meredith Publishing Co.: J. T. Miller, director of research, 1716 Locust Street, Des Moines, Iowa.
Missouri Farmers Association, Inc.: (To be announced), director of research, 201 South Seventh Street, Columbia, Mo.
Monsanto Chemical Co.: Edward W. Gamble, Jr., regional vice president, World Center Building, Washington, D. C.
Mortgage Bankers Association of America: Miles L. Colean, consultant, Transportation Building, Washington, D. C.
Robert R. Nathan Associates, Inc.: Robert R. Nathan, president, 3 Thomas Circle NW., Washington, D. C.
National Association of Housing & Redevelopment Officials: John D. Lange, executive director, 1313 East 60th Street, Chicago, Ill.
National Automobile Dealers Association: Paul E. Herzog, director of research, 2000 K Street NW., Washington, D. C.
National Blank Book Co.: Walter L. Lobl, statistics department, Riverside, Holyoke, Mass.
National Cash Register Co.: W. H. Finigan, manager, market research department, Main and K Streets, Dayton, Ohio.
National Coal Association: Myles E. Robinson, director, department of coal economics, Southern Building, 15th and H Streets NW., Washington, D. C.
National Farmers Union: John A. Baker, coordinator of legislative services, suite 700, Bond Building, 1404 New York Avenue NW., Washington, D. C.
The National Grange: Gordon K. Zimmerman, director of research, 744 Jackson Place NW., Washington, D. C.
National Securities & Research Corp.: John A. Munro, vice president, 120 Broadway, New York, N. Y.
Newmyer Associates: Bainbridge Crist, staff member, suite 1010, Wire Building, 1000 Vermont Avenue NW., Washington, D. C.

New York Stock Exchange: Jonathan A. Brown, director of research and statistics, 11 Wall Street, New York, N. Y.
A. C. Nielsen Co.: Warren N. Cordell, vice president, 2101 West Howard Street, Chicago, Ill.
Pennsylvania Railroad Co.: D. C. Melnicoff, business analyst, 1936 Suburban Station Building, Philadelphia, Pa.
Plumbing Fixture Manufacturers Association: William E. Kramer, executive secretary, 1145 19th Street NW., Washington, D. C.
Alfred Politz Research, Inc.: Lester R. Frankel, vice president, 527 Madison Avenue, New York, N. Y.
R. L. Polk & Co.: H. H. Geddes, director, research department, 431 Howard Street, Detroit, Mich.
Prudential Insurance Company of America: Carrol M. Shanks, president, 763 Broad Street, Newark, N. J.
Ray-O-Vac Co.: J. A. McIlnay, vice president, 212 East Washington Avenue, Madison, Wis.
Remington Rand (Division of Sperry Rand Corp.): Al N. Seares, vice president, 315 Fourth Avenue, New York, N. Y.
Republic Steel Corp.: R. E. Waldo, assistant comptroller, Republic Building, Cleveland, Ohio
Retail Clerks International Association: J. H. Bennison, research director, DeSales Building, Washington, D. C.
Elmo Roper & Associates: Dr. Nathan Goldfarb and Dr. Benjamin Lipstein, 30 Rockefeller Plaza, New York, N. Y.
St. Paul Fire & Marine Insurance Co.: A. B. Jackson, president, 111 West Fifth Street, St. Paul, Minn.
Sales Management, Inc.: Dr. Jay M. Gould, research director, 386 Fourth Avenue, New York, N. Y.
Scudder, Stevens & Clark: James A. McCullough, economist, 300 Park Avenue, New York, N. Y.
Simmons Co.: James K. Cunningham, director of market research, 300 Park Avenue, New York, N. Y.
Standard Oil Co. (Indiana): John W. Boatwright, assistant general manager, distribution economics department, 910 South Michigan Avenue, Chicago, Ill.
Standard Oil Co. (New Jersey): Nelson H. Seubert, marketing research specialist, 30 Rockefeller Plaza, New York, N. Y.
Standard Rate & Data Service, Inc.: Harold P. Alspaugh, editorial director, 1740 Ridge Avenue, Evanston, Ill.
Stanley Home Products, Inc.: Charles C. McPherson, director, marketing and merchandising, Easthampton, Mass.
Stewart Dougall & Associates: Archibald M. Crossley, vice president, Harrison M. Rainie, Jr., vice president, 30 Rockefeller Plaza, New York, N. Y.
Stromberg-Carlson Co. (Division of General Dynamics Corp.): Arthur F. Gibson, corporate secretary, 100 Carlson Road, Rochester, N. Y.
Stuart Rice Associates, Inc.: Stuart A. Rice, president, 1129 Vermont Avenue NW., Washington, D. C.
Sylvania Electric Products, Inc.: Frank Mansfield, director, marketing research, 1740 Broadway, New York, N. Y.
Textile Workers Union of America: Solomon Barkin, research director, 99 University Place, New York, N. Y.
Time, Inc.: A. Edward Miller, Herbert Breseman, 9 Rockefeller Plaza, New York, N. Y.
Union Bag-Camp Paper Corp.: Robert S. Schultz, director of statistical analysis, Woolworth Building, New York, N. Y.
Union Carbide & Carbon Corp.: Arved Teleki, economist, 30 East 42d Street, New York, N. Y.
United Association of Journeymen & Apprentices of the Plumbing & Pipe Fitting Industry of the United States and Canada: Charles Donahue, research director, 901 Massachusetts Avenue NW., Washington, D. C.
United Rubber, Cork, Linoleum & Plastic Workers of America: Ralph H. Bergmann, director of research, 87 South High Street, Akron, Ohio.
United States News Publishing Corp.: William E. Robertson, Jr., director of marketing and research, 24th and N Streets NW., Washington, D. C.
United States Savings & Loan League: Norman Strunk, executive vice president, 221 North LaSalle Street, Chicago, Ill.
United Steelworkers of America: Otis Brubaker, director of research, 1500 Commonwealth Building, Pittsburgh, Pa.

United Textile Workers of America: Frank Gorman, research director, 818 13th Street NW., Washington, D. C.
A. J. Wood & Co.: Dr. Daniel G. Horvitz, statistical director, 1518 Walnut Street, Philadelphia, Pa.
Diamond Alkali Co.: C. A. Butler, Jr., director, commercial development department, 300 Union Commerce Building, Cleveland, Ohio.

Achieving an Integrated Federal Statistical Program

Address by Raymond T. Bowman, Assistant Director for Statistical Standards, Bureau of the Budget, at the annual meeting of the Federal Statistics Users' Conference, October 2, 1957

It is a real honor and pleasure to address the first Conference of Federal Statistics Users. As many of you know, your interests and my responsibilities in Government are closely associated. It is my confident expectation that as the years go by the work of this conference will prove of great value in the development of improved Federal statistics. You should be quite proud that you have been able to weld together into one organization for the development of Federal statistics—labor, agriculture, industry and the professions. It is my hope that I shall always be a welcome guest at your meetings.

This chance to talk with you today is highly valued because there are some quite serious and I believe important things that I want to discuss with you. Let me then begin quite directly.

While I am a statistician and interested in the development of statistical methodology in all its forms, my interest in the development of the Federal statistical program is much broader than this. Statistics and statistical methods are means and not ends in themselves. I am not for statistics just because they are statistics.

It has often been noted that the advantages of a free economy stem from the initiative and enterprise which it arouses in its members by allowing them individually to seek their own gain. But it is less often noted that self-interest, even energetically pursued, may be barren of success unless it can be intelligently directed. Such intelligent direction requires knowledge, not only about the immediate areas of specialization of participants, but about the functioning of the society generally in its economic, social, and political aspects. This type of overall knowledge is particularly important if a free-enterprise economy is to successfully achieve a harmony of actions without destroying the essential elements of guidance through self-interest. To be effective, such knowledge must be accessible to all, and important elements of it must be integrated in such a way as to give a comprehensive understanding of the way in which the society functions, the success it achieves in meeting the needs of its members, the major shifts that take place in its growth patterns and institutional arrangements, and the probable future changes which will occur in economic and social events.

In a modern society statistics provide much of the information which enables individuals, businesses, and governments to pursue their goals intelligently. The absence of information or inaccurate information may make successful courses of action very improbable. The success with which we as a free society can maintain a high level of economic well-being without excessive oscillations or unnecessary inequalities, or can meet the social problems of health, of education, and of family living, depends to a considerable extent on the success with which it is possible to develop appropriate, accurate, and prompt intelligence of a quantitative character concerning the way the economy and its social institutions function. Wesley C. Mitchell called this type of quantitative intelligence, analytical description.

It is, then, my firm belief that the making of wise policy, both public and private, for maintaining a high level of economic prosperity and social well-being for all the people requires better statistical information than we now have. It is important that this need be recognized and met.

To recognize important characteristics of this need and to meet the need meaningfully requires, as I see it, that certain elements of the Federal statistical program be better integrated and designed to help in the analysis of major policy issues.

At the outset I would like to make it quite clear that many elements of Federal statistics are not amenable to the type of integration which I am going to discuss. Needs for statistical information exist which will have to be evaluated on an individual needs basis. This is true of much information gathered for adminis-

trative and regulatory purposes and also considerable information gathered for strictly statistical purposes but meeting particular special needs.

My emphasis on an integrated Federal statistics program relates to the pressing demand today for developing statistical information in the economic sphere for use in economic analysis of major policy issues. I refer to such issues as the factors responsible for inflation, for the relationship between prices, profits, wages, and productivity; for a better understanding of credit policies, investment, and saving.

Data appropriate for this type of analysis must be designed specifically with the analytical requirements in mind. I want, then, to direct your attention and solicit your support in the attainment of such a body of statistical information. In doing this, however, I want to make it quite clear that this is not the only need for improvement in Federal statistics but I do assert that it is an important—yes an imperative—need.

Over the period since World War I, economists have developed several methods of organizing economic data so as to provide a more complete and functionally interrelated description of the economy. These methods of organizing economic data have been called national accounting. The best known formulation—national income and product accounts—has become a mainstay of statistical information and has been used for many analytical purposes. Other methods of organizing economic data or special types of data have also been developed to meet special analytical ends. These include balance-of-payment accounts, flow of funds accounts, inter-industry accounts, and sector balance sheet accounts.

It has now become quite apparent that each of these arrangements of data can have maximum usefulness for more compelte analysis only if the several systems of accounts are organized in such a way as to make it possible to pass easily from one type of system to the other. This, then, should be one of our major objectives in the period ahead.

While this need has been realized by many it has not been sufficiently taken into consideration in the development of the Federal statistical program. The deficiency has two main sources. First, because we have decentralized system not enough attention has been given to the conceptual structure of the different sets of accounts so that they can be used as a single frame of reference. Second, and more important, the data sourcees which underlie the accounting systems have not been developed sufficiently to meet the needs of the accounts and their associated analytical uses nor has enough been given to specifically designing the underlying information so as to meet more exactly both the short-term and long-term needs of the accounting structure and their conceptual structure.

In my opinion this is particularly unfortunate for two reasons. First, the accounts have often been more inadequate than was necessary and have not been refined in terms of more appropriate concepts because of the lack of data. Second and more important, in failing to develop the underlying data or to develop it in terms of the concepts which the accounts provide we have seriously diminished our power of economic analysis. The usefulness of most individual economic series for major analytical purposes depends to a considerable extent on the ability to buttress findings from one series with confirmation from others. This type of analysis requires that the several series have some recognized interrelationships. This type of integration is in large part provided for by data fitting into the national accounts. In other words, individual statistical series designed as appropriate for the national accounts take on more analytical power than when not meeting such criteria. Once again this does not gainsay the fact that certain types of information may be necessary even though it is not required for the national accounts.

I am convinced, therefore, that one of the important areas requiring improvement is the national accounts, and major improvement can only come if the several systems of accounts are developed in an interrelated way with the data underlying them being improved simultaneously. Your opinions, and I hope, eventual support in this connection, will be extremely valuable.

In recognition of the importance of the national accounts in our system of economic statistics, the Bureau of the Budget in 1956 contracted with the National Bureau of Economic Research for a comprehensive review of our national economic accounts. This review was made by a special National Accounts Review Committee appointed by the National Bureau, and the committee's report, the National Economic Accounts of the United States: Review, Appraisal, and Recommendations, was submitted to the Bureau of the Budget by the National Bureau in August 1957. Hearings on this report will be held by the Subcommittee on Economic Statistics of the Joint Economic Committee

late in October, at which time members of the Review Committee and other experts from Government agencies, business organizations, and research associations, representing both producers and users of the data, will participate with the congressional committee in panel discussions of the findings and recommendations in the report.

I commend this report to your attention. In particular I commend to your attention the underlying data needs which must be met successfully if the structure of the several systems of accounts is to be improved and made more useful for economic analysis. These underlying data needs, which are clearly pointed up in terms of the accounts and their analytical uses, include the special needs for census data and annual surveys as benchmark measurements; the place of price information for deflation purposes and the type of price data appropriate for this end; the need for employment data on "hours worked" distinguished from "hours paid for," required for the proper measurement of labor inputs in productivity estimating; the specific character of the need for information on investment by industry and by type—construction, producers' equipment, inventories and foreign; the requirements for sales, inventory, and orders data by major producing industry, distributed by class of customer and industry of purchase; and the requirements for profits data of corporate and noncorporate enterprises and other financial data by type and size of firm and industry of major output.

By examining data needs in this way much firmer estimates can be made of the importance of different items of information, of the accuracy and promptness with which they must be obtained. In addition, when individual items of information are obtained in conformity with these guiding principles, their analytical uses are improved not only as part of the national accounts but also as individual series.

Difficulties with this approach are present, however, as have been noted, since the principles are not universally applicable to all data needs. Furthermore, it is often easy to be content with a well structured set of accounts quantified with every weak data, with the weaknesses hidden by the seeming perfection of the formal presentation of the tables. It has another weakness also since it is more difficult to win support for this type of very meticulous development, and easy to substitute what I like to call the pork-barrel approach. The pork-barrel approach recognizes some vocal demand for data and tests this demand only by the degree of opposition. If opposition is weak then the program will include items wanted by some and opposed by few and its success assured particularly if some special attractive use can be asserted. This "sex appeal" attribute is very difficult to offset by program items which are necesssary to complete a structure of related data and must be carefully defined.

Another general problem is respondent interest. Much data for complete analysis must come from respondents who see no direct use by them of the data gathered. Yet this information is essential for the full articulation of all the other data uses. Our files are full of requests by one industry for data to be collected from another but little realization that this has or should have a complementary condition.

What I am saying—and with this I want to conclude—is that the task to be done if we are to become masters of our economy and not merely its servants—is a difficult one. I hope that the difficulties will not discourage us and that at least part of the time we will follow the narrow but firm road rather than the uncertain but misleading roads that seem to be short cuts to the foot of the rainbow.

Representative BOLLING. Next, Mr. Charles F. Schwartz, Assistant Director, Office of Business Economics, United States Department of Commerce.

STATEMENT OF CHARLES F. SCHWARTZ, ASSISTANT DIRECTOR, OFFICE OF BUSINESS ECONOMICS, UNITED STATES DEPARTMENT OF COMMERCE

Mr. SCHWARTZ. Thank you, Mr. Chairman.

With your permission, I would like to leave with the committee a statement I have prepared on the national income accounts and at this time to summarize its contents.

Representative BOLLING. Your statement will appear in full in the record.

Mr. SCHWARTZ. Thank you.

(The formal statement submitted by Mr. Schwartz, is as follows:)

STATEMENT ON THE NATIONAL INCOME ACCOUNTS

By Charles F. Schwartz, Assistant Director, Office of Business Economics, United States Department of Commerce, presented to the Subcommittee on Economic Statistics of the Joint Economic Committee

I welcome the opportunity afforded by the invitation of this committee to discuss the work of the Office of Business Economics on the national income and balance of international payments accounts. My remarks are in the nature of a progress report, an outline of our present program, and a consideration of the suggestions for future development—all in relation to the report of the National Accounts Review Committee which has been discussed earlier in these hearings.

This is really the 25th anniversary of our national income work, which was initiated at the direction of Senate Resolution 220 of the 72d Congress requesting the Secretary of Commerce to prepare a report on the national income of the United States for the years 1929, 1930, and 1931.

DEVELOPMENT OF OBE NATIONAL INCOME WORK

It was just 10 years ago, in the autumn of 1947, that the first national income supplement to the Survey of Current Business appeared. The 1947 supplement, a compact 54-page report consisting mainly of statistical tables, marked a major development in the official national income work.

It will prove helpful to review briefly the work of the Office of Business Economics as producer of the United States national income accounts, starting with the special supplement issued in 1947. The adequacy of the official national income statistics embodied in that basic document and the record of progress in the work during the past decade furnished the principal background for the examination into the current national economic accounts which has been made by the National Accounts Review Committee.

The 1947 publication carried out four main objectives: (1) A recasting of United States national income and product statistics into the framework of a comprehensive national accounting system designed to provide a picture of the economic structure and process; (2) the introduction of a number of changes in the definitions of the several income and product aggregates; (3) a reworking of the statistical series back to 1929; and (4) the provision of much greater detail on the composition of the national income and gross national product.

By contrast, as recently as 1941 our annual report had been limited to the presentation of national income totals broken down by distributive shares and industrial origin. The gross national product measure had not yet appeared; nor was there anything resembling an economic accounting system. The gross national product was added to the income series shortly after Pearl Harbor, and together with the development of an interrelated set of income and product flows, provided the essential basic framework for the mobilization of the domestic economy for purposes of war resource allocations and required financial measures.

The comprehensive national income and product series published in 1947 were stated in terms of current dollars. There remained an obvious need for measures separating the price and volume factors underlying the changes in national output shown by the current dollar estimates. A large gap was thereby filled with the publication in the January 1951 Survey of Current Business of annual estimates of gross national product in constant dollars back to 1929. These estimates have since become an important and integral part of the regularly published national income statistics. Because of considerations of reliability, the constant-dollar series, as well as the corresponding implicit price deflators, have been published only for the total gross national product and its major components.

When the new and revised income and product series were put out in 1947, it was possible to provide only a brief explanation of definitions, and a description of sources and methods was totally lacking. At that time we promised a more extensive report which would describe the official national income accounts. This obligation was discharged in 1951 with the publication of the second edi-

tion of National Income, also a survey supplement. This volume marked a further major development in United States national income work, for the provision of full explanations of the conceptual and statistical bases of the official income and product accounts was a task of first-order importance that met a widespread need among users of the statistics, as evidenced by the sale by the Government Printing Office of nearly 30,000 copies at $1 each.

The next major task that confronted our National Income Division was to incorporate into the income and product accounts the statistical data collected in the industrial and population censuses taken variously during the 1947–50 period. Revisions of the estimates based on this material, as well as on other statistical information which had become available since 1947, were presented in the 1954 edition of National Income. Also included was an analysis of the functioning of the United States economy based upon the national income and product accounts. It is this volume which has been termed by the National Accounts Review Committee "still the most comprehensive statement published in any country on the conceptual and statistical foundation of the official national income and product estimates."

In the discussion of statistical sources and methods included in the 1954 supplement (as well as in the predecessor 1951 volume), we started with the premise that it is not possible to provide quantitative or mathematical measures of the reliability of national income statistics. We then went on to make evaluative reviews of the various income and product series and to furnish a substantial amount of descriptive material regarding the statistical data and procedures utilized. These matters were discussed very frankly—"with great candor," according to the Review Committee—not only to promote effective utilization of the estimates by providing information about their reliability, but also for the expressed purpose of pointing up the need for the development of additional basic statistical data required for improvement of the income and product measures.

In the 1954 edition of National Income, the statistical revisions occasioned by the comprehensive review of sources and methods were analyzed for the light they shed on the reliability of the estimating techniques pending the availability of census information. The analysis showed that these techniques had produced reliable preliminary measures of national output and of its broad components generally, but that revisions for some of the more detailed components were substantial. These revisions, it was noted in the foreword to the report, "underscore the need which we have repeatedly stressed for further development of the primary data sources on which the national income estimates are based."

In addition to the several National Income supplements, two major projects in the field of personal income measurement have served in particular to extend the scope and value of the official national income work. These projects, both of which represented large-scale undertakings extending over a period of years, yielded the widely used Office of Business Economics series on personal income by size classes and by States. Though properly viewed as breakdowns of a principal income aggregate or as elaborations of the consumer sector of the economy, the size-distribution and State income series in themselves represent important economic measures of wide utility for marketing and other purposes. They are published in reports separate from the main national income statistics.

The estimates of personal income by size classes were established for the first time in 1953, when they were reported, described, and analyzed in a Survey of Current Business supplement entitled, "Income Distribution in the United States." These data, which cover the period since 1944, embody a difficult statistical effort entailing the combination and integration of two basic sources of information: (1) tabulations by the Internal Revenue Service of individual income tax returns in summary groups and (2) the results of sample field surveys conducted by the Bureau of the Census and by the Survey Research Center of the University of Michigan for the Federal Reserve Board.

The State series on personal income covers all years since 1929. This annual economic record consists of both overall figures on total and per capita personal income and the detailed sources of income by type and by industry. The complete set of estimates was presented in a series of 80 tables in a volume published early in 1957, Personal Income by States Since 1929. This 229-page report also provided detailed explanations of the concept, statistical derivation, and reliability of the personal income measures, together with an analysis of the results of regional economic development, with particular focus on long-term trends.

The Personal Income supplement incorporated a number of improvements over the "State income payments" work which had been initiated in 1939. The new State series, tied in with the conceptually improved personal income measure included in the national income and product accounts, provided essential information in much greater detail, fully documented and explained. The report featured the first official estimates of disposable personal income by States and hence gave a new purchasing power guide.

The further growth and improvement in the national income accounts which has occurred during the postwar period is reflected mainly in the five major survey supplements singled out above. However, in this quick backward look over the decade other phases of Office of Business Economics' work should be noted to round out this summary of progress.

1. A number of articles appearing in the Survey of Current Business have contributed developmental research in the field of national income. Examples are the several special studies of investment, capital stocks, and capital consumption as well as our periodic regular studies of the sources and uses of funds by corporations for business expansion—all of which represent movement toward desirable objectives set forth in the report of the National Accounts Review Committee. Under this general heading may also be placed the plant and equipment survey which Office of Business Economics conducts jointly with the Securities and Exchange Commission. Throughout the past decade this survey has furnished an invaluable guide showing data by industry, quarterly as well as annual, on the anticipated and actual capital outlays by business.

2. The painstaking, detailed statistical work that makes up the great bulk of the National Income Division's efforts has yielded many improvements in the procedures used to process the available primary data. The experience gained in estimation has perhaps proved particularly valuable in connection with our monthly and quarterly series, which are being turned out on a considerably advanced schedule. These observations, of course, are not meant to suggest that refinement in estimating techniques can ever be an adequate substitute for reliable source materials.

3. The Office of Business Economics has maintained an active role in international developments in the field of national income. Prior to the publication of our estimates on a new and revised basis in 1947, we held a series of meetings in Washington with technicians from England and Canada in order to exchange views and to promote international comparability of national income statistics. Subsequently, the National Income Division has aided a number of U. N. and OEEC technical committees working toward a standard national accounting system designed to have general applicability throughout the world.

In addition to working with other advanced countries for the improvement of national income concepts and measurement, the Office of Business Economics has provided help to a great many countries where income research was just getting started. In the past 10 years, the training schools for foreign scholars which are maintained by our National Income and Balance of Payments Divisions have graduated a total of 134 technicians from 53 different countries.

4. As the national income and product accounts have grown in use and become firmly established as tools of economic analysis during the postwar years, their underlying concepts have been subjected to increasing scrutiny and discussion among economists. A leading forum for this discussion has been the Conference on Research in Income and Wealth sponsored by the National Bureau of Economic Research, which devoted its 1955 meetings to an appraisal of the official national income accounts. To these discussions the Chief of the National Income Division, George Jaszi, contributed a paper which dealt comprehensively with the conceptual problems in the field and blocked out the principal areas in which future research might proceed.

In summary, the national income and product accounts were fundamentally recast in 1947 in culmination of the developmental work of prior years; consolidating the gains made in the revision of their basic structure, the accounts have since been improved and expanded in a number of ways. Virtually all phases of the work have been explained and evaluated. The Office of Business Economics has thus made substantial progress in the field of national income over the past decade, with the record for the period indicating alert attention to the state of the primary data and to conceptual possibilities, as well as regard for research going forward in other countries.

Having noted these facts, however, I must quickly add that the actual progress which has been achieved in the official national income work has

been determined by what could be done through diligent management of the resources devoted to it. The needs and demands in this field are still large, and make it imperative that we move forward in the work as rapidly as possible.

RECOMMENDATIONS OF THE NATIONAL ACCOUNTS REVIEW COMMITTEE

It is time now, therefore, to look ahead: and a basis for doing so is the Office of Business Economics' program and the vantage point provided in the report prepared by the National Accounts Review Committee, the National Economic Accounts of the United States: Review, Appraisal, and Recommendations. With the broad findings and suggestions in this study concerning the national income accounts we are in agreement, and we regard the report as a useful guide to the direction of work over the next 5 to 10 years. The report is wide-ranging, yet specific; and it is authoritative in that it reflects the thinking and experience of an expert committee and of the many individuals whom it canvassed, both the producers of the national accounts themselves and of the main groups of users, including business, labor, and university economists.

In its report, the National Accounts Review Committee attests to the fact that national income work has grown to have very widespread value in the more than two decades since it was added to the economic intelligence of the United States. Meeting the needs for additional information in the national accounts, the committee emphasizes, hinges upon improvements and extensions in the basic statistical data; it has found that the presently available data are being utilized to the fullest extent by the official estimators.

It may be instructive to classify and discuss briefly the committee's recommendations that have a direct bearing on the national income and product work, in terms of the nature of their effects, under four headings: "Definitions of the Aggregates," "Presentation of the Data," "Statistical Strengthening of Certain Segments of the Accounts," and "New or Developmental Work."

1. *Definitions of the aggregates.*—Four overall measures are distinguished and featured in the national income and product accounts: Gross national product, defined as the market value of goods and services produced; national income, which measures the output of goods and services in terms of the aggregate earnings of labor and property; personal income, which in essence represents the sum total of individual incomes on a before-tax basis; and disposable personal income, which traces the individual income flow net of the payment of direct taxes.

A carrying through of the many separate recommendations contained in the report of the National Accounts Review Committee would have scarcely any effect on the overall scope and definition of these four widely used aggregates. The two output measures would be changed only to a minor extent, principally by the inclusion of interest paid on the debt of State and local governments—a recommendation of the committee which emerged from a weighing of the pros and cons involved in difficult theoretical questions of long standing, and one with which, incidentally, we do not agree. The two consumer income series, in turn, would be changed only to include transfer payments to individuals from abroad—an item of very small magnitude arising out of the committee's recommendations with respect to the treatment of international transactions.

In this summing up of the recommendations, I do not imply that the Review Committee members regard the definitions which have been adopted in the national income and product accounts as representing a wholly satisfactory and fully settled state of affairs. Since the definition of national output is not a datum, so to speak, but rather a concept requiring for its development some difficult and controversial decisions, the committee encountered a number of areas which always have presented problems to the national income technician. In general, however, the committee felt that the present handling of these areas was as adequate as might be expected pending further developments in the field. In a few instances it quite advisedly has recommended the provision of alternative, supplementary measures, in reflection not only of an unsettled state of professional opinion but of the need for different measures to serve different purposes. We regard these proposals as useful and as contributing to a desirable development of various sections of the accounts.

2. *Presentation of the data.*—While the Review Committee's recommendations would not alter the several basic aggregates to a significant degree, they call for certain changes in tabular presentation of the vast array of underlying

material. For the most part, these changes would entail a different arrangement of the existing components, although in a few instances some revision in definitions would also be involved.

The published annual reports on national income and product are comprised of 6 summary account tables for the latest available year, 41 tables of annual estimates, 10 tables of quarterly estimates (which are extended in condensed form in the February, May, August, and November issues of the Survey of Current Business), and 1 additional table for the monthly personal income series. As one of the chief proposals in its report, the Review Committee advises the adoption of a functional five-account system to replace the set of summary account tables now in use. Additionally, the suggestion is made that the quarterly tables for the current year be published in more detail and that the stubs be otherwise altered in certain respects.

The main body of annual tables apparently is regarded as generally satisfactory and useful in its present form, although the tables would benefit in many instances, in the committee's opinion, from a reordering and regrouping of the different items involved. With regard to all of the various sets of tables, the specific point is made that foreign transactions in goods and services should be presented on a gross rather than a net basis.

We are currently making a careful review of the format of the national income and product tables in connection with the preparation of the 1958 edition of the National Income supplement, for which Congress provided funds in our 1958 budget. In this task, the specific illustrative tables which the committee has prepared for the summary accounts and for the quarterly series should prove helpful, and will be given detailed consideration.

3. *Statistical strengthening of certain segments of the accounts.*—As a general proposition, the National Accounts Review Committee "urges in the strongest possible terms the improvement of the data underlying the estimates that are entered in the national income accounts." The main specific recommendations which it lists would result in more reliable series on the net income of unincorporated nonfarm enterprises, corporation profits, business inventories, personal consumption expenditures, capital outlays by business, value of construction, savings, and national product in constant dollars (through proposed improvements in the price data for deflation as well as in the current dollar estimates).

Expanding the collection and tabulation of primary data in these areas would strike at the major sources of statistical weakness in the present national income accounts, and would yield information having an independent utility for current economic analysis. This general subject is treated extensively in the portion of George Jaszi's memorandum (appendix E of the committee report) dealing with suggestions for data improvement. Our views on this highly important matter are thus readily available.

The Review Committee observes in its report that an improvement in the data on profits, sales, investment, and related items for unincorporated nonfarm business would be the most important single step which could be taken to improve the national economic accounts in the immediate future. This is an area for which we have repeatedly stressed the need for better data.

The situation here would be improved substantially by the proposed—though still uncertain—plans of the Internal Revenue Service to tabulate the returns of sole proprietorships and partnerships on a biennial basis (with the figures becoming available on a 2-year lag) and to carry this basic information forward 1 year in summary fashion by means of a speedup procedure involving special tabulation. If these plans are effected, there would still remain a need for (1) periodic IRS audit-control studies, covering partnerships as well as sole proprietorships, by which to gage the extent of understatement present in the original returns, and (2) sales and net-income information for the latest year. We share the committee's general skepticism concerning the feasibility of obtaining the latter information at a reasonable cost through sample surveys, particularly on a quarterly or monthly basis, but also agree that some attempt might be made to develop an annual mail-questionnaire sample for use as an index for extending the estimates based on IRS data.

The proposed speedup in IRS tax-return tabulations, it should be added, likewise ranks as a first requirement for strengthening the current series on business inventories and corporate profits. Other major requirements in the profits area include the development of a systematic IRS audit-contol program and an extension of quarterly-sample surveys to nonmanufacturing industries,

analogous to the information for manufacturing collected jointly for some years now by the Securities and Exchange and Federal Trade Commissions. In addition, continuing attempts should be made to secure generally prompter reporting of the profits data, so that the lag in the reporting of the national income, in relation to that of the gross national product, might be reduced or eliminated.

4. *New or developmental work.*—In numerous of its recommendations, the Review Committee advocates more detailed breakdowns of the present national income and product estimates or an extension of research into additional areas. Included among the proposals are such worthwhile projects as the construction of separate saving-investment accounts for major sectors of the economy; more extensive measurements of national output in real terms; more detailed classifications of Government expenditures; classifications of fixed capital expenditures by type of producers' durable equipment and of construction, by purchasing industry, and by legal form of organization; and breakdowns of the present personal account so as to provide income and expenditure data separately for farm households, nonfarm households, nonprofit organizations, and pension and trust funds. The last proposal, it might be noted, would require the solution of particularly difficult statistical problems if its full intent were to be realized.

The foregoing and other projects for which the committee stresses an importance would depend in varying degree on the acquisition of primary statistics not now available. To carry out the recommendations of the National Accounts Review Committee would require both an enlargement of OBE's national income staff and additional funds for the collection and tabulation of requisite data by other agencies.

As indicated below, the OBE program of developmental work in the national income accounts puts an initial emphasis on projects which, while requiring some additional information, are not contingent on the near-term completion of new large-scale data collections.

DEVELOPMENTAL PROJECTS PLANNED BY OBE

In its national income and product work, the Office of Business Economics is currently devoting a major part of its resources to the preparation of the 1958 National Income supplement, incorporating results of the 1954 census of industry and business. Beyond that, our agenda mainly calls for work in the first three areas listed above—sector saving and investment accounts, constant-dollar gross national product, and classification of Government expenditures—as well as on the development of current figures on consumer purchases of a number of important commodities (such as major household appliances) not now reported separately. Each of these several projects is characterized by the fact that considerable headway would be possible on the basis of the statistical materials presently available; increased staffwork at the outset would lay the groundwork for more sizable results should additional resources become available.

With regard to the need for the saving-investment project, it is to be observed that the national-income accounts provide a continuing analysis of the outlay of investment funds, and also of the current saving by which it must ultimately be financed, but do not show how this financing takes place. The Review Committee, concurring with other users of the national-income data, calls for extension of the present accounts to permit tracing the current flow of saving throughout the economy into real investment, so that business and Government can respond more effectively to the changes which are taking place in this flow.

The proposed new saving-investment accounts would show saving, borrowing, and financial as well as real investment for each of the broad economic groups concerned—persons, nonfinancial corporations, financial business, Government, and the rest of the world, with additional breakdowns within some of these sectors. The new information which this project would yield—on changes in assets and liabilities for individual sectors of the economy—would throw additional light on the key processes of saving and investment. It would also furnish a statistical check on some of the estimates contained in the present national-income accounts.

These proposed new sector accounts represent only part—although the major one— of a broad program of research which OBE set up last year in the field of saving and investment. Other objectives of this program include the improvement, on a broad scale, of the statistical quality of existing saving and investment data; provision of data which would permit the extension, for particular purposes for which it may be appropriate, of the scope of investment and saving to include certain assets held by individuals and governments; provision of greater, and more meaningful, detail in investment and saving statistics; provi-

sion of estimates of capital consumption based upon current replacement costs; provision of estimates of the gross and net capital stock of the economy; extension of the information available in the field of international investment; and improvement and extension of anticipatory data, including analysis of their characteristics and reliability. As will be noted, these objectives are generally in line with expressions of the National Accounts Review Committee.

Turning briefly to OBE's plans with regard to measurement of national output in real terms, we may distinguish three areas where work should be pushed as promptly as possible:

(1) Development of a quarterly series, with limited breakdowns, on constant-dollar (deflated) gross national product. As evidenced by the results of the Review Committee's questionnaire, and by requests lodged with OBE directly, this series possibly is rated highest by users of the national accounts among their needs for new data. For its development, the best results would call for a virtual extension of the present annual deflation procedure to the quarterly estimates—entailing correction of the price data, where necessary, for seasonal fluctuations and the employment of a relatively detailed current weighting system based on quarterly expenditures. However, if this does not prove feasible over the near-term, a more summary procedure involving certain shortcuts in method might yield generally satisfactory interim data.

(2) Statistical improvements in the present annual estimates of constant-dollar GNP. These would require a considerable reworking of the series based in part on the concurrent development of more detailed current-dollar estimates.

(3) Provision of more information in the annual series, since the present limited breakdown of total deflated GNP by expenditure categories restricts the scope of analysis. A general improvement in the deflated estimates such as contemplated under (2) above would make possible the publication of estimates for a substantial number of additional items. However, full development of this phase of the work, and of the quarterly series as well, would require improvement and extension of price indexes utilized to deflate the current-dollar series.

In the realm of income-size distribution, plans for future work must take into account the fact that the statistical basis of the series requires strengthening. The present estimates, moreover, are not sufficiently detailed for intensive analysis. On the one hand, estimates should be developed for some of the major types of families now combined in the non-farm-family total. On the other, measures relating to the size distribution of the various sources of income (such as wages and salaries, entrepreneurial incomes, property income, and transfers) and their manner of combination should be prepared so as to permit systematic study of the factors determining the size distribution of aggregate family income.

To increase the reliability of the size-distribution estimates and to permit the preparation of additional meaningful breakdowns, basic improvements in the underlying data are required. Some of the main needs also noted by the National Accounts Review Committee include new matching studies yielding up-to-date information by which to combine tax-return and field-survey tabulations in the basic methodology; audit-control studies permitting a systematic basis for adjusting the tax-return tabulations for reporting biases; special tabulations of source patterns of income from the field surveys of family income; better survey information relating to low-income groups and their characteristics; and improved size-distribution data for farm families.

Also to be noted is the strong and growing demand—on the part of business market analysts, Government officials, individuals concerned with the analysis of economic problems along geographic lines, and other diverse groups—for regional economic information. The Office of Business Economics' program includes an expansion of operations in the field of regional measurement and analysis.

As the major aspect of this expansion, OBE's regional income measurements should be broadened to encompass areas of smaller size than the States. Comprehensive estimates of personal income should be developed on a regular basis for metropolitan areas. In addition, such estimates should be prepared from time to time for selected groups of counties for which there will be specific, practical need of an overall economic study or which would be significantly illustrative of the dynamics of regional economies and of their relation to developments on a national scale. An example of such special-purpose research is the set of local-area income estimates now being prepared in the Office of Business Economics for the Army Corps of Engineers as part of an economic base survey of the Delaware River service area.

County income estimation is conducted largely by State government departments and university bureaus of business research, which follow the general method of securing total income as the sum of separately estimated components derived through allocations of OBE statewide totals on the basis of the most relevant available data. This type of work, it is believed, would benefit from the general guidance which the Office of Business Economics, through its long experience in State income estimation, would be in a position to provide. The Office could aid county income research by the preparation of technical manuals setting forth a recommended system of methodology, by the provision of professional advice on specific subjects, and by furnishing a continuing stimulus to the flow of requisite statistical data.

Finally, a major area covered by the report of the National Accounts Review Committee is our balance of international payments. Here, OBE's principal current objective is to meet the pressing requirement for an adequate census of foreign investments.

The last comprehensive survey of United States direct investments abroad, covering 1950, is now badly out of date. Another survey is required to provide a new benchmark for the current estimates which are based on voluntary reports limited in scope and not sufficiently complete. A new comprehensive census would provide not only the basic data required for balance-of-payments purposes, but also collateral information of the type we recently collected in a pilot study on United States investments in Latin America. Such information—covering purchases, sales, investments, wage expenditures, employment, tax payments, and other operational data of United States business concerns—is immensely useful in reaching a proper understanding of the role of private direct investments in economic developments abroad and their general effects upon foreign economies.

In addition, the statistical data on the extent and nature of foreign holdings in the United States are obsolescent. Despite the interest and importance attaching to such information, the latest available benchmark on foreign direct investments in this country dates back to the beginning of World War II. Another new benchmark survey is likewise required to cover foreign portfolio investments in the United States, as present estimates are based on data for 1949.

The priorities accorded the various elements, listed above, in OBE's program of future operations will be subject to exact determination when resources are available to make possible their implementation. At present, they represent the agreed-upon components of the top category of needed projects.

In our judgment, the National Accounts Review Committee has performed a valuable service in highlighting in its report the progress to date on the national income accounts, and in focusing on the need for further progress in strengthening and expanding their effective use. The national income statistics have become firmly established as basic tools of economic analysis. All of those interested in our economic development are to a degree affected by actions deriving from economic analysis, and, therefore, from the use of the tools of analysis. This imposes an obligation for meeting the needs to sharpen and improve these analytical aids. That is our goal, and we hope that the Review Committee's work will contribute to an acceleration of progress toward the broad objectives on which we find substantial agreement among producers and users of the national-income accounts.

Mr. SCHWARTZ. The report prepared by the National Accounts Review Committee focuses on the need for further progress in strengthening and expanding the official national-income accounts. The committee attests to the fact that national-income work has grown to have very widespread value in the more than two decades since it was added to the economic intelligence of the United States, but that the continuing heavy demands for accurate and timely information in this field make desirable the setting forth of a long-range program of future development.

In our judgment, the committee's report furnishes a useful guide to the direction of national-income work in the United States for the next 5 to 10 years. The report is comprehensive, yet specific; and it is authoritative in that it reflects the thinking and experience of an

expert committee and of the many individuals whom it canvassed—both the producers of the national accounts themselves and of the main groups of users, including business, labor, and university economists.

The national-income statistics of the Office of Business Economics constituted the principal basis for the study which has been made by the National Accounts Review Committee. While our work in the field of national income was initiated in 1932, in response to a Senate resolution, the committee focused principally on developments over the past decade.

In this period, substantial progress was achieved in extending the scope and detail of the estimates and in making them available promptly, as well as in sharpening and describing the underlying concepts and methods. The major steps in this progressive performance are detailed in the statement which I have submitted for the record.

We have assessed carefully the implications of the Review Committee's report in relation to our program.

First to be noted is that a carrying through of the many separate recommendations contained in this report would have scarcely any effect on the overall scope and definition of the basic income and product aggregates: gross national product, national income, personal income, and disposable personal income.

While these widely used overall measures would not be altered to a significant degree, the committee proposals call for certain changes in tabular presentation of the vast array of underlying material. For the most part, these changes would entail a different arrangement of the existing components, although in a few instances some revision in definitions would also be involved. We plan to make a careful review of the presentation of the national-income and product tables, and in this task the detailed suggestions made by the committee should prove helpful.

By far the most substantive aspect of the Review Committee's recommendations for our work is the need they underscore for better primary statistics—for an improvement in the volume and quality of the statistical raw materials which the Office of Business Economics obtains from other agencies. The committee urges action looking toward improvement in the underlying data required to strengthen certain segments of the national income and product accounts, to develop more detailed breakdowns of the estimates, and to extend the scope of research into additional areas.

In its national-income and product work, the Office of Business Economics has appraised continuously the adequacy of existing primary data and of the requirements of broad user groups for additional measurements. The detailed work program which we have developed reflects this double concern for improving the statistical basis of the present estimates and for undertaking new or developmental projects.

There is now a pressing need to improve the estimates of noncorporate business income, corporation profits, business inventories, capital outlays by business, value of construction, and savings. Expanding the collection and tabulation of the primary data for these and certain other segments would strike at the major sources of statistical

weakness in the present national-income accounts, and would yield information having an independent utility for current economic analysis.

It is also clearly evident that the scope of our present work should be broadened in a number of areas. For instance, we agree with the review committee that it is necessary to place much more emphasis on the measurement of national output in real terms. Estimates of gross national product in constant dollars should be developed as soon as possible on a quarterly basis. Such a quarterly series possibly is rated highest by users of the national accounts among their needs for new data. In addition, the annual estimates of constant-dollar gross national product should be provided in considerably more detail, as the present limited breakdown by expenditure categories restricts the scope of analysis.

In the field of saving and investment, the Office of Business Economics has developed a broad program which would improve the quality of the existing statistics and expand research along additional lines. The major part of this program calls for the development of saving and investment data for separate economic groups—such as persons, financial institutions, nonfinancial corporations, and Government, with additional breakdowns within some of these sectors. The project would yield valuable new information on the key processes of saving and investment, as well as furnish a statistical check on some of the estimates now made available.

In addition to more extensive measurements of national output in real terms and the development of research on savings and investment, our plans for new work include other projects such as the preparation of more detailed information on consumer expenditures.

In all this work, the rapidity and extent of progress will be conditioned by the amount of available resources. To carry out the recommendations of the National Accounts Review Committee would require both an enlargement of the Office of Business Economics' national income staff and additional funds for the collection and tabulation of requisite data by other agencies.

National income statistics have become firmly established as basic tools of economic analysis. We appreciate the valuable service which the NationalAccounts Review Committee has performed in highlighting the progress to date in the development of the national income accounts, and in urging the necessary steps which should be taken to expand their usefulness.

The Review Committee's recommendations are constructive and generally in line with our own ideas. We hope they will contribute to an acceleration of future progress.

Thank you.

Representative BOLLING. Thank you, Mr. Schwartz.

Next is Mr. Ralph A. Young, Director of the Division of Research and Statistics, Board of Governors of the Federal Reserve System.

STATEMENT OF RALPH A. YOUNG, DIRECTOR, DIVISION OF RESEARCH AND STATISTICS, BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM

MR. YOUNG. The report of the National Accounts Review Committee deals with various systems of national accounts and the many sta-

tistical problems associated with them. Recommendations relate to highly technical matters of concept and execution as well as to the objectives of the accounts themselves.

Hence, they range from the very detailed and specific to the broad goals of national accounting structures and the best routes for their attainment. It is obviously impossible here to comment on more than a few of the matters that have concerned the committee.

The committee strongly recommends increased budgetary support for statistical programs essential to the national accounts. We would certainly concur in this general recommendation. There are many areas where our economic information is not of the kind or quality to enable us to carry out effectively either the analyses needed for purposes of sound public and private policy, or for the basic research which must constantly be done to extend our knowledge about the economy.

The report emphasizes especially the need of the National Income Division of the Department of Commerce for additional resources to improve and strengthen the statistical base of the national income and product accounts. All thoughtful students of the Nation's statistical work will agree, as this hearing demonstrates, that this need is great. The statistical output of the National Income Division provides source information on many facets of our economic processes as well as providing the basic data for measurement of national income and product.

A central problem with which the report is concerned is that of consistency of the major systems of accounts now developed or under development, and the report urges a closer integration of them, both conceptually and operationally. We would agree that conceptual integration is a matter of high importance.

All statistical agencies involved in this work clearly have a responsibility for seeing how their national accounting efforts relate to those of other agencies and for making underlying reconciliation materials available to interested persons.

The effectuation of a single integrated system of accounts must be regarded as a long-range goal and one whose exact form cannot be foretold now. In this development, we must be careful that attainment of formal integration does not hamper the operational usefulness of each of the individual systems or make too cumbersome their joint use in integrated analysis.

The criterion should always be contribution to analysis rather than formal neatness. Each of the systems has its own analytic aims and serves various purposes. The forms best suited for each system of accounts are still subject to experimentation and improvement.

At the Federal Reserve, for example, we are now wrestling with the development of a quarterly system of flow-of-funds statements. We have made progress in this, but at this point we have not reached a final decision on the form that these accounts will take, and we find this process of making a decision not easy.

Administrative coordination of national accounting systems, even though it presents many technical problems, is easier to accomplish than conceptual integration. All statistical agencies in the Government operate with limited budgets and all are anxious to avoid duplication of work among themselves. Accordingly, in most instances

the same statistical series constitute basic information for the various systems of accounts.

The report includes some specific recommendations for the Federal Reserve Board's flow-of-funds accounts. One of these is for a quarterly flow-of-funds statement. We have been engaged in developing such a statement for some time, and by another year should be in a position to publish such a current statement regularly. As this committee is informed, the Federal Reserve is also working on new forms for the presentation of national savings estimates.

We will naturally want to settle as many as possible of the problems of effective integration of the flow-of-funds accounts and the saving presentation before initiating a current publication program. There will also be problems of relationship of these quarterly presentations to the national income and product accounts, and these will be worked out over the months ahead.

As part of the new program of quarterly accounts, we are revising various sector and transactions categories of the flow-of-funds accounts. These changes cover many of the technical recommendations made by the report under discussion, and also go beyond them.

In this connection, many improvements are needed in basic financial data if our development programs for the flow-of-funds and savings accounts are to be accomplished. The report might well have put greater emphasis on the need for improving the financial data required for these two accounts.

The report rightly stresses the need for better estimates of real or constant dollar estimates of national income and product. We, of course, have been very much interested in this field for many years, and the Board's production indexes provide a current measure of changes in real product in the areas of manufacturing, mining, and electric and gas utilities. Possibilities of other physical volume indexes are being explored.

The report might appropriately have given more attention to a physical volume index approach to the measurement of real product. In this connection, it should be noted that, both in Canada and in the United Kingdom, considerable progress has been made in using indexes of physical production as part of the measurement of real product.

Recurrent review of the Government's work in national accounting is desirable. We have had a number of such reviews in the past and there will be more in the future. Such systematic canvasses of our statistical programs are helpful and constructive in pointing up statistical and budgetary needs and in bringing out unresolved problems.

A road map for long-range development of the Government's activities in national economic accounting cannot be created by any single one of these reviews but it is only through such a process that a workable road map will be evolved.

Representative BOLLING. Thank you, Mr. Young.

Next we have Mr. Ewan Clague, Commissioner of Labor Statistics in the Department of Labor.

STATEMENT OF EWAN CLAGUE, COMMISSIONER OF LABOR STATISTICS, UNITED STATES DEPARTMENT OF LABOR

Mr. CLAGUE. It is a pleasure to be invited to comment on the findings of the National Accounts Review Committee. The committee has furnished the Government with many useful guides and much wise advice, which was, of course, to have been expected in view of the distinguished membership of the committee.

There is one fundamental conclusion which may be drawn from the committee's work which is not explicitly set out in the committee's report. It is prominently noted that the national accounts, as presently constituted, are built up from many statistics collected essentially for other purposes.

The recommendations of the committee for improvement in these underlying statistics thus refer to a very broad section of the entire Federal statistical structure. Viewing this problem from a different aspect, potential improvements in the content or organization of basic statistical programs must be considered in terms of all the objectives these programs are intended to serve.

For example, the major programs of the Bureau of Labor Statistics are used in the preparation of the national accounts. In addition, each of our continuing programs serves many purposes independent of the national accounts.

We support many of the committee's recommendations which serve all these purposes.

In the field of prices, for example, the recommendations of the committee lay great stress on improvement of the measurement of deflated gross national product and its components, and the more frequent preparation of estimates on a real-product basis.

As the primary source of basic price data used for deflation, we are well aware of the limitations of available statistics for the kinds of real-product analysis the committee recommends. Also, through our continuing productivity program and our former interindustry projects, we have learned from direct experience of the gaps in price data confronting analysts attempting the deflation of industry or commodity value aggregates.

The Bureau of Labor Statistics makes available to the National Income Division and other Government agencies the basic price data needed for deflation. In this connection, it must be remembered that detailed price measures are the essential tools of deflation. The more detailed and the more clearly defined the series available, and the more comprehensive the coverage, the more useful are the price data.

However, our price collection is now limited to the items that will contribute to the improvement of the overall indexes—Consumer Price Index and Wholesale Price Index—which we are directed to prepare.

Efforts to improve the Bureau of Labor Statistics' price programs within the framework of present objectives will not be sufficient to satisfy the committee's recommendations. Considerable additional resources are needed to make possible complete fulfillment of the review committee's objectives.

CONSUMER EXPENDITURE STUDIES

The review committee has also pointed with emphasis to the need for a regular program of surveys of expenditures, income, and savings for the country as a whole. As the committee points out, the last countrywide urban study was made by the Bureau of Labor Statistics for the year 1950.

Results were tabulated by the Bureau only to the extent that such tabulations were needed for the thoroughgoing study and revision of the Consumer Price Index, which was completed in 1952. Subsequent extension cross-tabulations of these valuable data had to be delayed until arrangements were made to perform this work in cooperation with the Wharton School of the University of Pennsylvania with the financial support of the Ford Foundation.

With the great concern of the legislative and executive branches of the Government about the rise in prices and the cost of living, attention has been focused upon the Bureau of Labor Statistics' index for consumer prices paid by urban wage earners and clerical families. We believe that the present index adequately reflects price changes that are taking place in the cost of consumer goods and services.

It must be recognized, however, that consumer buying habits are gradually changing. Implementation of the review committee's proposal for comprehensive expenditure studies at regular intervals will not only serve the committee's objectives, but will also make available the data needed for periodic revision of the Consumer Price Index weights.

CONSTRUCTION

The committee strongly urges improvement in the construction estimates, which they say are among the most seriously deficient in the national accounts. A high priority is given to raising the adequacy of the construction data not only for the national accounts, but, to quote the committee—

> because of the crucial importance of these figures for assessing both the current economic situation and the business outlook.

It is gratifying to have this committee's public and unanimous recognition of this uncomfortable gap in our statistical program, which we have been unable to fill in recent years.

As a first step, the committee recommends a thorough study of the quality of the present data on construction and the possibilities and means of obtaining more accurate figures. Prof. Elmer C. Bratt's recent report to the Budget Bureau on this subject was based on a detailed study and analysis of all Government construction statistics programs.

I suggest that Professor Bratt's basic recommendations—with some modifications, as proposed by participating and user agencies and organizations—be used as a framework within which to plan and begin a program of improvement as soon as possible.

The series on private nonresidential building requires particular attention.

PRODUCTIVITY

The Bureau of Labor Statistics is substantially interested in the proposal of the committee for the development of productivity data consistent with the national accounts. The Bureau has a long history of work in the productivity area going back to Carroll D. Wright's pioneering report on Hand and Machine Labor in 1898. This work stems in part from the Bureau's concern with problems of manpower utilization and conditions of work, and more specifically from its statutory obligations—

to make continuing studies of productivity and labor costs in the manufacturing, mining, transportation, distribution, and other industries.

In meeting its responsibilities in this area, the Bureau has developed a program of work which has as its long-range objective the measurement and analysis of productivity at various levels, covering the total economy, major sectors, industries, and plant-level studies. At the present time the Bureau is preparing a report on postwar trends in productivity providing indexes for the total private economy, agriculture, total nonagriculture, manufacturing, and total nonmanufacturing. In addition, the Bureau of Labor Statistics, in cooperation with the Interagency Subcommittee on Production and Productivity, of the Office of Statistical Standards, has already done some preliminary exploratory work on postwar trends in productivity for major sectors of the private economy, such as trade, construction, and others, within the framework of gross national product.

The development of productivity measures presents many complex conceptional and statistical problems, and although the Bureau has developed a considerable body of information and experience as a result of its continuing work on this area, there are still many unresolved problems. We would therefore welcome the opportunity, provided by the suggestions of the National Accounts Review Committee as to the development of constant dollar-product estimates, to have the national income staff and others work with us to improve the estimates of productivity and to make them more useful in relation to the national-income accounts. It should be kept in mind, however, that there are many uses of productivity measures outside the framework of the national-income accounts, and obviously the program of productivity measurement must take these other needs into consideration.

EMPLOYMENT STATISTICS

The program of the Bureau of Labor Statistics for collection of employment, hours, and earnings data has been broadened widely through the years but it, too, would require modification and extension to carry out the recommendations of the Review Committee. There are still large gaps in the present coverage—major sectors for which no hours of work and earnings data are currently available.

In order to fulfill the committee's recommendations, data on hours and earnings for all major nonagricultural industry groups should be collected, rounding out the detail currently available. It would be extremely valuable also to collect detail separately for nonproduction or white-collar workers—not now available. This group is one of the most rapidly expanding in the economy. In addition to other uses,

all of these data would be extremely valuable in strengthening the wage and salary payments component of the national accounts.

WAGES

Appendix E to the report on the national accounts stresses the importance of quantitative information on increasing employer contributions to private pension, health, and welfare, group insurance, unemployment benefit, and other supplementary payment plans. Some pioneering work in this field has already been done by the Bureau of Labor Statistics, because this information is important to an understanding of current changes in the country's basic-wage structure. It is agreed that much more work needs to be done.

INPUT-OUTPUT

Turning now from the Bureau's current active programs, I would urge emphatically that the recommendations of the Review Committee on the resumption of input-output or interindustry relations studies be given serious consideration. The Bureau of Labor Statistics was the first Government agency operating in this field. After the program was established, financing was assumed by the Department of Defense in the late 1940's, because of the applicability of the technique to industrial-mobilization planning.

The input-output approach has been adopted in a number of other countries. Until the abandonment of the governmentally sponsored program in the United States a few years ago, this country was an acknowledged leader in both the conceptual and practical development of this economic tool.

The committee's report mentions some of the potential applications of input-output accounts. I will here single out only two for special mention. First, it permits a cross-checking within the national accounts which is urgently and regularly needed; and second, it has more promise for direct application to the problems of economic-policy formation and decisionmaking than any other form of national accounts.

At the request of the Assistant Director for Statistical Standards of the Bureau of the Budget, the Bureau of Labor Statistics has already prepared a detailed set of recommendations for the reinstatement of input-output work in the Government on an interagency basis. The plan envisages a comprehensive set of tables relating to the year 1958, the next year for which data from the quinquennial censuses of industry are expected to be available.

While considerable time has already been lost, it would be worthwhile to carry out another committee recommendation—that is, construct an abbreviated input-output table based upon 1954 census data as a first step leading toward the more comprehensive and continuing program.

Representative BOLLING. Thank you, Mr. Clague.

If any of the members of the panel desire to submit supplemental materials of any sort, the committee will be glad to accept them for the record. They should be submitted with the transcript; otherwise, we will run into a printing problem.

Do any panel members have something they would like to talk about now before we ask questions, stimulated by each other to agree or disagree? If not, Mr. Bowman, do you have a comment at this time, or shall we go to questions?

Mr. BOWMAN. Mr. Chairman, I think it might be wise to go to the questions. I want to thank the panel for a very excellent review of the report and the opportunity it gives me to listen to the comments.

Representative BOLLING. Mr. Knowles, do you have some questions?

Mr. KNOWLES. Yes, Mr. Chairman. This discussion has stimulated a couple of thoughts in my mind. First, Mr. Martin Gainsbrugh, and some of the others as well, has more or less stressed the complexity that would be involved in any integration of these accounts. I think those were Mr. Gainsbrugh's words, and the problems that might be raised by trying to integrate the accounts, it might create more trouble than it solved, and Mr. Young's statement was:

> In this development we must be careful that attainment of formal integration does not hamper the operational usefulness of the individual system.

My own puzzlement at these statements grows out of the fact that our economy is, itself, a very complex and very integrated structure. It does not meekly and submissivley take itself apart, lead it self in a series of nice chunks for your individual conceptual consideration.

It kind of works together as a whole machine. Policy problems common to both public and private operation are of the same character. We cannot follow, quite frequently, the scientist's occupation of isolating one aspect from the other and, the words are "holding everything else constant."

Under the circumstances, should not the national accounting structure reflect both this complexity—this would be a correct reflection of the real world—and, secondly, should it not reflect the integration that prevails in the real world?

And, if it must reflect these two things, does this not mean a much greater degree of integration in these accounts, even at the expense of some complexity, if they are to be really useful for analysis?

Mr. GAINSBRUGH. I think your point is well taken. This is a complex system. But we have to recognize that measurement involves much exploration of concept, of the adequacy of data, and time is an important part of all of this process.

As Mr. Tupper earlier indicated, in some of these instances we are in the developmental stage for some of the supplementary measures that national income was in back in 1932. I do not know how many times we have changed concept and convention, many of them very important, in the fields of national income and product accounts.

I think we have learned something about economic accounting in the process over the past quarter century. The same valuable process of experimentation and seasoning that went on in national income accouting should go on in the other areas. And perhaps that process is better accomplished almost in vacuo than it is tying it into an integrated system of national accounts from the outset or its earlier stages.

There are many problems to be thought through. There are many new conventions to be coined in the supplementary measures. Perhaps, after the initial work has gone on, then the refinement can take place at some later period of time to permit a completely integrated system of national economic accounts.

I think, too, that the national income and product people are not unaware of the work that goes on in the newer and supplementary accounts. Wherever they can, within the limits of existing knowledge, they are already tapping these supplementary accounts for use in the national income and product data.

I think, for the time being, that is satisfactory progress until we have some greater degree of assurance that the measurements and the concepts employed in the supplementary accounts do have economic meaning.

Representative BOLLING. May I ask for clarification, to be sure I understand this? What you are saying is, in fact, if we move too fast to integration we might be pretending to have something that we would not have?

Mr. GAINSBRUGH. That is entirely possible. We might do considerable harm to the existing system of national income and product accounts in the belief that the supplementary data we were tapping or incorporating was firmer or conceptually more warranted than, on later examination, they proved to be.

Mr. YOUNG. I would agree with the point of view that has been expressed by Mr. Gainsbrugh. I indicated in my own statement that I thought integration of the several accounts was an ultimate goal. Conceivably, progress toward integration can be made at this time, conceptually at least, by some people sitting down and working through the problems it would present. But, in terms of a system of integrated accounts that makes it possible to move readily and analytically from and between the various components, I think we are really not far enough along in basic data to fill the various boxes of the accounts with measurements of the quality that would be needed to have an accounting system that would be what it purports to be. We might be very much misled by inadequate data, and, in turn would be misleading the public.

Representative BOLLING. Would you mind being specific, if that is appropriate? I would like to be sure I understand exactly what you are saying.

Mr. YOUNG. In the flow-of-funds accounting undertaking that we at the Federal Reserve Board have initiated, for example, the economy is divided into sectors. We take the sector of individuals and break that down into a household or consumers sector and into an unincorporated business sector.

Now, as matters stand at the moment that operation is a tour de force. It is a most inadequate piece of social accounting and we are very unhappy about it. But we want such sectoring; we need it for analytical purposes; and so we have to proceed as best we can with measurement. Measurements that will make this sectoring meaningful are a long ways off, that is, measurements that give this separation the sort of substance that we would like to have and the sort of substance that would be necessary to make the sectoring in question gear into an overall set of integrated accounts effectively.

I think that illustrates the point. There are many other illustrations in the flow-of-funds accounts that might be cited. We should work conceptually toward integration in our national accounts as fast as we can and as fast as we can in terms of the data availability, but certainly at this stage of national accounting the foremost emphasis needs to be placed on stronger data.

Representative BOLLING. Any further comments?

Mr. DENISON. I have two observations I would like to make. One is that we have to realize that the national income and product accounts themselves are an enormous integration job. A fantastic number of series have to be integrated and the definitions made consistent.

I will give one illustration. In the discussion yesterday there was quite a bit of attention given to the national income accounts for Government. Now one reason they differ from other Government budgets is that corporate profits tax has to be treated on an accrual basis if you want a consistent set of accounts. This is because it is customary in business to figure profits after taxes by the use of this year's taxes, tax accruals, not by the deduction of the tax a firm happens to pay this year based on a prior year's income.

This practice in business forces one to adopt a consistent treatment in computing Government receipts in the national income accounts, but for other purposes you might want a Government budget which treats corporate profit receipts on a collections basis, as the Budget Bureau does. Certainly I don't think anyone suggests that we have for Government only the kind of integrated account that is in the national income accounts, although that is extremely useful and necessary if you are going to use the national income data for business with those for Government. Otherwise, you have taxes being paid one time and received another time.

Now I don't think we have by any means completed the job of integration even with the existing data. For example, Mr. Schwartz mentioned a savings and investment project which the Office of Business Economics hopes to implement. When we come to capital investment by private business we find there are two series. One is the series in the national income accounts. Another series that is very widely used is plant and equipment expenditures by business, which is based on asking business firms how much they spent.

That is the only way one can get a breakdown by industry, and the only way one can obtain data on prospective expenditures. On the other hand, with existing data, the only way one can get a breakdown of investment by type of product is through the so-called commodity flow procedure that is used in the national product estimates. I don't think if we had integrated at the beginning we would ever have had those two kinds of breakdown. I think the time has come now when the two ought to be reconciled.

In this same field, on the other side of the saving and investment accounts, the Department of Commerce publishes a very useful series on sources and use of corporate funds but that, again, does not exactly jibe with what is implied in the national income accounts.

It would be extremely convenient to users if it did. I think we still have progress to make there. I say it is extremely difficult. It is not a easy thing to do, but we ought to go ahead.

Secondly, much of the discussion of integration as far as I can see is in vacuo because in fact we don't have any input-output tables now; we don't have any capital account now. The only accounts we have are the national-income and balance-of-payments accounts, and the flow-of-funds accounts. The first two are already integrated and really comprise one system of accounts.

With respect to the national-income and flow-of-funds accounts, I think we want to work ahead on both sides. For example, the con-

ference on research in income and wealth, of which I am chairman of the executive committee, has a conference planned at which we expect to have papers both from the Federal Reserve Board and from the Department of Commerce indicating how they think we might proceed and what might be done.

I think it is a slow process. I think we will want to look at it carefully and I certainly don't think we want to freeze ourselves before we have the data that we need to look at and to compare.

Representative BOLLING. Any further comment?

Mr. HENLE. I only have a brief comment to make.

It seems to me that this controversy over integration is only a question of semantics. Obviously the committee in its report has stretched its imagination to give the statistical agencies of the Government and the people who operate these accounts a goal to shoot at.

Obviously they weren't thinking we were going to integrate all these accounts the day after tomorrow. At the same time it is important that the statistical people cooperate in solving some of these complicated technical problems. Ralph Young mentioned a problem that his folks are working on, the problem of breaking down the consumer sector into households and noncorporate business. Now, if my memory serves me correctly, that was the type of recommendation included in the committee report which, as I recall, suggested this separation be made for the national product accounts also.

Here is an issue, an additional breakdown needed in both sets of accounts. Although I am not familiar with the technical problems, it seems to me the two statistical agencies should get together to work out the same types of breakdowns so that the users of the statistics would not be confused in shifting from one to the other.

Representative BOLLING. Any further comment from the panel?

If not, I would like to reach into the audience in a slightly irregular procedure and see if the Chairman of the Review Committee has any comments he would like to make on this particular study.

STATEMENT OF RAYMOND W. GOLDSMITH, CHAIRMAN, NATIONAL ACCOUNTS COMMITTEE

Mr. GOLDSMITH. Mr. Chairman, I think the panelists have all given the report very fair treatment. Some of the points they have taken up, I hope you realize could not be given adequate treatment because of lack of time. On others possibly we have looked a little bit farther ahead than they have been able to do since they have enough trouble in keeping the figures up to date.

But I think so far as I can judge—at the moment I do not have the detailed report which Mr. Schwartz is giving you—and so far as I have listened this morning there is nothing that is really inconsistent with what we have said and I quite agree that discussion about integration is to a good extent a matter of semantics.

We certainly were aware that integration of the national economic accounts was a matter of the long run, but we also felt that it is a very important matter to have such an integrated system as the acknowledged and accepted goal. Such a system is not entirely utopian. There are some countries which, although they show less detail in their national economic accounts, have demonstrated that such a system is operationally not impossible. These are usually smaller countries,

Norway and the Netherlands being two examples. When we move closer to operational integration in this country we will, I hope, be able to learn something from the experience abroad in the next few years and from the difficulties which these countries may experience as they start seriously on integrating figures rather than only concepts and blank tables.

So long as integration is the acknowledged goal I personally would not worry if it proved to be a long drawn out process. Nobody should think that we could reach this goal in a few years. Mr. Denison quite correctly pointed out to you the problems of integration that lie within some of the segments which we have distinguished, problems that probably should be solved before we proceed to integrate two or more. segments. He also points out correctly that as yet we have figures for only 2 of the 5 segments—the national income accounts and the flow of funds statements.

On this point the committee again may have looked at a period longer than any which concerns the people actually making the estimates. We hope that by the time the integration problem becomes an actual one the two missing links—essentially an up-to-date input-output table and a national balance sheet—will be available. To have the definite goal of an integrated system, as well as some idea of how it is going to be set up, is important particularly since we already have something of the two missing segments. The one of them, the input-output table, cannot be said to be nonexistent because a great deal of experience has been had with it, but it is true that it still is more malleable than a system which has been in continuous production. The other missing segment, the national balance sheet, is nonexistent only from an official point of view.

As we approach actual developments of these two segments it will be of very great importance to have a general idea of what we hope the integrated system will look like, so that we can shape these two segments as far as possible in such a way that they will fit into the integrated system. We might thus avoid some of the difficulties that always arise when you bring together systems which have developed independently for different reasons by different groups and which therefore have their understandable differences.

I want to state on behalf of the committee that they very greatly appreciate the serious study which the organization represented at the table have given our report and we are very glad that by and large they have given us a clean bill of health.

Representative BOLLING. Thank you; any further questions?

Mr. Bowman.

Mr. BOWMAN. Mr. Chairman, might I make a remark on this point if it is not out of order?

Representative BOLLING. Certainly.

Mr. BOWMAN. I think this is an interesting issue. I think perhaps that I agree with what the panel has said about integration at any nearly complete level as being a long-run development. However, I am reminded of the statement that was made by a famous economist about the long run, and that is that we are all dead in the long run. Unless we pay some attention to the short run, the long run is apt to be quite different from what we would like to have it.

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I am very glad Mr. Denison pointed out one aspect of integration around the national income and product accounts. But there are two kinds of integration being discussed in connection with national accounts. One is the integration of data within any single system of national accounts, and the other is the integration of the various sets of accounts themselves.

With regard to the first, I think Mr. Denison and I are as one. I know of no other way to guide the development of data on an integrated basis except in terms of some system of accounts. I disagree, however, that the national income and product accounts offer the only systematic way by which a body of data can be integrated. I think the flow-of-funds accounts offer another way in which data can be examined for consistency, and I think input-output accounts are of similar type. I believe Mr. Denison and I will not disagree very much on that, either.

The second problem is how we go about achieving an integrated set of accounts—input-output accounts, if we ever have them; flow-of-funds accounts, which we have now; income and product accounts, which we also have; balance of payment accounts; and possibly sector balance sheets.

If five systems of accounts such as those just noted are to have maximum usefulness for economic analysis, they must not only be based on data designed for each system separately, but they must also be integrated with each other to provide consistent measures of the basic aggregates. The problem is, How do we achieve this consistency without interfering with the detailed development of each set of accounts for the special problems for which that set of accounts is constructed?

I think the integration that is recommended by the committee is an integration which would not interfere, for example, with the Board of Governors pressing the flow-of-funds accounts and their conceptual structure to the full for its special problems, or input-output users that set of accounts to their special problems. It does require, however, that more attention be given than has been given in the past to see that the interrelationships of the basic items in different sets of accounts are of such a character that a set of data might be published showing, for more general analysis, not only the income and product arrangements, but other arrangements such as the flow of commodities and services from one industry to another. Both arrangements should provide an identical measure of the final product of the economy.

In discussions that have been held, I know of no people that have stuck to that need more than the national income people themselves when they are discussing an input-output table. This is a difficult problem and I recognize the truth in the statements that have been made that we don't want to destroy what we have in order to have a more grandiose integrated system.

On the other hand, I think we would be quite foolish if we did not, as we see the needs for other arrangements of the data, begin to develop interrelationships among these arrangements by which we can make progress in economic analysis. We must try to relate these different systems one with the other as best we can in the short run but in line with long-run goals, and then I think the long run will take care of itself.

Thank you, Mr. Chairman.

Representative BOLLING. Thank you, Mr. Bowman.

Mr. Knowles?

Mr. KNOWLES. I have one other question which may clarify this point of integration.

It perhaps is exemplified best in different places in Mr. Clague's statement. He says, for example, "viewing this problem from a different aspect, potential improvements in the content or organization of basic statistic programs must be considered in terms of all the objectives these programs are intended to serve."

In other words, these are objectives which are related, I presume, to these national accounts as well as those objectives which are not directly associated with the national accounts. Elsewhere he mentions, for example, the question of price indexes of the Bureau. What I am wondering is, is there a concrete example that can be given of an objective that an individual statistical program is to serve which that series could not serve better if the series was part of an integrated system?

I am trying to think here of a case, even in the case of your price index, if the specialized objectives which you have would not be better served if they were part of a system of price indexes in a national system of accounts than they are as they are now as a set of unrelated price indexes which are largely disconnected from the income accounts.

What objectives can they serve that won't be better served by what this committee, in effect, proposes?

Mr. CLAGUE. I think in the few remarks I made on this I was referring to the practical question of giving one agency conducting the national income accounts senior status and authority over all of us other agencies doing a lot of the plowing that we do for our own purposes, as well as serving theirs.

In many instances, as you saw from my statement, I think that anything done, for instance, to improve our price indexes as you indicated, could serve equally well the national accounts. It improves the data in all directions.

However, since you have raised the point, I would have to say this: When you talk integration, you must mean that somebody is in charge of deciding how it is to be done. If that is the case I can conceive of circumstances in which, let us say we, developing our price indexes or our productivity series or our wage tabulations, might be prevented from using funds which the national income accounts staff would rather have used in another way, let us say, to serve their purposes.

In other words, shortage of funds (which we will always have) will necessarily involve the question of priority. That is one example of the difficulties that rigid integration might lead to.

Another one would be the question of publication. Suppose we deflate a series in a particular way for certain purposes of our own in the Bureau of Labor Statistics, but the national accounts staff is deflating in another way which might be useful for their purposes. Should one of us be suppressed in order that we have complete integration, or do the constituent agencies pursue their needs as best they can?

I do not think differences constitute such a serious problem that uniformity must be imposed, on the other hand I see only grief in

moving too fast toward a completely integrated system of accounts. In the light of the points I have made here, I prefer a more flexible approach which would not force us into program decisions based on such different emphasis in program objectives.

(Mr. Clague later furnished for the record a further extension of his remarks:)

I have listened with great interest to the remarks of the other speakers on this morning's program. Because so many of them have emphasized the need for improved and expanded constant dollar estimates and for reinstatement of input-output work, I would like to supplement my formal remarks on these subjects. I will also take the opportunity to elaborate my ideas on problems of integrating statistical systems within the framework of economic accounts.

The expansion and reorganization of a price statistics collection and publication program designed to serve the purposes set forth by the National Accounts Review Committee and endorsed by most of today's speakers is completely dependent upon budget. Given sufficient budget, and I make no attempt here to define the size of this budget, there is no reason why a unified price statistics system, centered within the Bureau of Labor Statistics, could not serve the purposes of all users, including the agencies reasponsible for the national accounts. Such an expanded price statistics collection and publication program would in effect provide for a system of indexes, including the present BLS price indexes, within a systematic framework. As Dr. Bowman earlier pointed out, any one of the three major systems of national accounts—national income, money flows, or input-output—could provide the conceptual framework for such a system of price indexes. In my opinion, and I must confess to a personal bias on this point, an input-output framework would be the most suitable: It would provide appropriate niches not only for price indexes for final demand sectors but also for industry and commodity value aggregates and for labor and capital costs.

My answer to Mr. Knowles' question was dominated by problems I have been facing as director of an important statistical agency concerned with maintaining the quality of its collection and publication program in the face of increasing costs and difficulty of obtaining appropriations for essential technical tasks required by programs of the current scope. If I could foresee the possibility of getting sufficient funds for an expansion of the magnitude needed to meet the National Accounts Review Committee's objectives I would answer Mr. Knowles by saying that we could satisfy our present objectives in the price area within the bounds of a national accounts oriented program of price statistics.

Considering increases in budgets that might be possible to achieve over the next few years, my first priority in the area of nonretail price indexes would be improvement of price data for the items currently embraced within our Wholesale Price Index collection system. We would like to establish a system of direct and regular contact with our respondents in order to assure that information supplied to us adequately reflects price change. Since the data are currently obtained by mail questionnaire, there are problems relating to the adequacy of reporting of discounts and special price adjustments of published list prices. If this objective could be accomplished, and additional funds were available, the next priority would be extension of the item coverage to obviate some of the imputations now made in the Wholesale Price Index. This would involve an attempt to develop improved pricing methods for highly fabricated items, such as machinery, motive products, shipbuilding, transportation equipment, etc. The latter areas would require considerable experimental work before the Bureau of Labor Statistics would be in a position to offer suggestions on regular pricing of such items and to estimate the cost of an adequate continuing pricing program.

Still other extensions of work in the nonretail price index field, which would be necessary to implement the recommendations of the National Accounts Review Committee, include the collection of prices at different transaction levels and for different classes of customers, the development of price indexes for various kinds of construction, for military items, for exports and imports, for Government purchases, etc. All of these are important objectives that the Bureau of Labor Statistics would like to tackle within the framework of an expanded and integrated price-collection system. But these extensions in scope of the price statistics have a lower priority than the improvements indicated as necessary in our current program.

In the consumer-price field, the Bureau of Labor Statistics now limits its preparation of price indexes to prices paid by wage earners and clerical worker families. We would like, if resources were available, to prepare indexes for single persons and for retired couples, for low-income families, and for families of entrepreneurs, professional and supervisory workers, etc., all now outside the scope of the Consumer Price Index. Likewise, consumers in rural nonfarm areas should be covered by appropriate price indexes. To do this would require not only an extension of our price collection to cover more items than is needed for the kind of consumer price index we now prepare, but also an extension of our periodic consumer expenditure surveys to provide adequate data for expenditure weights for each of these classes of consumers. Again, as in the nonretail price field, a small increment in our present budget for consumer price work would not suffice. Projects for improvement of our present price index systems would, in our judgment, have a higher claim upon the next funds available.

Turning now to the field of input-output, I wish to express my pleasure in hearing Mr. Johnson mention the uses he has made of the Bureau of Labor Statistics interindustry study for 1947 in his work with the Western Electric Co. He points out the need for detail beyond what was published for the 1947 study. As you know, because the source of funds for this study was oriented to mobilization planning, inadequate resources were available for general publication of the results. Thus, some of the materials that Mr. Johnson wishes he had to supplement the published (and now obsolete) 1947 results were actually prepared, or in process, but could not be written up and published for general use. For example, work was done on a breakdown of the "household row" of the 1947 study and these data are summarized on punchcards.

Likewise, considerable work was done cooperatively by the Price and Interindustry Divisions of the Bureau of Labor Statistics on reorganizing the individual price series of the Wholesale Price Index by Standard Industrial Classification and Interindustry Sector. Organized on an industry basis, these data had many gaps; nevertheless they proved useful in the work of our Interindustry Division and have also been used to advantage by our Productivity Division. Unfortunately, funds have not been available for publication of these indexes or even to continue their preparation for the Bureau's own internal use.

In my prepared remarks I refer to a detailed set of recommendations submitted by the Bureau of Labor Statistics to the Assistant Director for Statistical Standards of the Bureau of the Budget at his request, regarding the reinstatement of interindustry work. This report is too lengthy to include in its entirety in the record of this committee. However, with the approval of Dr. Bowman, I have excerpted the summary for inclusion in this record.

Proposals for the Resumption of Interindustry Studies

Excerpts from summary of report submitted by the Bureau of Labor Statistics to the Assistant Director for Statistical Standards, Bureau of the Budget, May 1957

At the request of the Assistant Director for Statistical Standards, Bureau of the Budget, the Bureau of Labor Statistics has prepared program proposals for resumption of a program of interindustry studies to begin in fiscal year 1959. It is recommended that the Bureau of Labor Statistics be the focal agency for the proposed interagency interindustry program. In this role, the Bureau of Labor Statistics would have a primary responsibility for determining objectives, for planning the sectoral and conceptual framework of the new interindustry studies, for insuring coordination of work programs instituted in different agencies, and for combining the results into useful summary tables for publication.

Participation by the Farm Income Branch of the Agricultural Marketing Service, Department of Agriculture and by the Office of the Chief Economist of the Bureau of Mines, Department of the Interior, is recommended. It is contemplated that permanent staffs would be created in these agencies to perform the analyses of intersectoral transactions for the agricultural and mineral segments of the economy, respectively. In addition, participation by the Bureau of the Census and the National Income Division is recommended. The work of these staffs would, of course, be closely coordinated with the work of a reconstituted Division of Interindustry Economics in the Bureau of Labor Statistics, which would perform the analysis of intersectoral transactions for segments of the economy not elsewhere assigned.

Following the suggestions of the Assistant Director for Statistical Standards, the Bureau of Labor Statistics proposals have as their objective a general purpose statistical program, "without commitment to any particular problems or applications." While the plans are set forth in a "peacetime context," the program recommended could be easily expanded or supplemented to provide various sets of interindustry data organized in a manner useful for mobilization and civil-defense planning and analysis.

The major elements of the proposed program are intensive interindustry studies for the calendar year 1958 and for succeeding quinquennial years for which censuses of industry and business are scheduled. An interim interindustry study on a smaller scale is contemplated for each intercensal period. During the period between the major studies for 1958 and 1963, for example, there would be an abbreviated study covering calendar year 1961.

It is recommended that the interindustry studies for the quinquennial years be conducted in considerable sector detail. According to these plans some 400 sectors would be analyzed independently and carried into the final interindustry tabulations as separate producing and consuming segments. In addition, the summary tabulations would preserve as much product detail as seems significant and as can be handled in an operational sense.

An interindustry study is, of course, limited by the manner in which basic data are collected and summarized for publication. For example, the basic source for data on manufacturing activities is the census of manufactures, which collects and publishes data on an establishment basis. Some of the disadvantages for interindustry studies of data organized in this way would be offset by the plan to maintain the maximum amount of product information in the tabulations. Moreover, it is suggested that a limited number of important products and processes might be selected for special attention. Complete subsectors, i. e., both output and input distributions additive to the parent sector distributions, would be established for the most significant of these subactivities. The extent to which this procedure is applied and carried to completion would depend, however, upon additional financial support from other Government agencies or research groups that have a particular interest in this kind of detail.

An important feature of the proposed interindustry program is the recommendation that an interindustry staff be established within the Bureau of the Census to act as liaison and troubleshooters for the other agencies in the program. This staff would also plan, conduct, and analyze special surveys, or inquiries supplementing existing surveys, to obtain various data needed for interindustry analysis that are not collected within the scope of current census programs. The program proposals mention several specific data collection objectives and recommend that the necessary funds be made available to the Census Bureau for these purposes.

In addition to the basic interindustry studies ,the program proposals make provision for the compilation of various data that are necessary in analytical applications in conjunction with the interindustry summary results. The major recommendation in this category is for work to be performed by the Division of Productivity and Technological Developments of the BLS. The goal is the compilation of indexes of production change and of change in output-per-labor-unit for the basic interindustry sectors and for the aggregated sectors that will be established for publication purposes. To accomplish this, the Division of Productivity and Technological Developments would not only exploit work already done as part of its regular program of productivity statistics, but would also attempt to develop comparable preliminary measures for industrial areas beyond the scope of the present, or contemplated, statistical program of that Division.

The Bureau of Labor Statistics has considered carefully the need for integrating the proposed program of interindustry studies with the work of the National Income Division of the Department of Commerce. The BLS would expect to work closely with the National Income Division, with the objective of establishing sector accounts in the final demand areas of an interindustry table which agree as closely as possible, conceptually and numerically, with corresponding accounts of the national income system. A high priority would be given the development of explanatory tables showing the interrelationships of the components of final demand columns and rows in interindustry tables with the corresponding national income accounts. These concordances would be published as supplements to the summary interindustry tables.

Since the National Income Division will be preparing its benchmark revisions at about the same time that the interindustry studies will be in full operation, there is much work in the areas of the final demand sectors that the two groups

can do jointly. It is the BLS hope that agreement can be reached by the two agencies to share the work in the final demand areas, to eliminate overlapping operations, and to insure that data for comparable items agree to the maximum extent possible, not only conceptually, but also numerically. However, the BLS planning staff suggests that the extent of such operational integration of the two programs must be limited if the separate objectives of each of the programs are to be respected.

A substantial publication program to make the results of the interindustry studies available to all classes of users is recommended. Rather highly aggregated tables, perhaps of 50-sector order, would be prepared for the general user; tables in more detail, perhaps 150-sector order, for more sophisticated analysts.

Alternative tables would be prepared at each level of aggregation to provide the greatest choice and flexibility for potential users. The alternative summary tables would embody aggregations of industries according to different principles and might also embody different conventions for treatment of secondary products, byproducts, imports, and inventories. In this connection it should be noted that the actual work of conducting interindustry studies is independent of the decisions that must be made at the summarization and publication stages with respect to the treatment of these difficult elements.

Each set of interindustry summary tables would be accompanied by various supplementary tables and by concordances of data and classifications with other bodies of data. In addition, the proposals provide for publication of detailed sector results giving product information wherever available. This information is of special interest to large classes of users of interindustry data, for example, market researchers, regional analysts, etc.

The program outlined in these proposals has a substantial cost, but it is believed to be the least expensive that will serve the objectives set forth by the Assistant Director for Statistical Standards of the Bureau of the Budget. If transactions are to be analyzed in a meaningful way, the work must be done in some considerable detail, a fact which makes shortcuts hard to find. Likewise, if the results are to be useful to the widest range of users, considerable detail must be preserved in the summary tables and provision must be made for extensive publication of results, including not only summary tables but also the detailed sector studies.

Representative BOLLING. Do any members of the panel have anything further they would like to say before I conclude?

With today's discussion we have completed the task which the subcommittee set for these hearings; that is, to stimulate public discussion on findings and recommendations which have resulted from the long deliberations of the National Accounts Review Committee.

I believe all the users of such statistics, whether directly or indirectly, and all who worked producing these statistics, must be grateful to Mr. Bowman of the Budget Bureau for requesting the study and the various members of the Review Committee for the fine work they have done.

We will continue to follow the work of the executive branch in developing programs to implement these recommendations. When and to the extent that they are incorporated in the present program and presented to Congress, we shall then be in a position to consider making a report on this subject to the full committee and doing what we can to promote a sympathetic hearing on the part of Congress for the resources necessary to make these needed improvements.

We wish to thank the members who have participated in the panel today. We would like to invite other interested specialists to give us in writing any suggestions or recommendations they may wish to make in regard to these national economic accounts.

The hearings, including the report of the National Accounts Review Committee, will be published as soon as practicable. With that the subcommittee is now adjourned.

(Whereupon, at 12:10 p. m. the subcommittee adjourned.)

APPENDIX

EXECUTIVE OFFICE OF THE PRESIDENT,
BUREAU OF THE BUDGET,
Washington, D. C., October 29, 1957.

Hon. RICHARD BOLLING,
Chairman, Subcommittee on Economic Statistics, Joint Economic Committee, Washington, D. C.

MY DEAR MR. BOLLING: In accordance with your request, I am transmitting herewith a copy of The National Economic Accounts of the United States: Review, Appraisal, and Recommendations for inclusion in the printed hearings on the report by the Subcommittee on Economic Statistics. This is the official report of the National Accounts Review Committee as submitted to the Bureau of the Budget by the National Bureau of Economic Research.

Sincerely yours,

RAYMOND T. BOWMAN,
Assistant Director for Statistical Standards.

NATIONAL BUREAU OF ECONOMIC RESEARCH, INC.,
New York, N. Y., August 9, 1957.

DR. RAYMOND T. BOWMAN,
Director, Office of Statistical Standards, Bureau of the Budget, Washington, D. C.

DEAR DR. BOWMAN: I transmit herewith the National Economic Accounts of the United States: Review, Appraisal, and Recommendations, a report prepared by the National Accounts Review Committee of the National Bureau of Economic Research at the request of the Office of Statistical Standards of the Bureau of the Budget.

There will be differences of opinion on particular findings and recommendations of the committee, some of which are indicated in the body of the report and in the notes attached to it. The report as a whole, however, deserves—and we may expect will command—the serious attention of all who recognize the importance of the national economic accounts in the management of public and private economic affairs.

Arrangements between the National Bureau and the Office of Statistical Standards of the Bureau of the Budget for the preparation of the report were concluded on November 2, 1956. We are deeply grateful to the public-spirited members of the National Accounts Review Committee, all of whom devoted a substantial portion of their time and energy during the next 8 months to the difficult task of preparing the report; and to the many persons inside and outside the Federal Government who participated in the discussions, provided essential information, and reviewed drafts of the report.

The report was approved by the board of directors of the National Bureau, in accordance with its usual procedure, as meeting the objectives of the National Bureau—"to ascertain and to present to the public important economic facts and their interpretation in a scientific and impartial manner." As the resolution of the board governing the relation of the directors to the work and publications of the National Bureau states, approval by the board does not, however, imply that each member of the board has read the report, or has passed upon its validity in every detail.

The subject of national income and related economic accounts has long been of interest to the National Bureau. We are glad to add the present report to the series of reports in this area which began in 1921 with the publication of the first National Bureau volume on income in the United States.

On behalf of the National Bureau, I would like to express our appreciation to the Office of Statistical Standards of the Bureau of the Budget for this opportunity to be of service.

Sincerely yours,

SOLOMON FABRICANT,
Director of Research.

THE NATIONAL ECONOMIC ACCOUNTS OF THE UNITED STATES

REVIEW, APPRAISAL, AND RECOMMENDATIONS

A report to the Office of Statistical Standards, Bureau of the Budget, prepared by the National Accounts Review Committee of the National Bureau of Economic Research, June 1957

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N. I. Stone, consulting economist
J. Raymond Walsh, New York City
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Leo Wolman, Columbia University
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RELATION OF THE DIRECTORS TO THE WORK AND PUBLICATIONS OF THE NATIONAL BUREAU OF ECONOMIC RESEARCH

1. The object of the National Bureau of Economic Research is to ascertain and to present to the public important economic facts and their interpretation in a scientific and impartial manner. The board of directors is charged with the responsibility of insuring that the work of the National Bureau is carried on in strict conformity with this object.

2. To this end the board of directors shall appoint one or more directors of research.

3. The director or directors of research shall submit to the members of the board, or to its executive committee, for their formal adoption, all specific proposals concerning researches to be instituted.

4. No report shall be published until the director or directors of research shall have submitted to the board a summary drawing attention to the character of the data and their utilization in the report, the nature and treatment of the problems involved, the main conclusions and such other information as in their opinion would serve to determine the suitability of the report for publication in accordance with the principles of the National Bureau.

5. A copy of any manuscript proposed for publication shall also be submitted to each member of the board. For each manuscript to be so submitted a special committee shall be appointed by the President, or at his designation by the Executive Director, consisting of 3 directors selected as nearly as may be, 1 from each general division of the Board. The names of the special manuscript committee shall be stated to each Director when the summary and report described in paragraph (4) are sent to him. It shall be the duty of each member of the committee to read the manuscript. If each member of the special committee signifies his approval within 30 days, the manuscript may be published. If each member of the special committee has not signified his approval within 30 days of the transmittal of the report and manuscript, the director of research shall then notify each member of the board, requesting approval or disapproval of publication, and 30 additional days shall be granted for this purpose. The manuscript shall then not be published unless at least a majority of the entire board and a two-thirds majority of those members of the board who shall have voted on the proposal within the time fixed for the receipt of votes on the publication proposed shall have approved.

6. No manuscript may be published, though approved by each member of the special committee, until 45 days have elapsed from the transmittal of the summary and report. The interval is allowed for the receipt of any memorandum of dissent or reservation, together with a brief statement of his reasons, that any member may wish to express; and such memorandum of dissent or reservation shall be published with the manuscript if he so desires. Publication does not, however, imply that each member of the board has read the manuscript, or that either members of the board in general, or of the special committee, have passed upon its validity in every detail.

7. A copy of this resolution shall, unless otherwise determined by the board, be printed in each copy of every National Bureau book. (Resolution adopted October 26, 1926, and revised February 6, 1933, and February 24, 1941.)

JUNE 21, 1957.

DR. SOLOMON FABRICANT,
Director of Research,
National Bureau of Economic Research,
New York, N. Y.

DEAR DR. FABRICANT: The National Accounts Review Committee, organized by the National Bureau in November of last year, herewith submits its report with accompanying appendixes, as adopted at today's meeting.

The committee has attempted to review the major questions in the field of national economic accounting. It has not undertaken, however, to prepare a comprehensive treatise on the subject. The scope and limits of the committee's report as well as the principles that guided the committee are described in chapter III.

The committee wants to thank the numerous representatives of United States Government agencies, business, labor and academic organizations, many individual economists, the Statistical Office of the United Nations and the Statistical Offices of Denmark, the Netherlands and Norway, who have aided the committee's inquiries, often by the supply of detailed memorandums. The committee also appreciates the assistance of the nearly 100 respondents to its questionnaires. The committee had the full cooperation of the agencies engaged in the preparation of the national economic accounts, primarily the National Income Division of the Office of Business Economics of the Department of Commerce and the Flow-of-Funds Section of the Division of Research and Statistics of the Board of Governors of the Federal Reserve System. Morris Copeland, Edward F. Denison, George Jaszi, and Simon Kuznets read an early draft of the report and made many helpful suggestions. Many others—too numerous to mention—reviewed drafts of individual sections of the report and contributed their expert knowledge on many technical problems. The committee, however, takes full and sole responsibility for the findings and recommendations of the report.

Mr. Stanley Lebergott, designated by the Office of Statistical Standards, Bureau of the Budget, to keep in touch with the committee, attended all its meetings and in many ways expedited the progress of our work. The committee finally wants to express its appreciation to Mrs. Alice Hanson Jones, who took over the difficult task of secretary early in the committee's operations.

Sincerely yours,

(Signed) RAYMOND W. GOLDSMITH, *Chairman.*
V. LEWIS BASSIE.
GERHARD COLM.
RICHARD A. EASTERLIN.
EDWIN B. GEORGE.
JOSEPH A. PECHMAN.
ROY L. REIERSON.
RICHARD RUGGLES.
LAZARE TEPER.

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CHAPTER I. SUMMARY OF FINDINGS AND RECOMMENDATIONS

In this brief summary the commitee's main findings and recommendations are set forth in nontechnical language. This summary cannot repeat the explanations and qualifications contained in the body of the report which are indispensable for a full appraisal of the committee's recommendations.

1. SCOPE OF NATIONAL ECONOMIC ACCOUNTING

National economic accounting may be defined as the systematic arrangement of statistics that describe the operation of the Nation's economy during a year (or a shorter period) in much the same way as business accounts describe the operations of an enterprise. The national economic accounts are made up of five main segments:

(*a*) The national income and product accounts register the value of the output of finished goods and services of the Nation and the incomes flowing to the various groups as a result of their contribution to output. These accounts make up what are commonly called national income statistics. They are published on a regular annual and quarterly schedule.

(*b*) The international balance of payments statement reflects and classifies all payments occurring between the United States and foreign countries. It is published on an annual and quarterly basis.

(*c*) The flow-of-funds statements, also known as moneyflow statements, show the total funds received by the various groups—households, business and financial enterprises, and Government—and the use they make of these funds. Transactions in existing assets are included in the flow-of-funds statements, but are excluded from the income and product accounts. Flow-of-funds statements are now prepared annually.

(*d*) Input-output tables trace in detail the purchases and sales of raw materials, semifinished goods, finished commodities, and services among industries, using a much finer industry and commodity classification than is possible in income and product accounts and in flow-of-funds statements. Because of their great detail, input-output tables have been drawn up only occasionally—the last time for 1947—rather than on a regular schedule.

(*e*) The national balance sheet lists, for the various groups and for the Nation as a whole, the value of tangible and intangible assets and of liabilities, in the aggregate and by type, and shows the difference between assets and liabilities, usually called net worth or equity. The listing of tangible assets—land, structures, equipment, inventories, etc.—is sometimes referred to as a national wealth statement. National balance sheets and related statements have been compiled only for a limited number of dates and only unofficially.

2. FINDINGS

(*a*) In the two decades since the national income and product accounts were added to the economic intelligence of the United States, national economic accounting has become one of the chief tools for the formulation of Government economic policy and of

business policy. Most long-range policy decisions of the Government, of large business enterprises, and of many trade associations and labor and agricultural organizations now are formulated within the framework of the national economic accounts, explicitly or by implication. The use of data from the national economic accounts is also frequent in the formulation of short-range decisions. Market analysis as we know it today is hardly possible without national accounting data. The agencies of the Federal Government that are concerned with economic stability—e. g. the Council of Economic Advisers, the Board of Governors of the Federal Reserve System and the Treasury Department—could not function as they do without the national economic accounts or something very similar to them. The Congress, and particularly the Joint Economic Committee and the Joint Committee on Internal Revenue Taxation, would also be considerably hampered in their operation without national economic accounts. The work of all these agencies would benefit from improvement of the national economic accounts.

(*b*) Work done in the United States, both inside and outside of Government, has made significant contributions to the development of national economic accounting. The United States is still alone in having detailed flow-of-funds statements and national balance sheets covering a considerable period of time. However, our needs for accurate and up-to-date national economic accounting data for Government policy and business planning have increased even more rapidly than the improvements made in this field.

(*c*) The quality of the estimates is by and large as good as the primary data and the funds available for their processing and analysis permit. The estimators of the national economic accounts have extracted very nearly as much information from the available statistics as is possible with their limited funds. The committee, in its numerous contacts with users, has heard no complaints about the competence or impartiality of the estimators.

(*d*) With very few exceptions the requirements for better and more detailed national accounting data, and data better fitted to users' needs, call for improvement in, or addition to the stock of primary statistics with which the national accountant must work. There is urgent need and ample room for such improvements and additions. The most important gaps in the basic data occur in the fields of small (unincorporated) business; and of capital expenditures, both public and private.

(*e*) The structure of the accounts, particularly the integration of the five main sets of accounts, is open to improvement. This is one area where the United States seems to have fallen behind those foreign countries that have advanced most rapidly during the past decade in building up a systematic set of national economic accounts.

(*f*) The National Income Division of the Office of Business Economics of the Department of Commerce, which is responsible for the national income and product accounts, has performed most creditably considering how understaffed and overworked it is, but it urgently needs reinforcements. The Division has been able to maintain, or even to increase, its volume of output of current statistics only by delaying needed extensions of the data, by postponing repair and maintenance work on some of its figures and by limiting its

experiments with alternative estimating procedures. As in business such a process of retrenchment cannot be continued indefinitely without serious consequences.

3. Recommendations

The following very brief summary of the more important recommendations made in the report omits those that are of interest primarily to specialists. The recommendations are given without regard to the order in which they appear in the report; without indicating the reason for making each recommendation; without discussing the technical problems involved; and without indicating in detail when and how each of the recommendations is to be achieved—all matters discussed in more or less detail in the body of the report. Chapter III in particular, which sets forth the considerations that have guided the committee in its recommendations, may be regarded as an essential supplement to these pages. Compressed as they must be here the committee's recommendations may appear to constitute a sharper break with present practice than is actually the case.

The committee's recommendations can be grouped roughly into five major categories: (*a*) improvements in the basic data; (*b*) changes in the structure of the national economic accounting system; (*c*) improvements in the national income and product estimates; (*d*) improvements of estimates of other segments of the national economic accounts; and (*e*) organizational changes. The order of the recommendations under each heading is not necessarily an indication of their relative importance. The figures in brackets indicate the portions of the report in which the full recommendation is discussed.

(*a*) *Improvements in basic data*

Most national economic accounting figures are built up like a mosiac from very varied primary statistics, that are not primarily collected for use in the national accounts. Improvement in these basic data is thus a prerequisite for most of the substantial improvements in the quality or scope of the estimate in the national economic accounts recommended by the committee.

The committee, therefore, urges in the strongest possible terms the improvement of the data underlying the estimates that are entered in the national income accounts. Although we have not attempted to survey all aspects of data adequacy, some data problems are discussed in the report. Other data are widely recognized as being inadequate and hence have not been examined in detail.

We are inclined to attach the highest priority to improvements in eight areas, all of which are essential not only for the improvement of the national economic accounts, but are of value in and of themselves for current economic analysis:

(1) The financial situation of noncorporate business—profits, capital expenditures, investment, and withdrawal of capital by owners (ch. XI, sec. 2.a).

(2) The current earnings and financial situation of corporations outside of the well reported manufacturing sector (ch. VIII, sec. 1).

(3) Detail on inventories by durability and end-use; additional information on inventory accounting practices; and more reliable

information on the prices significant for deflating inventory book values (ch. XI, sec. 2.b).

(4) Detail on sales by manufacturers and by retailers by commodity line, or similar detailed grouping, and by major buyer groups; including the purchase of durable goods cross-classified by type of commodity and industry of buyer (ch. VII, sec. 4).

(5) The current value of construction, in particular new nonresidential construction and repair and maintenance on all types of structures (ch. VII, sec. 4).

(6) Classification of Government purchases by type of commodity (ch. VII, sec. 2.b).

(7) Adjustment for under- or over-reporting of income and business expenditures of individuals, partnerships, and corporations as disclosed by audit control studies (ch. X, sec. 2; ch. XI, sec. 2.a).

(8) Additional price data to extend and improve the deflation of various segments of the national economic accounts (ch. VI).

In most of these areas, improvements call mainly for an extension of existing Government programs or for the restoration of programs that have been curtailed or abandoned because of budgetary restrictions. Since these improvements involve the work of many agencies we urge the Office of Statistical Standards to expedite the development of a consistent program for them, and express the hope that the Congress will give sympathetic attention to the need for such essential basic statistics.

(*b*) *Changes in the structure of the system of national economic accounts*

(1) The five segments of the national economic accounts, which have hitherto led rather independent lives, should be integrated into a single national economic accounting system. This recommendation for the development of a conceptually integrated system of national economic accounts is one of the main recommendations of the committee, if not the most important one. This integrated system contains elements which can be implemented immediately. It also provides a framework for the future integration of flow-of-funds, input-output, balance of payments, balance sheet and national wealth data with the income and product accounts (ch. V, sec. 4, and appendix A).

(2) For the national income and product accounts a functional five-account system is recommended for immediate implementation, and it is hoped that the accounts showing changes in assets and liabilities for various institutional sectors can follow shortly (ch. V. sec. 5, and appendix A).

(3) Separate figures should be shown for the income and expenditures of a number of sectors that are now combined in one "household" sector, viz: nonfarm households, farm households, nonprofit organizations (such as educational institutions, churches, foundations, and labor unions), private pension, health and welfare funds, and personal trust funds. At a later date figures for owners of unincorporated nonfarm business should also be presented separately (ch. VII, sec. 1).

(4) Separate and more detailed figures should be shown for the Federal Government, for State governments, for local governments, and for Government enterprises. The estimates should also provide

a reconciliation with published Government budget data (ch. VII, sec. 2).

(5) Figures should be provided to permit users to treat purchases of consumer durables and Government outlays for structures and equipment as capital expenditures which increase the stock of material wealth (ch. VII, sec. 1.c and 2.b).

(6) Estimates of depreciation allowances and stocks of reproducible durable assets should be shown on the basis of replacement cost as well as original cost—the present basis—so that users may work with the figures most serviceable for their purposes (ch. VII, sec. 5).

(7) A change-in-assets-and-liabilities account should be set up for each of the main groups—households, business, and Government—subdivided as suggested in (3) above. Such an account would provide a link between the income and product accounts and the national balance sheets (ch. V, sec. 6).

(8) As a further link between income and product accounts and national balance sheets—and because of the importance of the figures for many questions of economic policy—estimates of realized capital gains of the main sectors should be provided as an integral part of the system of national economic accounts. These estimates should be extended as soon as the data permit to unrealized capital gains (ch. VII, sec. 1.d).

(9) As an increasing proportion of large business enterprises and Government agencies shift to electronic accounting, a large body of new data may become available to the compilers of the national economic accounts and old data will become available much more rapidly. To insure that the national economic accounts make full use of these potentialities a thorough investigation of the technical problems involved should be made by a study group of economists, statisticians, accountants, comptrollers, and computer engineers (ch. XV).

(*c*) *Improvements in the national income and product accounts*

(1) More emphasis should be put on the development of estimates of national product and income in constant prices. These figures are as essential for a full appraisal of economic growth and structural changes in the economy as the usual estimates which are expressed in fluctuating current prices. Estimates of the real product of various industrial sectors should be developed, and greater detail is needed on the present estimates of consumption, investment, and Government expenditures in constant prices (ch. VI).

(2) The estimates of national product in constant prices should be published quarterly rather than only at annual intervals which are too long when prices change as rapidly as they have done in the postwar period (ch. VI, sec. 2).

(3) The quarterly national income and product estimates should be released in somewhat greater detail (ch. VIII, sec. 3).

(4) To enable business and economic analysts to make use of the latest figures, significant revisions in quarterly and annual estimates should be published currently rather than held—as is now the general practice—until about 6 months after the end of the year (ch. VIII, sec. 4; ch. XI, sec. 1.c).

(*d*) *Improvements in estimates of other segments of national economic accounts*

(1) The flow-of-funds statements, now available annually, should be put on a quarterly basis and released within about 3 months after the end of the quarter. This is necessary if they are to be used in the current analysis of the capital market, a purpose for which they are eminently suited (ch. XII, sec. 2).

(2) Continuous efforts should be made to put the flow-of-funds statements more consistently on a gross basis; to show separately purchases and sales rather than only the net balance; and to use actual flow figures rather than to infer them from unadjusted changes in reported holdings. These improvements will increase the accuracy of the flow estimates for intangible assets, particularly for stocks and bonds (ch. XII, sec. 2).

(3) Preparations should be made to utilize the results of the 1958 economic censuses to build up an input-output table for that year. No input-output table has been available for a period later than 1947, and a more up-to-date table will be helpful in many fields of economic and business analysis, even if it is less detailed than the 1947 table (ch. XIII, sec. 5).

(4) Consideration should be given to utilizing the 1960 census of population as the occasion for a concerted effort on the part of Federal statistical agencies to fill some of the gaps in our knowledge about the distribution of personal income by size (ch. X, sec. 11).

(5) A thorough study should be made of the conceptual and practical problems of constructing national and sectoral balance sheets. This study, which might well be undertaken by a private research organization, could serve as the basis for regular, and ultimately annual, estimates by a Government agency. Once this stage is reached the main gap in the official interrelated system of national economic accounts which is our goal will be closed (ch. XIV, sec. 5).

(*e*) *Organization of national economic accounting work*

(1) The summary integrated system of national economic accounts should be prepared and published by one agency within the Federal Government to insure that a fully integrated set of data which are internally consistent will be prepared, appearing at regular intervals in a single publication. Different agencies will be concerned with the detailed estimation of different segments of the national economic accounts for their own operating use (e. g., input-output tables, flow-of-funds statements, balance-of-payments tables). Collection of the basic statistics used in the various national economic accounts will necessarily continue to be divided among many agencies (ch. IV, sec. 3).

(2) A substantial increase in the staff of the National Income Division of the Department of Commerce, which now provides all our national income and product estimates, is an urgent necessity and a prerequisite of many of the committee's recommendations. Such an increase is the more urgent as the size of the Division has been reduced by about one-fourth since 1950 while its responsibilities have expanded (ch. IV, sec. 3).

(3) The increase in the National Income Division's budget should be sufficient to permit the addition of a Research Section which should assess the accuracy of the estimates available, continuously

explore the possibilities of improvements in the estimates, experiment with alternative concepts and data sources, and consider basic problems which cannot be adequately handled by the other sections that are fully occupied with the task of preparing current estimates (ch. IV, sec. 3).

4. COSTS, TIMING, AND PRIORITIES OF RECOMMENDATIONS

Three important problems that arise in connection with the implementation of the committee's recommendations remain to be considered: the costs involved in the recommendations, the timing of the recommended improvements in and additions to our national economic accounts, and the order of priority among the recommendations.

The proposals made in this report are not costless. Even though the committee suggests that on a number of controversial problems exploratory work should be continued and intensified, by private research organizations, it also recommends a considerable expansion of the statistical activities of the Federal Government.

The committee is aware of the responsibility of anybody who, in the light of an already large Federal budget, recommends additional expenditures. However, all the major economic statistical programs of the Federal Government, including those of the Federal Reserve Board, have in recent years cost between $35 million and $45 million per year. This is a very small item—about one-twentieth of 1 percent—in the Federal budget, and most of it is spent for purposes other than the needs of the national economic accounts. The relatively small increase in these outlays that would be necessitated by the committee's recommendations is not only compatible with increased economy and efficiency in Government and business, but is essential to accomplish these goals given the widespread private and public use of the data. It would be false economy to abandon or postpone much-needed improvements in our economic intelligence. In terms of improved business management and more rational Government policies hardly any other expenditure by the Federal Government promises higher dividends.

The committee recognizes that not all of its recommendations could be carried out at the same time. We have indicated in the text the recommendations that could be executed promptly, those that require a longer time for implementation and those that we regard as long-range objectives.

In addition to the improvements in the structure of the national economic accounts, we recommend early implementation of those measures that would substantially improve the data used in the national income and product accounts, particularly those that would give valuable insights into economic behavior by providing information separately on a larger number of significant sectors of the economy. We suggest that the recommended changes in the flow-of-funds statements be given prompt attention by the Federal Reserve Board, partly because these statements are already being prepared regularly and partly because they tie in closely with the income and product accounts. We also recommend early strengthening of the staff of the National Income Division, including the establishment of a research section which can devote its efforts to developmental work.

The committee regards as supplementary though important recommendations, particularly for the long-range development of the national economic accounts, the establishment on a regular basis of two segments of the integrated national economic accounting system in addition to the now existing segments (national income and product accounts, flow-of-funds statements, and balance-of-payments tables), viz input-output tables and balance sheets. The committee does not regard these various proposals as competing with each other. Each of them has an important place in the development of a comprehensive system of national economic accounts.

Chapter II. Organization and Activities of Committee

1. Terms of Reference of Committee

The National Accounts Review Committee was set up by the National Bureau of Economic Research at the request of the Office of Statistical Standards of the Bureau of the Budget. Arrangements were concluded early in November 1956 and the committee began to operate immediately thereafter, holding its first meeting on November 11.

The main function of the committee, it was agreed, was to "undertake a review of the national income accounts and closely related accounts now being prepared or requiring preparation by the Federal Government, and make recommendations concerning needed improvements and additions for more effective analysis. The objective of the review is to provide a thorough examination and evaluation of the national income accounts and related accounts and to devise a program to effect further improvements in the accounts when feasible. The review is to ascertain what reorientation in concept and statistical procedure is required in the accounts in order that they may serve Government and private uses most effectively." The committee interpreted the term "related accounts" to include classifications of the well-known national income and product account by sector, by size of income and other characteristics of households, and by State, or other area; as well as the more recently developed segments of a complete system of national accounts, namely, flow-of-funds statements, input-output tables, national balance sheets, and the old established balance of international payments.[1]

The national bureau entrusted the conduct of the study specified in the contract to a committee consisting of the following members:

(1) V. Lewis Bassie, professor of economics, University of Illinois.
(2) Gerhard Colm, chief economist, National Planning Association.
(3) Richard A. Easterlin, associate professor of economics, University of Pennsylvania.
(4) Edwin B. George, director of economics, Dun & Bradstreet, Inc.
(5) Raymond W. Goldsmith, member, research staff, National Bureau of Economic Research—Chairman.
(6) Joseph A. Pechman, research staff, Committee on Economic Development.
(7) Roy L. Reierson, vice president, Bankers' Trust Co.

[1] The various segments of a system of national accounts are briefly described in ch. V, sec. 1. Somewhat more detailed descriptions will be found in chs. V, sec. 3, IX, X, XII, XIII, and XIV.

(8) Richard Ruggles, professor of economics, Yale University.
(9) Lazare Teper, director of research, International Ladies' Garment Workers' Union (AFL–CIO).

2. ACTIVITIES OF THE COMMITTEE

The basic considerations which have guided the committee in its work are summarized in chapter III. They will suggest the reason for the way in which the committee has operated and has framed its report and recommendations.

The committee ascertained the experience and needs of the main groups of users of national accounting data by a series of meetings and by means of three questionnaires. About a dozen meetings were held with representatives of Federal agencies both those primarily producing and those primarily using national accounting data; with university, business and labor economists specializing in the national accounting field; and with representatives of the American Institute of Accountants.

Two questionnaires were sent out to business, labor, and academic economists (but excluding economists in the Federal Government) working in the field of national accounting and over 70 replies were received. The replies to these two questionnaires form the basis of the statement on what users want of the national accounts in the following section. The third questionnaire was directed specifically to persons interested in regional aspects of national accounting and was completed by about 25 respondents. It is discussed briefly in chapter IX.

The committee held 12 meetings usually lasting 2 days to plan its work and to discuss successive drafts of the report. The final draft was adopted unanimously at the meeting of June 21, 1957.

3. A SURVEY OF USERS' NEEDS

To inform itself about the requirements and suggestions of the users of national accounting data, the committee in addition to numerous personal discussions distributed the first two questionnaires to a number of economists and statistician outide the Federal Government who presumably were making fairly regular use of these statistics. They included business, labor, and academic economists known to be interested in national income and product accounts and flow-of-funds statements, members of the conference on research in income and wealth and members of an informal association of business economists. The questionnaires inquired both about the use made in the past of available national income data and about respondents' evaluation of the need for specific improvements and extensions in the accounts. The questionnaire used is reproduced in appendix C.[2] The answers to the questionnaires provide an impression of informed opinion though they do not result from a scientific sampling of all users.

It is interesting to note, for example, that of the improvements and extensions in the national accounts about which respondents were queried, quarterly estimates of gross national product at constant prices were checked more often than any other question, although the

[2] A slightly different shorter questionnaire was used in the beginning and about a dozen replies were received which are not included in the tabulations of appendix C.

lead was small. Next in order, cited with approximately equal frequency, were the following improvements:

(*a*) Addition of information on stock of consumer durables.

(*b*) Reconciliation of consolidated Government receipts and expenditures of the Federal Government as shown in the national income and products accounts with the conventional and cash budget figures.

(*c*) Classification of Government purchases of goods and services into current and capital expenditures, a distinction essential for the estimation of Government saving and investment.

(*d*) Separation of nonprofit institutions and a few other groups now lumped together with households into the personal sector of the national income and product accounts.

(*e*) Quarterly estimates of personal saving on a balance-sheet basis, i. e., as the result of independently estimated changes in the different types of assets and liabilities of households.

(*f*) Estimates of personal income in constant dollars.

(*g*) Estimation of gross national product and its principal components on a monthly basis.

Suggestions checked next most often in the replies as being frequently needed, included the following:

(*h*) Improvement in the method of allocating expenditures for certain commodities, e. g., automobiles, between consumers and business.

(*i*) Classification of expenditures on producer durables and of their purchases by type of commodities and by industry.

(*j*) Shift of depreciation estimates to a replacement-cost basis from the original cost basis now prevailing.

(*k*) Flow-of-funds accounts on a quarterly basis in addition to the annual statements now available.

1. Regular estimation of a national balance sheet.

There were considerable differences in the improvements which were emphasized by business and by academic economists, and they tended in the expected direction. Business and labor economists most often asked for additional or improved short-term estimates, e. g., monthly estimates of gross national product, and quarterly estimates of gross national product and personal income in constant prices. Academic economists, on the other hand, showed most pronounced interest in additional annual breakdowns, particularly the separation of households from nonprofit institutions and other types of units now lumped together in the personal sector and in the separation of current and capital expenditures of the Government.

There was surprisingly little demand among the respondents in both groups for some information in which considerable interest has been expressed in the past, for example: the separation of imputations, a breakdown of inventories or purchases of durables by industry, depreciation estimates on the basis of the declining-balance method, a classification of Government expenditures by type, national income figures by industry of origin in constant prices, regular (presumably annual) input-output tables, and a more detailed discussion or description of estimating procedures than is now provided, particularly in National Income, 1954 edition.

Although the committee has not felt bound by this straw vote of users, it has, of course, given considerable weight to the opinions expressed in the replies in making its own recommendations.

4. ARRANGEMENT OF REPORT

For readers interested only in the bare bones of the committee's findings and recommendations a skeleton summary has been provided in chapter I. The committee, however, felt it necessary to provide as a background for its recommendations, first, a statement of the considerations which have guided the committee in its work (ch. III); secondly, a brief description of the present status of national accounting in the United States and abroad (ch. IV); thirdly, a condensed description of the uses of a system of national accounts and of the form of an integrated system which the committee regards as the long-range goal (ch. V); fourthly, a more detailed discussion of a number of conceptual and practical special problems of the national income and product accounts (chs. VI to VIII) and by the breakdowns of the accounts by regions (ch. IX) and by size of income (ch. X); fifthly, a consideration, necessarily very selective, of the statisical adequacy of the national income and product estimates (ch. XI); and sixthly, a discussion of the other chief components of a system of national accounts and of their integration with the national income and products accounts, namely, flow-of-funds statements (ch. XII), input-output tables (ch. XIII) and balance sheets (ch. XIV).

The appendixes contain supporting documents, and tables and a list of detailed technical suggestions for improvement in the national income and product accounts and the primary data underlying them which was submitted to the committee by George Jaszi, Chief of the National Income Division (appendix E).

CHAPTER III. GUIDING CONSIDERATIONS

At the outset of the substantive part of the report it appears advisable to summarize briefly the considerations which have guided the committee in the conduct of its study in the framing of its report, and in the selection of its recommendations. Such an explicit statement of the considerations underlying the report will, it is hoped, assist readers in putting the specific recommendations to be found in the remainder of the report into their appropriate framework. Some of these considerations will be discussed in more detail in later sections; for others the brief mention in this section will have to suffice.

(*a*) There is need now for a review of the national accounts, particularly the national income and product accounts. Even if the present version of the national income and products accounts, which has remained virtually unchanged since 1947, were as nearly perfect as such estimates could be at the time the system was set up, there would be ample scope now for a thorough exemaination.

First, since 1947 an important branch of the national accounts, the flow-of-funds statement, has been newly developed and another one, the input-output table, has been considerably expanded but later dropped. Although official estimates of national and sector balance sheets are still missing, with the exception of agriculture, enough work has been done in this field during the last decade by individual students that this aspect of the national accounts can no longer be regarded as existing in the imagination only. The development of these new branches of national accounting poses an integration problem that did not exist in 1947.

Secondly, considerable progress has been made in clarifying the conceptual basis of the national accounts and in settling some of the problems, though others remain as intractable as ever. Fortunately the state of the discussion has been summarized in a series of papers prepared for a meeting of the Conference in Research in Income and Wealth held in the fall of 1955.[3]

Thirdly, some important sectors of the national accounts, particularly saving, inventories, and capital expenditures, have been thoroughly investigated recently by consultant committees organized by the Federal Reserve Board.[4] Their operation has permitted the committee somewhat to limit the scope of its own activities.

Finally, considerable progress in the field of national accounting has been made in several foreign countries and in international organizations. Thus there now exists abroad an accumulated body of experience from which we may well profit, even though our own system of national accounts is still the equal of that of any other country if considered as a whole.

The advent of electronic accounting, which promises to spread rapidly to most large business and Government organizations, poses a whole new set of problems. To what extent the potentialities of electronic accounting will be utilized for the national accounts is one of the most important questions in this field with which economists and statisticians will have to deal in the near future.

(*b*) National accounts have acquired increasing importance for economic policy, for business, for labor, and for economic science during the last two decades. Their impact may be expected to grow as the potentialities as well as the limitations of national accounts become even better known. As the burden put on national accounts by different groups of users increases, so must the reliability and the flexibility of the system.

(*c*) The methods of business accounting provide a point of departure for a system of national accounts in an economy in which, as is the case in the United States, business enterprises account for a decisive part of economic activity. However, national accounting, particularly in the consumer and Government sectors, need not follow the business accounting conventions of the day in every detail or even in all major features. National accounting is entirely within its rights in selecting among alternative methods used by business accounting the one which appears most adequate for its primary purpose—to provide a systematic record of economically relevant facts. National accounting may even go further and, where economic analysis requires, adopt methods which differ from all alternatives in use in business accounting.

(*d*) The national accounts are best regarded as an integrated framework for the systematic organization and presentation of economic information that can be expressed in dollars. Their main value is that of a tool of economic policy, possibly the most important factual tool that economic analysts and policymakers in Government, business, labor, and universities now possess.

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[3] The proceedings of this conference which were available to the committee in mimeographed form will be published early in 1958 by the National Bureau of Economic Research as vol. 22 of Studies in Income and Wealth.

[4] Reports of Federal Reserve Consultant Committee on Economic Statistics, hearings before the Subcommittee on Economic Statistics of the Joint Committee on the Economic Report, 84th Cong., 1st sess. (1955).

(*e*) The development of an integrated system of national accounts—encompassing Government budgets, national income, and products accounts; flow-of-funds statements; the balance of payments; an input-output table, and a national balance sheet—should be a goal of all national accounting work. Although this integrated system can only be developed by steps, can be expected to be completed only many years from now and will not cover every detail of all its components, it should remain a declared and acknowledged goal nevertheless.

(*f*) Flexibility is a prime requisite of an efficient system of national accounts because of the variety of important requirements of different groups of users of the national accounts, and of the necessarily conventional and sometimes arbitrary nature of some of the definitions and procedures adopted. The means that the system must be so set up that it provides alternative figures where there is a reasonable demand for them. The treatment of expenditures on consumer durable as consumption or saving, the use of either original cost or replacement cost depreciation, the inclusion of capital gains and losses in personal income, the separation of imputed items, and the elimination of seasonal variations are examples of situations where estimates on different bases should be available to users.

(*g*) While recognizing that the specific form of our system of national accounts will always be influenced by its origins and by the peculiarities of the primary data available in this country, we should conform to international usage wherever this can be done without substantially reducing the value of the system for domestic use and where the obstacle to conformity lies primarily in features of our system which may be explained by historical accident. Such an attempt to conform with international usage should not, and need not, prevent us from trying to keep the United States system of national accounts at the top in international comparison with respect to conceptual structure, detail, reliability and up-to-dateness.

(*h*) The committee has tried to provide in this report a roadmap for national accounting during the next 5 to 10 years, rather than to conduct an item-by-item audit of the present estimates, particularly the national income and product accounts of the National Income Division. This decision is the result both of choice and expediency. The committee was unanimous in its conviction that in the present situation the development of an integrated long-range program was more important than a detailed examination of the adequacy and the reliability of the estimates now available. This conviction was strengthened by the impression—gained admittedly without thorough item-by-item study but reflecting many years' experience in the field by most of the members—that these estimates were by and large as good as the sources of information now available permitted so that a detailed audit was not likely to reveal shortcomings not already known to the estimators or to careful users of the figures. But even if the committee had rated the need of a detailed audit of our present national accounts higher, it could not have undertaken the task. The conduct of such an audit—apart from calling for a different committee membership—would have required a much longer period of study than was assigned to the committee; would have presupposed the employment of a substantial full-time staff which the committee did not have; and, in view of the staff shortage of the

National Income Division, would have seriously interfered with the preparation of the current national income and product estimates.

(*i*) The report is necessarily selective. The national accounts, or even the national income and products accounts only, cover such an immense territory in terms of economic statistics and of conceptual problems that it would have been impossible for the committee—whose members could devote to this work only part of their time during a period of half a year—to investigate every aspect of the accounts. It may suffice to recall that two of the Federal Reserve Board's consultant committees—those on saving and inventories—spent approximately as much time on their two fields which constitute only relatively small sectors of the national accounts, as this committee could expend on its entire survey. In selecting the subjects on which the committee has concentrated its attention, the committee has, of course, selected aspects of the national accounts which it regarded as particularly important and as offering the chance of substantial improvement during the next decade. The specialized knowledge and experience which some of the members have in specific fields of national accounts also had some influence in guiding the committee's choice. This report, it needs to be emphasized, thus is not a treatise on the national accounts.

(*j*) The review of the national accounts is better regarded as a continuous, or at least a periodic, rather than a one-time affair. The requirements of the different groups of users as well as the possibility of tapping new sources of data change with sufficient rapidity to call for some arrangement which will insure that the actual form and content of the accounts is at all times sufficiently responsive to the needs of the users and is making full use of the potentialities of the data. Continuous review is also indicated by the unavoidable monopoly position which the Federal Government has acquired in the field of national accounting as the subject has become too large for the sporadic efforts of individual students or economic research organizations.

(*k*) Although it is making a large number of suggestions for extending and improving our national accounts, the committee wants to state as clearly and emphatically as possible that these suggestions are not a reflection on the competence or the diligence of the organizations that have been working in this field, particularly the National Income Division of the Office of Business Economics in the Department of Commerce. The experts in these organizations are well aware of most of the shortcomings of the present accounts, both conceptual and statistical, and would probably support a large proportion of the recommendations made in this report. The comprehensive paper by George Jaszi on The Conceptual Basis of the Accounts: A Reexamination in volume 22 of the Studies in Income and Wealth has been extremely helpful to the committee in its consideration of the many problems which we discuss.

(*l*) The committee is fully aware that the recommendations it is making will cost money. Even the present scope of national accounting work within the Federal Government could not be maintained for long unless additional funds were forthcoming, since the present level of output in this field has been possible only at the cost of "undermaintenance," a process which cannot be continued indefi-

nitely. A decision clearly must be reached in the not too distant future by the administration and by the Congress regarding the importance of an adequate system of national accounts for Government, for business, agriculture, and labor, and for economic research purposes. If the importance and potentialities of such a system are anywhere near what the committee believes them to be after a fairly exhaustive survey of the uses that are or could be made of the national accounts, a substantial increase in the funds spent on national accounting work by the Federal Government is required and is fully justified even under the strictest requirements of economy compatible with efficiency in Government. As in other fields one gets only what one pays for.

If the administration and the Congress want to continue the process of slow but continuous reduction in the resources devoted within the Government to national accounting work, that has taken place during the last 5 years or so, they should face the fact that it will be impossible to carry out any of the more important improvements in the national accounts suggested in this report. Even the present scope of the work, which admittedly is not unsatisfactory, has been made possible only by neglect of repair and maintenance in the national income and product accounts, and by reliance on funds provided by semi-independent agencies (like the Federal Reserve Board), by nonrecurring special defense projects or by private research agencies. It is unreasonable to expect that the expansion and development and particularly the integration of our system of national accounts can be financed in the same way for another decade. Unless the allocation of Federal funds to the field of national accounting is considerably stepped up within the next few years there is serious danger that the scope of the work will have to be narrowed considerably or that its quality will deteriorate, and that the United States will lose the leadership in this field which it has held during the 1930's and 1940's and is still holding at the moment. It is the users of the national income and product accounts and related statistics in business, labor, agriculture, and Government who would be the primary sufferers from such a development and who would suffer from it in terms of less reliable and less adequate data on which to base their policy decisions than are available now or could be available to them with relatively modest additional effort and expense.

Chapter IV. Present Status of National Accounts

This very brief review of the present status of national accounting in the United States and abroad is intended only as a means of providing readers not familiar with the field with a minimum of background information that should be useful in understanding the discussion in the chapters that follow. The description is necessarily more detailed for the United States than for foreign countries.

1. UNITED STATES OF AMERICA

The chief characteristic of national accounting work in the United States, particularly in comparison with other countries—apart from the richness of detail—is decentralization.

First, work on each of the four main components of a system of national accounts—national income and product, flow-of-funds statements, input-output tables, and national balance sheet—is done by different organizations. Since their inception as Government projects, the national income and products accounts have been in the hands of the Office of Business Economics of the Department of Commerce; the flow-of-funds statements have been compiled by the Board of Governors of the Federal Reserve System; and input-output tables have been prepared by the Bureau of Labor Statistics and some defense agencies.[5] No systematic work on balance sheets has as yet been done in the Government.

Secondly, the National Income Division of the Office of Business Economics in the Department of Commerce, which is in charge of preparing the national income and product accounts, does not produce or control any of the primary statistics that go into the estimates. The Division is rather in the position of a mosaic worker who puts together the picture which he has conceived with the help of those stones which he can secure from other workmen that most nearly fit his intentions in shape and color. The position of the Board of Governors of the Federal Reserve System and of the Bureau of Labor Statistics in preparing flow-of-funds statements and input-output statements is quite similar. They also assemble materials most of which they do not collect or control.

(*a*) *National income and product accounts*

The history of national income statistics in the United States, so far as it is relevant here, begins with the estimates made by the Department of Commerce, in cooperation with the National Bureau of Economic Research, under the direction of Simon Kuznets, pursuant to a Senate resolution passed, rather significantly, in 1932, at the depth of the great depression. The resulting report, entitled "National Income 1929–32," was published early in 1934 and was continued 2 years later by National Income 1929–35, which was prepared under the supervision of Robert R. Nathan. For more than a decade, these two reports provided the framework for our national income estimates—at that time the only component of the national economic accounts regularly prepared within or outside the Government. In view of the large amount of information now available in this field, it is easy to forget that these reports were limited to annual estimates of national income—i. e., they entirely omitted national product—and that they contained estimates only for 8 forms of income for each of 12 main industrial divisions and generally also for about 3 dozen subdivisions.

All the official national income estimates of the United States have been prepared by the Department of Commerce, since 1937 in a separate National Income Division; but Simon Kuznets continued to take a leading role in the development of concepts and methods of analysis even after abandoning estimation of current figures with the publication in 1941 of his fundamental National Income and Its Composition 1919–38. Indeed, even today, the structure of the na-

[5] Much of the work done on input-output tables in the Defense Department is classified, including work done for the Department 5 years ago. The committee does not see the reason for the maintenance of classification on experimental work done so long ago. Because of lack of information, the committee has not included the input-output work of the Defense Department within the purview of the committee's activities.

tional income and product accounts, notwithstanding the very important changes made in the original design, still bear the imprint of Simon Kuznets' pioneering work. Their development was considerably assisted by the professional discussion at the annual meetings of the Conference on Research in Income and Wealth, which started in 1936 and are still being continued.[6]

The accounts as we know them today developed in the Department of Commerce under the direction of Milton Gilbert, George Jaszi, Edward F. Denison, and Charles F. Schwartz. During World War II, the original national income accounts were expanded and substantial progress was made toward the development of a comprehensive and interlocking system of accounts, until they approach fairly closely the form in which they have been presented since 1947. Even before this major reform, several additions had been made by the National Income Division to the rather summary estimates of national income available in published form since 1934. A monthly series of personal income payments was initiated in 1938, running back to 1929; State income estimates were published beginning in 1939; quarterly estimates were started in 1942, going back to 1939; and gross national product estimates were also added during World War II.

The structure of the national income and product and related accounts introduced by the 1947 reform—all of which was carried back to 1929 on an annual basis and to 1939 on a quarterly basis—is the one still in force and constitutes the basis of much of the discussion in this report. The most important changes and additions made in connection with the 1947 reform included—the recasting of the estimates into an accounting frame, which they did not previously possess; expansion of the estimates to cover both national income and product, with a vast amount of detail on both sides of the accounts; and the publication of data for a considerably larger number of industrial divisions and by legal form of organization. The entire system was first described in detail, along with the sources of data and a summary of the methodology, in National Income, 1951 edition, and a slightly enlarged version was published 3 years later in National Income, 1954 edition. This latter volume is still the most comprehensive statement published in any country on the conceptual and statistical foundation of the official national income and product estimates.

Although the basic structure of the accounts has not changed, several additions to the information regularly published by the National Income Division have been made since 1947. Perhaps the most important of these are: deflated annual gross national product, by major categories of expenditures, first published in 1951; a complete revision, released in 1954, of the State income estimates and a recasting of the estimates in terms of the personal income concept used in the national accounts; and distributions of personal income by income-size classes, first published in 1953.

Though there can be no doubt about the trend in scope and quality of our national income and product accounts, occasional setbacks have not been missing. Instances of retrogression are fortunately rare, and these are due entirely to the fact that the underlying statistics have deteriorated in some respects. For example, it has been neces-

[6] See Studies in Income and Wealth, vols. 1, 1937, to 22, in press, published by the National Bureau of Economic Research.

sary to abandon the classification of expenditures on producer durables by type. On balance, however, there is no question that the coverage and the detail of the national income and product accounts have been greatly enlarged since they were started a quarter of a century ago; and that there has been a considerable improvement in the reliability of the figures published.

(*b*) *Flow-of-funds statements*

Morris Copeland's pioneering work [7] provided annual flow-of-funds statements for the years 1936–42. The Federal Reserve Board's basic document [8] contains detailed annual estimates for 1939–53. These figures differ sufficiently from Copeland's estimates to prevent their being used jointly without special adjustments. Somewhat less detailed annual figures for 1950–55, showing however all essential magnitudes for the 10 main sectors,[9] have been published in the April 1957, issue of the Federal Reserve Bulletin. The detailed tables, comparable to those in Flow-of-Funds in the United States 1939–53 will be available in mimeographed form so that analysts will have at their disposal a detailed continuous set of figures covering a period of 17 years.

In recent years simplified flow-of-funds statements, mostly limited to the main types of financial transactions, have been prepared by financial analysts interested in current figures and short-term forecasts of fund flows, since no Federal Reserve Board figures extending beyond 1953 were available until recently. These statements often provide semiannual and even quarterly estimates. The statement prepared early each year by the Bankers Trust Co. is probably the best known of these simplified statements of financial fund flows. The most ambitious of the unofficial projects in this field is the quarterly statement of flow of funds through the capital markets for the years 1953–55 which has been prepared by the National Bureau of Economic Research as part of its Postwar Capital Markets Study and which is expected to be published, at least in summary form, some time next year.[10]

(*c*) *Balance -of-payments tables* [11]

Official [12] statements of payments and receipts between the United States and foreign countries, covering trade in commodities as well as all other types of international transactions, have been published on an annual basis since 1922 and have increased in detail and reliability as time went on. Quarterly statements have been publicly available beginning with 1945. Until 1946 only aggregates for transactions between the United States and all foreign countries together were published.[13] In recent years a detailed breakdown has been

[7] A Study of Moneyflows in the United States, 1952.

[8] Flow-of-Funds in the United States 1939–53, December 1955.

[9] Consumers, corporations, nonfarm unincorporated business, farm business. Federal Government, State and local government, banking, insurance, other investors, rest of the world.

[10] For a description of this project see 36th Annual Report of NBER, pp. 54–57 and 37th Annual Report, pp. 34–39, and article by M. Mendelson in Journal of Finance, 1957, pp. 159–166.

[11] Although the committee did not regard a specific study of balance-of-payments statistics as falling within its purview, the brief summary is included here to complete the review of all segments of the national accounts.

[12] Of earlier unofficial statements mention should be made at least of The Balance of International Payments of the United States for the Year 1920 With a Statement of the Aggregate Balance July 1, 1914–December 31, 1920, by J. H. Williams in the Review of Economic Statistics, vol. III, 1921, which may be regarded as the pioneering effort in this field.

[13] Data by reasons back to 1940 were however released in 1947 in International Transactions of the United States During the War.

presented separately for 10 countries or regions. Both the annual and the quarterly balance-of-payments tables are now being published regularly in the Survey of Current Business—for example in the issue of March 1957.[14] All official balance-of-payments tables are prepared by the Balance of Payments Division of the Department of Commerce which utilizes, in addition to data specifically collected by the Division, foreign-trade statistics and other data from other Federal agencies. Discussion of the balance-of-payments tables in this report is restricted to the problem of integration with the other segments of the national economic accounts, particularly the foreign trade and payments account in chapters V and VII, section 4.

(*d*) *Input-output tables*

Input-output research is a newcomer in the family of national economic account tabulations. It started only about two decades ago with the theoretical and experimental work of Wassily Leontief; found its first large-scale application in the preparation of the 1947 input-output table by the Bureau of Labor Statistics; and has been recently adopted in a number of foreign countries. This segment of national accounting work is discussed in chapter XIII.

(*e*) *National balance sheets*

In the early attempts at developing aggregates intended to reflect the economic situation, well-being and potential of a country, about equal attention was devoted to national income and national wealth estimates. In recent decades work has been virtually limited, at least in official statistics, to national income and its development into a system of national economic accounts.

Only recently a parallel development has begun with respect to national wealth. Recognition of the limited usefulness of an aggregate national wealth estimate led to emphasis on the breakdown and composition of national wealth rather than on the total. It was particularly the work of Raymond Goldsmith which developed from this starting point the notion of a national balance sheet as an integral part of a system of national economic accounting.[15]

2. OUTSIDE THE UNITED STATES

The development of national accounting outside the United States received a decisive impetus from three forces: the obvious usefulness of the approach in administering a war economy; its adaptability to aggregative, particularly Keynesian, economics which acquired increasing influence among economists in the 1940's; and the example of the United States. Britain, largely under Lord Keynes' direct guidance, became the first country to publish a set of national income and product accounts in modern form—this happened in the White Paper of 1941—and to allocate to the figures an important role in shaping economic and monetary policy, both during the war and in the transition to the peacetime economy.

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[14] A detailed description of concepts, methods, and sources of the balance-of-payments tables, which is still essentially valid, may be found in Balance of Payments of the United States, 1949–51.

[15] See his paper, Measuring National Wealth in a System of Social Accounting in Studies in Income and Wealth, vol. 12, pt. I, National Bureau of Economic Research, 1950, and the actual estimates in his A Study of Savings in the United States, vol. III, 1956, and in 37th Annual Report of the National Bureau of Economic Research, Inc., the latter of which is reproduced in appendix G.

The international spread of regular national income and product estimates in the decade after World War II was phenomenal. It is doubtful whether any equally important statistical innovation ever gained ground as rapidly on an international scale. The movement was accelerated, and to some extent guided, by international organizations, particularly the United Nations and its regional commissions (Economic Commissions for Europe, Latin America, and the Far East (and the Organization for European Economic Cooperation which induced members to adopt a system of national accounts; to some extent standardized the system and thus facilitated its adoption; and helped to introduce it in countries short of indigenous experts. Additional influences, possibly of a more tangible nature, were the facts that national income and product and other figures from the national accounts were used for operating decisions by some international organizations, for instance in determining membership dues for the United Nations; and that they played a role in influencing the direction and size of international aid and loan programs.

As a result by 1956 about 60 countries were regularly preparing estimates of national income and product [16] compared to only about 2 dozen countries who did so 10 years earlier and only a handful who regularly published similar estimates before 1940.

The characteristic features of the more advanced foreign national accounting systems, primarily of those used within the British Commonwealth and by countries in the Organization for European Economic Cooperation, are visible from the comparative table given in appendix D which was prepared for the committee's use by the Statistical Office of the United Nations. It may therefore suffice to compare these foreign systems, without having any specific one in mind, with the national income and product accounts of the United States with respect to the conceptual structure, the administrative organization, the detail published, and the quality of the estimates.

As far as the conceptual structure of the system goes several foreign countries seem to have drawn ahead of the United States, at least if the development of an integrated system of national income and product and moneyflow accounts with substantial institutional sectoring is regarded as a step forward. Such a system is now in existence, or in active preparation, at least in Norway, Denmark, the Netherlands, France, Germany, and Canada. It is fair to add, however, that in several cases the figures are still very rough, possibly rougher than would be regarded as acceptable in this country. There is no doubt that a number of countries are ahead of the United States in having a capital account for each sector, including the Government.

It is probably in administrative organization that national income work abroad differs most pronouncedly from that in the United States, partly because most foreign countries have a centralized statistical system under which most basic statistics are collected by one Government office. In Canada for example, the central office is the Dominion Bureau of Statistics. As a result of this administrative centralization of statistics, not only are national income and product accounts and balance of payment statements done under the same roof as flow-

[16] This is the number of countries for which current estimates of national income in 1954 or 1955 are shown in United Nations, Statistical Papers H–10 (April 1957) and does not include the U. S. S. R. and its satellites.

of-funds statements and input-output tables—wherever such documents are prepared, but the organization which assembles the national income and product estimates also has control over most of the primary data which go into these estimates. In such a situation it is obviously much easier to cast the primary data into a form suited to the national accounts, than when the recasting has to be done by an independent organization even where there exists a coordinating agency, like the Office of Statistical Standards of the Bureau of the Budget.

The national accounts of the United States provide considerably more detail with respect to industrial divisions and to commodities than those of any other country. On this point the United States is still well ahead, reflecting its more developed system of primary statistics.

It is extremely difficult to compare the quality of the national accounts in different countries. Statistical experts who are familiar at first hand with the national accounts both of the United States and a number of foreign countries, have however no hesitation in rating the quality of the American estimates very high and in asserting that their quality is above that as yet attained in any foreign country. Those members of this committee who have had personal experience with the national accounts of foreign countries are inclined to agree with this evaluation.

3. ORGANIZATION OF NATIONAL ACCOUNTING WORK WITHIN THE FEDERAL GOVERNMENT

As the directive guiding the Committee's operation did not include the organizational and administrative aspects of national accounting in the United States, the Committee has only a few suggestions to offer which have come up in connection with other facets of its study. All these suggestions could be implemented immediately or in the very near future, and the first one is in the Committee's opinion of crucial importance for the development of national accounting work in the United States.

(a) Enlargement of National Income Division

The National Income Division should be considerably enlarged, both at the professional and clerical level. Increases in the staff of the National Income Division are essential and urgent and we shall revert to this point repeatedly throughout the report.

(b) Research Section within National Income Division

Within the National Income Division a small research section should be set up that can devote itself to the longer range problem of national accounting. The committee is impressed by the fact that Simon Kuznets, who was responsible for the first official national income estimates in the United States and probably has contributed more to the development of this field than anybody else, regards this as the most important recommendation with respect to the organization of national income work. In a memorandum submitted to the committee, he argued that: "The need for a research unit within the National Income Division, as a group of people who would be well versed in the field and yet free from compulsion and responsibility of continuous reporting, seems acute. * * * The research unit must be

set up in such a way that it has access to all the information, and can acquire experience by participating in the labors of estimation, and yet be free to experiment on its own."

(*c*) *Liaison between National Income Division and Flow-of-Funds Section of Federal Reserve Board*

Continuous liaison should be established between the National Income Division and the Flow-of-Funds Section of the Federal Reserve Board. There is already substantial informal contact between the two divisions, but it should be strengthened and formalized. In particular, arrangements should be worked out under which the data on flows of current income and product used in the Federal Reserve Board's flow-of-funds statements are prepared by the National Income Division. It may not always be possible to use in the flow-of-funds system as now set up exactly the same figures which appear in the national income and product accounts. But if two sets of estimates for the same, or closely related items, must coexist because of conceptual differences in the two systems, the figures should be prepared by one set of estimators, preferably the one which has more detailed and continuous experience in the field.

(*d*) *Administrative coordination*

The three recommendations just made are for immediate implementation. There exists, however, in this field a more basic problem—that of administrative coordination and integration of work on the national economic accounts. This problem is one the satisfactory solution of which will take much time and requires much more thorough study than the committee has been able to give it. Nevertheless it is of such importance for the long-term development of the national economic accounts that it cannot be altogether ignored in a report such as this.

The committee has little doubt that as far as collection of basic statistical data is involved, decentralization is here to stay. This means that, as before, the national economic accounts will have to be built up from primary statistical data which are collected by numerous independent agencies, to name only the more important ones without attempt at ranking: the Bureau of the Census; the Internal Revenue Service; the Bureau of Labor Statistics; the Department of Agriculture; the Federal Reserve Board; the Federal Trade Commission; the Securities and Exchange Commission; and the Department of Health, Education, and Welfare. The problem of influencing the collection of these basic statistics so as to make them fit as well as possible into the system of national economic accounts will thus continue to be with us. Indeed it will become more acute as the scope of national economic accounting expands and as its accuracy requirements are given increasing attention. On this point the committee has no suggestions to offer since it is not called upon nor qualified to deal with the problem of coordination of statistics within the United States Government. The committee believes that the Office of Statistical Standards of the Bureau of the Budget should use to the full its statutory authority in inducing the agencies producing the primary statistics used in national economic accounting to take account in their plans of the needs of the integrated system proposed in this report.

It is essential that at the summary level a single integrated system of economic accounts be published at regular intervals in a single publication. In order to achieve this, it is recommended that the responsibility for preparing and publishing the summary integrated national economic accounts be concentrated in one spot within the Federal Government. Integration of the various segments of the national economic accounts should not be allowed to restrict the activity of those groups working with the detailed information and thus hinder the evolution of these individual segments. It is recognized that changes must take place if there is to be improvement, and these changes may from time to time impair the comparability among the various segments.

The committee is not concerned with the administrative arrangements which such a process of concentration requires. Nor is it interested in the specific location of national accounting work within the Federal Government, or in the question how independent the designated organization ought to be from departmental supervision. The committee believes that it is important that competent staff economists and statisticians specializing in national economic accounting be close to the makers and advisers on economic policy—such as the Council of Economic Advisers, the Joint Economic Committee, the Federal Reserve Board and the Treasury Department. The specialists should serve as a link between the group responsible for the overall national economic accounts and those who will use them in the formulation of economic and fiscal policies.

The committee, finally, does not regard it as either necessary or feasible to indicate in detail exactly where the responsibility of the coordinating agency ends, e. g., which of the estimates in the detailed accounts should actually be made by the coordinating agency itself and which it should only supervise or advise upon. Again a statement of the general principle that should apply must suffice. On the most general level the coordinating agency should not only set the framework and lay down the rules, but should actually prepare the estimates in the summary tables by itself in close cooperation with other specialized agencies. The tables outlined in appendix A and B give a fairly good idea of the field covered by this recommendation. The detailed elaboration of the segments of the national economic accounts other than the income and product accounts might, however, be left to specialized statistical agencies. This applies primarily to flow-of-funds statements, input-output tables and balances of international payments. There the coordinating agency may limit itself to insuring that the more detailed statistics fit conceptually and quantitatively into the integrated overall framework.

It is usually easier to make the appropriate administrative decisions when the work to be allocated has not yet been appropriated by an existing organization and vested interests are as yet weak. Within the field of national economic accounts this is the case only for national balance sheets. If by the time they become a regular feature of the Federal Government's work on the national accounts, the national income and product accounts and the flow-of-funds statements are in the hands of the same organization no problem will arise. Meanwhile there is, it seems to the committee, a natural division of responsibility, which would make best use of the specialized knowledge and contacts

of the different Federal agencies now involved in national economic accounting: Tangible assets would be handled by the agency in charge of putting together the national income and product accounts (now the National Income Division), while intangible assets and liabilities would be the responsibility of the agency preparing the flow-of-funds statements (now the Federal Reserve Board). The separation of work on one relatively small sector, agriculture, does not have much to recommend itself in principle, but is probably unavoidable as a practical matter and is not likely to lead to serious problems of integration.

Chapter V. Objectives of National Economic Accounts and Their Implications for the General Form of the Accounts

1. Current forms of national economic accounts

The term "national economic accounts" is currently used to refer to a number of bodies of systematically arranged statistical data which have as their focus the economic activities taking place within a nation. There are at present five such bodies of data, treating different aspects of the Nation's economic activity. These are the national income and product accounts, the input-output table, the flow-of-funds statements, the balance of payments, and the national balance sheets.[17]

(a) National income and product accounts

National income and product accounts are concerned, as the name implies, with income and product transactions. They are designed to show in monetary terms the current productive activity of the economy, distinguishing the current income and outlay associated with specific kinds of economic activities: production, consumption, and investment. They thus consolidate by economic activities the sort of information contained in the profit and loss accounts of enterprises and the budgets of consumers and government.

(b) Input-output tables

Input-output tables are also concerned with the current productive activity of the economy, but they focus on interindustry relationships, rather than on income and product transactions. Input-output tables, which are usually arranged in the form of a square from-whom to-whom tabulation, classify industries according to the nature of the processing activities in which they engaged. Information is provided on the inputs from other industries and sectors that are utilized by each industry, and on the utilization of the output of each industry in other industries and sectors.

(c) Flow-of-funds statements

Flow-of-funds statements cover all money and credit transactions in the economy; they thus deal with financial as well as income and product transactions. They provide information on the extension of bank credit, the purchase of securities, and other changes in the assets and liabilities of the different sectors of the economy, as well as on the payments and receipts of income. In contrast with input-output

[17] A more detailed discussion of flow-of-funds statements, input-output tables, and national balance sheets will be found in chs. XII to XIV. The development of national income and product accounting has already been sketched in ch. IV.

tables, flow-of-funds statements divide the economy into institutional sectors—corporations, unincorporated enterprises, banks, insurance companies, and so forth—rather than into processing industries. Flow-of-funds statements thus are intended to show the financial transactions of various groups in the economy, rather than the physical transformation relationships.

(*d*) *Balance-of-payments tables*

Balance-of-payments tables embrace on the one hand the international trade statistics, classified by country of origin and destination and by commodity, and on the other hand foreign financial transactions. The classification of commodities tends to be a cross between the industrial breakdown used by input-output tables and the end use breakdown adopted in national income and product accounting. In treating financial transactions, however, the classification system of the balance of payments bears a strong resemblance to that of flow-of-funds statements.

(*e*) *National balance sheets*

National balance sheets show the assets and liabilities of different sectors of the economy. They are closely related to flow-of-funds statements, except that they deal with stocks rather than flows. They are concerned with both the tangible and intangible assets of the economy and the liabilities and equities arising therefrom. National balance sheets ordinarily deal with the same institutional sectors as flow-of-funds statements, since these are the sectors that hold financial assets and liabilities. In addition they must sometimes also deal with the stocks of plant and equipment and with inventories of the various processing industries distinguished in input-output tables.

2. NATIONAL ECONOMIC ACCOUNTS AND THE FORMULATION OF ECONOMIC POLICY

National economic accounts are useful in the formulation of economic policy primarily because they constitute a systematic record of basic information about economic activity, presented in such a manner that it is usable for carrying out meaningful economic analysis. This of course does not mean that there are specific formulas that can be applied to the national income accounts to yield solutions to all economic problems. The situation is more nearly analogous to the use of accounting by the typical business firm. Accounts are necessary for the intelligent operation of a business firm; unless a manager knows about the costs, sales, and financial condition of his firm, he is in no position to put well-designed policies into effect. But an adequate set of accounts does not by itself guarantee the success of the firm; there are no magic rules the manager can apply to his accounts to solve all the problems he faces. For policies of the firm to meet with success, they must be based on an intelligent appreciation of what has happened in the past as recorded in the accounts, but they must also have behind them the creative ability and judgment of the policymakers. In similar manner, the analysis of national economic accounts and of projections based on them is necessary for the formulation of successful economic policies, but the accounts are not the only ingredient required.

There are three principal types of questions about overall economic policies for which the national economic accounts are useful. (1) Is the policy which is being considered capable of being achieved in terms of the availability of resources? (2) How does the policy affect the operation of the economy in terms of prices, output, and employment? (3) What is the net effect of the policy in quantitative terms? Each of these types of questions will be examined briefly.

(*a*) *Economic policy and the availability of resources*

Perhaps the majority of economic policies are partial, in the sense that they deal with only 1 sector or 1 industry in the economy, and implicitly assume that the rest of the economy will automatically adjust to changes in that sector. An adequate evaluation of the usefulness of such a policy, however, requires some idea of the extent of the adjustment that will have to be made in the rest of the economy. For this reason one test of a partial economic policy is the examination of how it fits into the framework of available resources. It might seem that almost any policy that advocates increased output somewhere in the economy is basically a good policy, since an increased supply of goods and services is a desirable goal. But when the problem is considered in the context of the potentially usable resources in the economy, it is apparent that advocating an increase is one particular industry is equivalent to declaring that it will be more beneficial to use additional resources in this industry than in any other. In other words, such an economic policy, either consciously or unconsciously, involves a decision about which use of resources among all possible uses is preferable, a question which can be answered only after a standard of preference has been agreed upon. For a valid defense of a particular policy it would be necessary to show what resources would be needed to carry it out, from what part of the economy such resources could be obtained, and why this particular use would be more preferable to alternative uses of these same resources in other industries. The national economic accounts are probably the best tool yet developed to assist in answering these questions.

(*b*) *Economic policy and the operation of the economy*

Economic policies that are well within the capabilities of an economy in terms of resource allocation can still have unfavorable effects upon the operation of the economy. For instance, badly designed economic policies can result in serious inflation or deflation. For this reason it is necessary to give careful consideration to the relation of any proposed policy to the actual functioning of the different sectors of the economy, for example, its effect on consumer income and consumer expenditures, on tax receipts, on the manner in which the incentive to invest may be affected, and even on the credit structure of the economy. The framework of national economic accounts is capable of making explicit many of the economic interrelations and effects involved, and is therefore a valuable tool for the analysis of such problems.

(*c*) *Economic policy and its quantitative effect*

The final question that must be considered is that of the actual results an economic policy can be expected to achieve, in terms of the goals of the society. National economic accounts obviously can never

give a complete answer to this question. The welfare of individuals cannot be measured in terms of a few summary statistics. There are many nonquantitative ingredients—such as working conditions, freedom of opportunity, and the moral and political temper of the country. But the information in the national economic accounts can and does shed light, in considerable detail and in systematic form, on what is happening to the output of the economy. This information, even though it is by no means a complete basis for evaluating any policy, is very much needed as a gage of the performance of the economy.

A policy cannot be advocated solely on the ground that its expected result would be beneficial. The result must be shown to be quantitatively great enough to warrant the risks involved. No action requiring an estimate of the future is entirely without risk. Businessmen are constantly faced with the problem of choosing between those policies which have an excellent prospect of making a small gain and those policies which involve greater risk but also a possibility of correspondingly larger gain. Policies which have a large degree of risk attached to a small possible gain are naturally excluded from any reasonable consideration. In like manner, the expected results of an economic policy need to be estimated in quantitative terms in order that the possibility of gain may be weighed against the risk and cost of failure. The national economic accounts again are a device that can provide some of the basic information needed to make decisions of this type intelligently.

(d) The use of national economic accounts by business and labor

Both business and labor organizations also make considerable use of national economic accounts information as an aid in decision making. There is considerable parallelism between the uses of national economic accounts in relation to economic policy described above and the uses of this information by business and labor organizations for shaping their own individual policies, but there are two marked differences in point of view. First, individual business and labor organizations are rarely large enough to need to take into account the repercussions which their particular activities will have on the economy as a whole; they are therefore primarily interested in the national economic accounts as a description of the economic environment within which they operate. Second, the scope of the problem for which the national economic accounting information is used differs. Problems of economic policy usually require a rather broad perspective showing how different groups in the economy are benefited or harmed, and what net result can be expected from an overall social point of view. But in the use of national economic accounts by business and labor, the focus is apt to be much narrower; attention is directed to the effect of a given action on markets, profits, or the return to labor within the particular economic unit.

National income accounting has come to be one of the major tools of the economists of business and labor organizations in describing the economic environment. The quarterly tables of national income data and the monthly series on personal income are particularly useful in this connection. These data provide a comprehensive record of what is taking place in the economy, and on the basis of this record it is possible to explore the implications of current developments in the economy as a whole for the future operation of the business or labor organization concerned.

The narrower uses of the national economic accounts data by business and labor organizations are usually concerned with the analysis of the demand for the products of their industry. Although the information in the national economic accounts is generally not sufficiently detailed to be used in direct demand analysis for a specific product, it does depict the development of demand and supply for broad categories of goods and services. Such information can serve as a useful frame of reference for specific demand analysis. Even where the industry has more detailed information concerning its own development, the data on competitive or complementary industries contribute to a better understanding of the factors operating on demand. The data on capital expenditures in various industries are not only useful for the capital goods industries themselves; they show where expansion or technological change is occurring. When the information in the national income and product account is tied into balance of trade data, it becomes possible for the analysis of demand to take foreign markets into account. The inventory data give information on the relationship between current production and sales, and indicate the supply of goods of various kinds that the economy has on hand to satisfy demand in the following period.

For both the broader and narrower purposes, business and labor economists, like other economists interested in evaluating economic policy, often make use of forecasts of the future and projections based on varying sets of assumptions. For instance, business or labor decision making frequently involves forecasts of productivity changes, not only in the immediate industry but also in related industries. The national economic accounts provide one of the frameworks for such projections, a framework which is particularly valuable because it is integrated and articulated and hence to some extent prevents the estimator from making errors due to myopia. Decision making genrally operates within a context where some elements must be assumed—for instance, rules regarding the depreciation that may be charged for tax purposes, or the level of corporate taxes. If these are changed, the decisions that businessmen would make would often be changed. Similarly, a sudden increase or decrease in the level of defense expenditures, or the restriction of building through a tight money policy, would have repercussions that business and labor organizations must evaluate. The national economic accounts provide a framework for making alternative projections under a variety of assumptions about conditions in the future. They thus enable business and labor to judge in the face of uncertainty whether their policies will be satisfactory, not for just one set of circumstances, but for a variety of different possibilities.

To date, business and labor economists have made more extensive use of the national income and product data than of other segments of the national economic accounts. There is a growing interest in some of the larger business groups, however, in the use of input-output tables for the analysis of long-term interindustry relationships for investment purposes. Businesses engaged in international trade often make extensive use of the balance-of-payment data. There has been as yet little opportunity for business and labor economists to accumulate much experience with flow-of-funds statements and national balance sheets, but banks, insurance companies, and other finan-

cial institutions are showing considerable interest in the information these branches of national economic accounting provide.

3. THE PRESENT SYSTEM OF NATIONAL INCOME AND PRODUCT ACCOUNTS IN THE UNITED STATES

The national income and product accounts are at present the most widely used general purpose form of national economic accounting as has already been indicated above. National balance sheets are similar in character. On the other hand the input-output table, the flow-of-funds statements, and the balance of payments, present somewhat more specialized information.

In reviewing the state of the national economic accounts, therefore, and in making recommendations for changes, it will be useful to evaluate the present national income and product accounts as the basis of a national income and product accounts as the basis of a national economic accounting system. Such an evaluation will differ considerably from one which would consider the usefulness of the figures shown in the various segments of the national economic accounts. A system of accounts must be judged in terms of its adequacy as a framework for the data and its usefulness in facilitating the presentation and understanding of information. Evaluation of the data, however, is a much broader problem which must be couched in terms of the kind of information provided and its reliability, quite aside from the general form in which it may be presented.

(*a*) *The general form of the accounts*

The United States system of national income accounts really has three facets: (1) The formal set of accounts that is presented in summary form annually in tables I to VI of the Survey of Current Business; (2) the annual tables of national income and product data now numbered 1 through 39, which differ considerably in form of presentation from the formal accounts; and (3) the quarterly table of national income and product data in the February, May, August, and November issues of the Survey of Current Business.

The formal accounts are concerned primarily with the derivation of the income and product originating in institutional sectors, rather than with a system of consolidated accounts for production, consumption, and investment. Thus in the present United States system the business account (table II) includes the productive services of corporate and noncorporate enterprises, professional workers such as lawyers and doctors, and the imputed income of owner-occupied housing. But the productive services of domestic servants, teachers in privately endowed institutions, and other employees of nonprofit organizations are included in the personal account (table III). The services of Government employees, such as civil servants, public school teachers, and employees of veterans' hospitals, are shown in the Government accounts (table IV). This fragmentation of productive activities into essentially institutional sectors impedes the usefulness of the accounts for certain aspects of economic analysis. The rest-of-the-world account (table V) suffers from the added disadvantage that it is presented on a net basis, and cannot easily be reconciled with the balance-of-payments account. In consequence, the formal accounts have been very little used for economic analysis. Their major func-

tion to date has been pedagogical: to show how the system is constructed and to provide the rationale for it. But they have deficiencies even from this point of view, since, because of the particular form of sectoring chosen and the accent laid on the derivation of aggregates, a large number of quantitatively insignificant items are required for formal completeness.

The more detailed, though less integrated, Arabic-numbered tables have thus come to be the heart of the United States annual national income accounting system. The information contained in these tables is more complete, and generally in a form better adapted for economic analysis than that contained in the formal accounts. For instance, the Government receipts and expenditures tables (tables 8 and 9) present data in a much more useful form than do the formal accounts. In many of the tables, however, a reordering and regrouping would be an improvement, clarifying the nature of the different items and reducing the appearance of proliferation of items. Here, too, the presentation of the transactions with the rest of the world would be improved if they appeared on a gross rather than a net basis.

The quarterly tables are the most recently developed form of national income and product data. It is interesting to note that in these data the classifications tend to follow lines of economic activity somewhat more closely, and many of the less meaningful items are not shown.

The National Income Division of the Department of Commerce has recognized that a reorganization of the national income and product accounts is in order, and its chief has made concrete proposals to this effect which are summarized in appendix E. Generally speaking, the system toward which he would like to see the national income and product accounts move is some combination of the present quarterly data and some of the basic tables that are now presented in the national income supplement of the Survey of Current Business.

(b) Valuation and imputation

Besides the general form of the accounts, there is also the question of whether the present system of valuation and imputation used by the Department of Commerce is optimal. The valuation problem mainly centers around whether items should be valued at the prices they sell for in the market, or at what they cost in terms of payments to the factors of production. The problem of imputations arises in deciding how far one should go in including production and consumption that occurs outside of the market mechanism.

Generally speaking, the transactions and assets encompassed in most forms of economic accounts are valued at market prices. This is especially true of input-output tables and flow-of-funds statements. With regard to the national income and product accounts, however, an alternative method of valuation enters the picture, factor cost, which conceptually is equal to the valuation at market prices plus subsidies less indirect taxes. Both types of valuation are used in the present accounts—the aggregate labeled "net national product" and its distribution by type of expenditure are at market prices, while that labeled "national income" and its distribution by industry are at factor cost. These alternative methods of valuation reflect the differing uses to which the accounts may be put. Conceivably the two schemes of valuation might be carried throughout the entire accounts;

for example the distribution of national product by type of expenditure might be presented at factor cost as well as at market prices. For most purposes to which the accounts might be put, however, the quantitative difference between the two schemes of valuation would not be of importance, and for this reason the committee does not recommend any change in the present valuation procedure.

Imputations do not play a major role in the United States national income and product account. At the present time the United States national income accounts contain four major kinds of imputations for economically relevant services for which no cash (or credit) payment is made: (1) wages and salaries furnished in kind; (2) rent of owner-occupied dwellings; (3) food and fuel consumed on farms; (4) certain services of financial intermediaries. The total amount of these imputations accounts for only a small proportion of total gross national product—something like 5 percent in recent years—but they are required on the ground of internal consistency in the coverage of the accounts. Unless these imputations were made, spurious differences from year to year or among countries would be shown in items like gross or net national product as differences existed or shifts occurred, e. g., in the proportion of owner-occupied and rental housing, or farmers' use of home grown and purchased food.

The committee, therefore, accepts the use of imputations in the national income and product accounts but feels that all imputations should be clearly identified in the accounts so that users can eliminate them if they wish. The committee does not think that the number of imputations should be expanded at this time in view of the very serious problems of measurement that would be raised, though as indicated below eventually it might be desirable to incorporate imputations for the use value of Government structures and consumer durables. The imputation for services of financial intermediaries also requires reexamination (ch. VII, secs. 1, 2, 3).

(*c*) *The national total: Net or gross*

At present the aggregate which receives most prominence in public discussion is gross national product, and in fact the set of accounts presented below is built around this aggregate. In view of the unsatisfactory conceptual nature of the present estimates of capital consumption, there seems little reason for recommending a shift to the net-product concept at the present time. However, the committee recommends below the development of replacement cost estimates of capital consumption, and when this is accomplished, the figures will more adequately reflect the net output of the economy after allowance for maintaining the capital stock intact.[18]

4. THE PROBLEM OF INTEGRATION OF NATIONAL ECONOMIC ACCOUNTS

The various forms of national economic accounts, such as national income and product accounts, input-output tables, flow-of-funds statements, balance of payments, and national balance sheets, do not

[18] A small minority of the committee feels that even replacement cost depreciation should not be used in calculating the net output of an economy. Both original cost and replacement cost depreciation as conceived of here take obsolescence into account, and it can be argued that although new inventions, etc., may result in a loss in capital values through obsolescence to individual producers, these factors should not be treated as losses, i. e., deductions from output, for the economy as a whole. Although they may cause losses to specific producers, they are gains for the economy as a whole.

at the present time form a single integrated system of accounts. The flow-of-funds statements provide a partial reconciliation with the data contained in the national income and product accounts, and the balance-of-payments data provide the basic information contained in the rest of the world sector of the national income and product accounts, but in neither case is movement between the various forms of accounts easy. The committee, in considering this problem of integration, has felt it necessary to inquire (a) whether integration is desirable per se, and (b) what difficulties stand in the way of accomplishing it. Finally, the committee has also felt it incumbent upon it to spell out in concrete terms exactly what it does recommend in the way of integration.

(a) The need for integration of the national economic accounts

Integration of the national economic accounts is desirable from three points of view. First, many economic problems require the use of several different kinds of information, and it is often necessary to move from the information provided by one kind of economic accounts to that provided by another. Second, from a statistical point of view, integrating the various kinds of economic accounts makes best use of the available data, with less duplication and with improvement in statistical accuracy. Finally, for the user of the national economic accounts, a single integrated system is easier to understand and use correctly than a number of different apparently unrelated or overlapping systems.

In analyzing many kinds of economic problems it is necessary to compare information contained in one form of accounts with that in another form. For example, for balance-of-trade problems it is sometimes important to consider exports and/or imports of a product from a given country in relation to the total domestic output of that product. This may require that the information in balance-of-trade statistics be reconciled with either national income and product data or input-output data. Similarly, there are many occasions when the flow-of-funds data must be analyzed in conjunction with the different national income and product aggregates such as the gross national product or personal income. Unless integration among the various forms of national economic accounts is achieved, different definitions are apt to be used for comparable categories of data, thus preventing movements or comparisons between the various forms of economic accounting. It would be very useful if identical classifications could be decided upon where appropriate. Only fairly systematic integration can achieve this objective.

From a statistical point of view, it is obvious that if two accounting systems have different definitions for what is essentially the same category of information, different tabulations will have to be made, and the same basic material will have to be gone over twice, when a single tabulation might in many instances have provided the information for both systems. In other instances, where categories of information, although not identical, are directly related, new tests of consistency will develop when the statistics are put into a single framework. Thus, for example, input-output tables and national income and product accounts have in the past been derived in part from different processing of the same data, and much might be gained in the accuracy of both systems by a conceptual integration. In some instances this

might result in the use of superior sources and the prevention of undesirable duplication.

Finally, from the point of view of the individual faced with the problem of using the information provided by the various forms of economic accounts, an integrated system would fit all of the pieces together into a relatively simple pattern. From a pedagogical point of view, this need has long been felt. All too often, each system is explained separately, with the observation added at the end that of course all these things are highly interrelated. A simple integrated system would provide the user with a guide to the national accounts, and at the same time demonstrate in a systematic manner the exact differences among the kinds of information provided.

(*b*) *The difficulties of integration*

There are very good reasons why in the United States a simple integration of the various forms of national economic accounts has not occurred to date. As already mentioned, the different accounting systems have different purposes and look at the economy from different points of view. The national income and product accounts, in contrast with other forms of national accounts, are designed to produce meaningful aggregations and consolidations of the economic activity that takes place within the Nation, subordinating the masses of detail. The input-output tables concentrate on the interindustry relationships, usually showing them in considerable detail. The flow-of-funds statements put their main emphasis on the sources and uses of funds by institutional sectors of the economy. Balance of payments statistics are limited to the transactions between the national economy and the rest of the world. National balance sheets deal with the asset, liability, and equity positions of the various groups and are used primarily for the analysis of financial interrelationships.

In organizing the basic data, input-output tables and flow-of-funds statements take very different approaches. In input-output tables, economic units are classified according to the nature of their productive activity, rather than by the characteristics of the firm or legal entity involved. Thus for input-output purposes, the automobile industry would include only those plants specifically engaged in the production of automobiles; General Motors Corp. would never appear as an entity, but rather the activities of its plants, or even shops within plants, producing automobiles would be separated as far as feasible from the activities of the company's other plants or shops. Such an approach is necessary in studying the processing activities of industries from a predominantly technological angle. The flow-of-funds statements, in contrast show the sources and uses of funds by institutional sectors, and for this purpose it is appropriate to focus on the firm as the decisionmaking and financial unit. In the flow-of-funds statements all transactions of General Motors Corp. would be considered in the same sector. The economy is classified according to legal form of organization within fairly broad producing groups, rather than on the basis of processing activity alone. The dilemma that may arise in the national balance sheets has already been noted; on the one hand, it is sometimes useful to classify tangible assets by processing industry, but on the other hand it is as a rule necessary to classify financial assets and liabilities and equities according to the same system as is employed in the flow-of-funds statements.

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If the national accounts information is to be made available in published form, it would not be practical to achieve integration of these different systems of sectoring by full cross classification. Such a procedure would result in large masses of unwieldy information that would be more likely to hamper than to aid analysis. If, for example, an input-output table which specified several hundred industries had to show within each industry all the forms of institutional and legal organization, the matrix would become so large that publication in comprehensible form would be virtually impossible.

(*c*) *Basic requirements for a system of integrated national economic accounts*

The requirements that will be set forth here are only those that bear directly on the nature of the integrated national economic accounting system which is proposed. In these terms there are five major requirements, which become the basic principles on which the integration is based. These are (1) that the national income and product accounts provide the general framework for the integrated system of economic accounts; (2) that a national income accounting system so specified be simple, articulated, and framed in terms of economic activities rather than legal forms of organization; (3) that the sectoring of activities in the economy be carried out both for industries in terms of establishments and for legal forms of organizations; (4) that all sectors have full sets of current and capital accounts;[19] and (5) that the integrated system be such that the various forms of national economic flow accounts other than the national income and product accounts can be consolidated into the summary national income and product accounts, and that the accounts representing stocks result from cumulating flow accounts.

The suggestion that the national income and product accounts provide the general framework for integrating the various forms of economic accounts was originally made by Morris Copeland.[20] Because the national income and product accounts are essentially summary statements of the activity of the economy as a whole, they are ideally suited for such a role. In contrast with the other systems, national income and product accounts are the only system which is built around specific aggregates. The various other forms of economic accounting could be made to tie in with the income and product accounts at a fairly aggregated level, and consequently there would be much more freedom possible at the more detailed levels than if a more detailed integration were attempted.

The idea of setting up the national income and product accounts in a simple articulated system in terms of economic activities was presented by George Jaszi.[21] Such a system would consolidate all productive activity in the economy into a single gross national income and product account. Other simple accounts would be shown for the activities of consumers, Government, foreign trade, and saving and investment. It is such a system of national income accounts that will be presented below.

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[19] For discussion of the capital accounts for Government and consumers, see p. 144.

[20] The Feasibility of a Standard Comprehensive System of Social Accounts, in Problems in the International Comparison of Economic Accounts, Studies in Income and Wealth, vol. 20 (Princeton, 1957).

[21] In A Critique of the United States Income and Product Accounts, Studies in Income and Wealth, vol. 22 (in press).

The sectoring of the accounts into industries and by legal form of organization in the system proposed below follows the lines recommended by Stanley Sigel.[22] Sigel recognized that two basic kinds of sectoring would be required if the input-output table and the flow-of-funds statements were both to be consistent with their basic objectives. A single form of sectoring of a compromise nature would mean that the statistics would not be useful for either purpose.

The provision of both current and capital accounts for all sectors follows the line of reasoning developed by Richard Stone,[23] and more recently in the United Nations system of national income and product accounts.[24] This means that for any particular sector, it will be possible to select out of the various parts of the integrated accounting system a set of accounts which will show all the transactions of that sector, as illustrated in tables C and D, pages 37 and 38, below.[25]

Finally, the procedure whereby certain forms of economic accounts could be obtained by deconsolidating one of the summary national income and product accounts was suggested by the National Income Division of the Department of Commerce. Specifically, it was shown that the consolidated saving and investment account could be broken down into accounts showing the changes in assets and liabilities for each of the sectors. Following this suggestion through for the other accounts, it becomes possible to erect a system of supplementary deconsolidated tables that cover all the forms of national economic accounts.

5. IMPLEMENTATION OF AN INTEGRATED SYSTEM OF NATIONAL ECONOMIC ACCOUNTS

The implementation of the integrated national economic accounting system follows quite closely the requirements listed in the preceding paragraphs. The system presented here has been strongly influenced by that set forth in National Income Accounts and Income Analysis [26] by Richard and Nancy D. Ruggles. The suggestions made by the committee, of course, are limited to the general form of the national economic accounting system. The details, such as the exact number, coverage, and titles of the individual lines in the various accounts and tables are primarily illustrative, and should not be regarded as specific and definite recommendations by the committee. The present purpose is simply to establish the form of the accounts toward which the various components of the national economic accounts now existing should converge. It will obviously be necessary to work out the details of the system within the Federal Government and it will then be essential to have the proposed new tables systematically examined by the various user groups.

In discussing the implementation three things will be considered. First, the general form of the national income and product accounts which are to serve as the framework of the integrated system will be presented. Second, the way in which the other forms of economic accounting can be related to the national income and product account framework will be shown. Finally, the derivation of current and

[22] A Comparison of the Structures of Three Social Accounting Systems, in Input-Output Analysis: An Appraisal, Studies in Income and Wealth, vol. 18 (Princeton, 1955).
[23] Measurement of National Income and the Construction of Social Accounts, United Nations, Studies and Reports on Statistical Methods, No. 7, Geneva, 1947 (sales No. 1947.11.6).
[24] A System of National Accounts and Supporting Tables, United Nations, 1953.
[25] For discussion of the capital accounts for Government and consumers, see p. 144.
[26] McGraw-Hill, 1956.

capital accounts for the different sectors of the economy from the integrated system will be demonstrated.

(*a*) *The national income and product accounts*

An example of the kind of national income system recommended by the committee is given in appendix A, tables 1–5. The system is summarized in tables A and B below.

This summary system of national income and product accounts distinguishes the economic activities of production, consumption, and investment. The various accounts can be deconsolidated into sectors either by processing industries (for input-output purposes), or by form of organization (for flow-of-funds and balance-sheet purposes). The succeeding paragraphs describe the specific deconsolidated tables and accounts which will achieve the integration of all the different bodies of data.

The consolidated production account (table A–1 in appendix A) embraces the production activities of the economy as a whole, and is identical in scope with that of the national income and product account (table 1) in the current United States national accounts system. Two accounts were used to show expenditure on goods and services, because it was felt that even at the most summary level it would be useful to distinguish private consumption from public services. The private consumption account shows the income, consumption, transfers, and saving of all household and nonprofit institutions on a consolidated basis. Investment for the economy is shown in a consolidated saving and investment account, bringing together the saving and investment items in the other accounts. To show production, consumption, and investment, these four accounts would be sufficient. The rest of the world could be treated as an industry; the item "net exports" would appear as an end use of product on the product side of the consolidated production account and as an investment item in the saving and investment account. There is, however, sufficient interest in foreign trade as a separate activity that it seems fitting to introduce a separate gross account for it.

TABLE A.—*Summary of a system of national income and product accounts for the United States for 1953*

[In billions]

I. GROSS NATIONAL INCOME AND PRODUCT ACCOUNT

1.1	Payments by producing units to individuals (2.5)	$277.5
1.2	Income retained by producing units (5.4)	39.5
1.3	Tax and income payments by producing units to Government (3.6)	54.4
1.4	Minus: Subsidies and Government interest (3.2)	7.6
1.5	Statistical discrepancy (5.7)	1.0
	Gross national income	364.8
1.6	Consumers' expenditures on goods and services (2.1)	229.6
1.7	Government expenditures on goods and services (3.1)	77.2
1.8	Gross expenditures on producers' durable goods (5.1)	51.6
1.9	Net change in producing units inventories (5.2)	1.5
1.10	Exports (4.1)	21.3
	Total availabilities	381.2
1.11	Minus imports (4.5)	16.4
	Gross national product	364.8

II. PERSONAL INCOME AND OUTLAY ACCOUNT

2.1	Consumers' expenditures on goods and services (1.6)	$229.6
2.2	Tax payments by individuals (3.7)	44.6
2.3	Transfer payments to abroad (4.6)	.5
2.4	Personal saving (5.3)	15.6
	Personal outlay and saving	290.3
2.5	Payments by producing units to individuals (1.1)	277.5
2.6	Transfer payments by Government to individuals (3.3)	12.8
2.7	Transfer payments from abroad (4.3)	.0
	Personal income	290.3

III. GOVERNMENT RECEIPTS AND OUTLAY ACCOUNT

3.1	Government expenditures on goods and services (1.7)	77.2
3.2	Subsidies and Government interest (1.4)	7.6
3.3	Transfer payments to individuals (2.6)	12.8
3.4	Transfer payments to abroad (4.7)	6.3
3.5	Government surplus (5.5)	−4.8
	Government outlay and surplus	99.1
3.6	Tax and income payments by producing units (1.3)	54.4
3.7	Tax payments by individuals (2.2)	44.6
3.8	Transfer payments from abroad (4.3)	.1
	Government receipts	99.1

IV. FOREIGN TRADE AND PAYMENTS ACCOUNT

4.1	Exports (1.10)	21.3
4.2	Transfer payments to individuals (2.7)	.0
4.3	Transfer payments to Government (3.8)	.1
4.4	Net borrowing from abroad (5.6)	1.9
	Receipts from abroad	23.2
4.5	Imports (1.11)	16.4
4.6	Transfer payments from individuals (2.3)	.5
4.7	Transfer payments from Government (3.4)	6.3
	Payments to abroad	23.2

V. GROSS SAVING AND INVESTMENT ACCOUNT

5.1	Gross expenditures on producers' durable goods (1.8)	51.6
5.2	Net change in producing units inventories	1.5
	Gross domestic investment	53.1
5.3	Personal saving (2.4)	15.6
5.4	Income retained by producing units (1.2)	39.5
5.5	Government surplus (3.5)	−4.8
5.6	Net borrowing from abroad (4.4)	1.9
5.7	Statistical discrepancy (1.5)	1.0
	Gross saving	53.1

TABLE B.—*Summary of national income and product accounts for the United States, 1953*

[In billions]

Flow	Production account		Consumption account		Government account		Foreign account		Capital account	
	Allocation	Source	Allocation	Source	Allocation	Source	Allocation	Source	Allocation	Source
1. Payments by producing units to individuals	$277.5			$277.5						
2. Income retained by producing units	39.5									$39.5
3. Tax and income payments by producers to Government	54.4					$54.4				
4. Subsidies and Government interest	−7.6				$7.6					
5. Statistical discrepancy	1.0									1.0
6. Consumers' expenditures on goods and services		$229.6	$229.6							
7. Government expenditures on goods and services		77.2								
8. Gross expenditures on producers' durable goods		51.6			77.2				$51.6	
9. Net change in enterprise inventories		1.5							1.5	
10. Exports		21.3					$21.3			
11. Imports		−16.4						$16.4		
12. Tax payments by individuals to Government			$44.6			44.6				
13. Transfer payments by individuals to abroad			.5					.5		
14. Personal saving			15.6							15.6
15. Transfer payments by Government to individuals				12.8	12.8					
16. Transfer payments from abroad to individuals				0			0			
17. Transfer payments to abroad by Government					6.3			6.3		
18. Government surplus					−4.8					−4.8
19. Transfer payments from abroad to Government						.1	.1			
20. Net borrowing from abroad							1.9			1.9
Total	364.8	364.8	290.3	290.3	99.1	99.1	23.2	23.2	53.1	53.1

In this system of accounts the flows are expressed in relatively gross terms. The flows are grouped according to the other accounts in the system from which they flow and to which they are paid, and this network of grouped flows forms a simple articulated system. The simplicity of the system can be seen in table A; in this table the detail has been omitted, leaving only the major flows.

A presentation of this sort also has the advantage that it tends to increase international comparability at least at the aggregate level. Lack of international comparability often occurs because different systems of sectoring or breakdowns are available for different countries, and adjustment is difficult. The system suggested above requires relatively few individual flows, and alternative breakdowns within the flows do not affect the comparability of the accounts themselves. Thus the lack of data for some small and intrinsically unimportant flows will not impede overall comparability. Table B shows the 20 flows that are required for implementation of the system arranged into a single table.

Much of the simplicity of this system has been obtained by omitting some of the national income aggregates from the system of national income accounts. Thus neither net national nor national income is shown. This does not mean that these aggregates should be neglected. Rather, they could be treated as is now done in table 4 of the

United States system, in a separate table showing the relationships among the aggregates.

(*b*) *The relation of the other forms of national economic accounting to the national income and product accounts*

With the national income and product accounts providing framework for the national economic accounting system, it is now possible to describe more precisely how the other forms of accounts can be related to them. The interrelation can be achieved by considering the other forms of economic accounting as deconsolidations of specific accounts within the national income and product accounts. For example, the gross national income and product account covers all the productive activity taking place in the economy. The input-output table also covers this same general area of activity, but it shows in addition the interindustry relationships—transactions that have been consolidated out in the gross national income and product account. Similarly it will be found that the introduction of specific subclassification in terms of sectors and the inclusion of transactions which have been consolidated out in the national income and product accounts can provide the necessary data for the other forms of national economic accounting, such as flow-of-funds statements, etc. Below is a list of the tables that are envisaged, together with references to the tables in the appendix which have been drawn up as examples.

(1) National income and product account (consolidated production account)—table A–1.

(*a*) Value of product by industrial sector (input-output table, current)—table A–6.

(*b*) Value of product by institutional sector (producing sectors' current account of the flow-of-funds statement)—table A–7.

(2) Personal income and outlay account (private consumption account)—table A–2.

(*a*) Income and outlay by institutional sector (private consuming sectors' current account of the flow-of-funds statement)—table A–8.

(3) Government receipts and outlay account (public services account)—table A–3.

(*a*) Receipts and outlay by kind of government (public services sector current account of the flow-of-funds statement)—table A–9.

(4) Foreign trade and payments account (external account)—table A–4.

(*a*) International current payments by country and commodity (trade matrix of the balance-of-payments account)—table A–10.

(5) Saving and investment account—table A–5.

(*a*) Savings and investment by industry (input-output, investment)—table A–11.

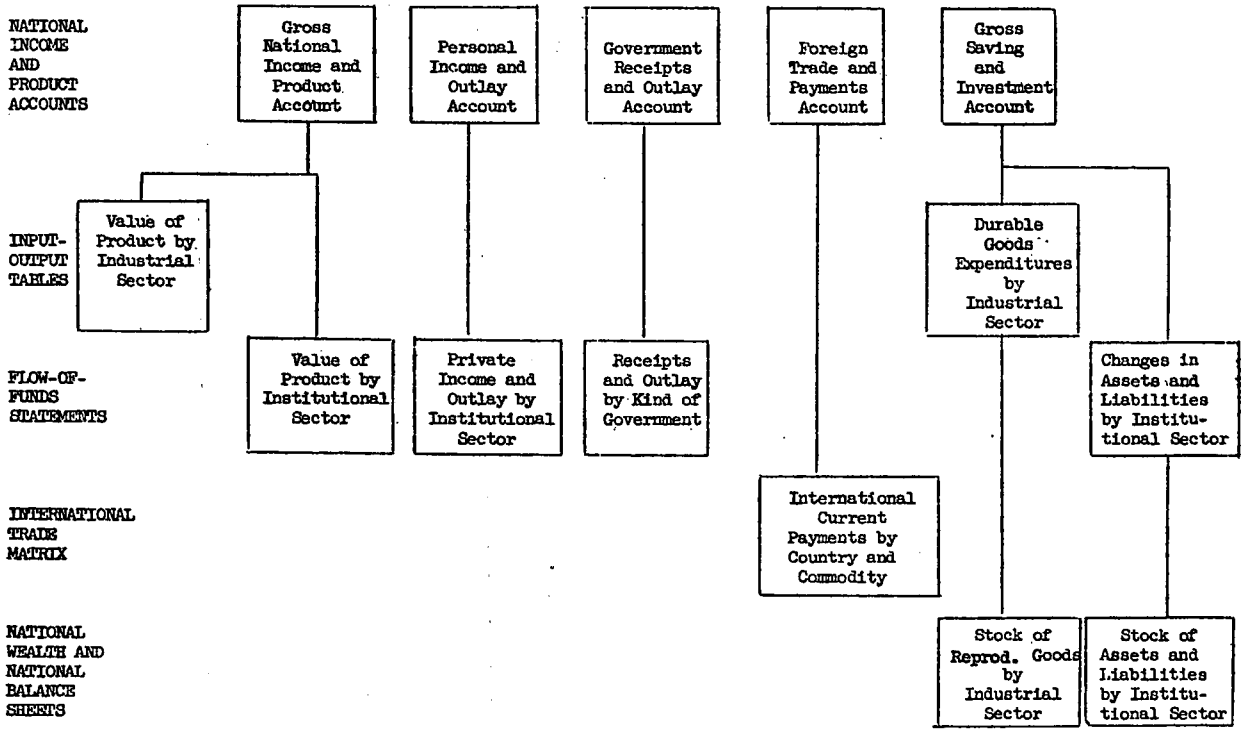
(*b*) Stock of reproducible goods by industry (input-output, capital stocks)—table A–12.

(*c*) Changes in assets and liabilities by institutional sector (saving and investment account of the flow-of-funds statement and balance of payments account)—table A–13.

(*d*) Stock of assets and liabilities by institutional sector (national balance sheet)—table A–14.

From a schematic point of view, it is possible to show how the various tables are interrelated and how they relate to the various kinds of national economic accounting systems. In chart 1 the five national income and product accounts are shown in the top row. The next row shows the derivation of the input-output table from the gross national income and product account. As a part of the input-output system, also, a table is derived from the gross saving and investment account, showing saving and investment by industry. The flow-of-funds statements are represented by the third row. It includes four separate tables. Three of these, derived from the first three of the national income and product accounts, show the nonfinancial receipts and outlays for institutional sectors. The fourth, derived from the saving and investment account, shows changes in assets and liabilities for these sectors. The international trade matrix is shown in the fourth row, as a breakdown of the foreign trade and payments account. Balance of payments information, however, will also be covered in the input-output tables and the flow-of-funds statements, where the foreign sector is shown both as an industrial classification and an institutional classification, and imports and exports by industry are also given explicitly in the input-output table. The bottom row shows the national wealth table and the national balance sheet as derived from the expenditures on reproducible assets on the one hand, and the changes in assets and liabilities on the other. This in broad terms is the general nature of the system, but for further clarification it will be useful to examine the specific supplementary tables in somewhat more detail.

Chart 1. The Interrelation of the National Economic Accounts



(1) *Value of product table classified by industrial sector.*—It is recommended that a table supplementary to the consolidated production account be drawn up to show the gross value-of-products flows and the sales and purchases of industries to and from each other. The classification should be on an establishment basis, tying in with the system used by the input-output table. An example of the stubs and column headings for a table which deconsolidates the production account according to industrial sectors is shown in table A–6 of appendix A. This table gives income and expenditures information for the various industries in the economy. The value of product is shown both in terms of the sales which are made by each industry to other industries or groups in the economy, and in terms of the manner in which each industry allocates its receipts from sales to other industries or groups. The allocations of receipts by a particular industry excluding interindustry current account purchases are equal to gross product originating in that industry plus imports. The sales of products by a particular industry excluding sales to other industries on current account measures the final product originating in that industry, and the total for all industries yields gross national product plus imports. The value of product accounts are combined rather than consolidated accounts. They show not only the breakdown by industrial sector of the information contained in the usual gross national income and product account, but in addition the interindustry sales and purchases on current account that are consolidated out of the gross national income and product account. For maximum usefulness the key manufacturing groups should also be shown separately.

The extension of the consolidated production account illustrated in table A–6 has the following functions. (1) It ties the current transactions of the national income accounts to input-output tables at a fairly aggregative level. (2) The value of product flows themselves are useful for aggregative economic analysis. For example, with present statistical information it is not possible to ell how much of the output of an industry was exported to other countries, or how much of the input of a particular industry comes from imports. (3) The data help to improve the quality of the national income statistics. Value of product data for particular industries are often available, and if they are introduced explicitly into the system they can be used as a test of consistency. (4) The value of product data are required for the development of constant price data for industries. To obtain real output figures for individual industries, it is necessary to deflate the input of materials to the industry and the output of the industry separately to obtain a deflated value added (cf. ch. VI).

(2) *Value of product table classified by institutional sector.*—Just as it is useful to show a supplementary deconsolidation of the gross national income and product account by industrial sectors, it is also useful to show a supplementary deconsolidation of it by institutional sectors. Such a procedure yields the equivalent of profit and loss statements for all the producing units in the economy grouped according to form of organization. From a practical standpoint the deconsolidation of production by institutional sectors can and need be carried out in considerably less detail than is recommended for the industrial classification. It is not necessary, in the institutional sectoring, to spell out the to-whom from-whom relationships in each sec-

tor's sales and purchases on current account. Unlike the inter-industry relationships, there has been little analytic interest in the interrelation of purchases and sales on an institutional sector basis. In the value of product table by institutional sectors, therefore, the sectoral classifications need not appear as rows in the table. A single item, "Purchases from producing units on current account," will be sufficient, as shown in table A–7.

In basic concept the value of product table by institutional sector is the same as the value of product table by industrial sector; the only differences lie in the kind of sectoring employed and in the omission of detail in the purchases from producing units on current account. The institutional sector table provides the equivalent of profit and loss statements for producing units classified by form of organization, and so yields the current account portion of the information contained in flow-of-funds statements for producing units. The importance of such information for many forms of monetary and fiscal analysis has already been discussed, and it is sufficient to point out here the usefulness of providing this information in a form that ties in directly with national income and product accounts, on the one hand, and with input-output tables, on the other hand.

(3) *Personal income and outlay table by institutional sector.*—The coverage of the personal income and outlay account is quite broad, embracing all forms of private consumption in the economy. For example, the income, outlays, and saving of farmers and other unincorporated businesses appear in the account as well as the income, outlays, and saving of families receiving wages, salaries, and property income. The problems involved are discussed in greater detail in chapter VII, section 1, of this report. It is recommended there that within that account separate sectors be set up for farmers, nonfarm entrepreneurs, other households and nonprofit institutions. In carrying out this breakdown it is not necessary to show the articulation among the personal sectors and between each of the personal sectors and each of the other (nonpersonal) accounts, so that the deconsolidation could be similar in nature to that shown in table A–7 for producing units by institutional sector.[27] The sectors would appear as column headings in the table, and the kinds of income, together with the kinds of outlays, taxes, and saving, would be shown as rows. The form is shown in table A–8. This table gives the current accounts for the private consumption sectors and so represents the current account portion of the flow-of-funds statements for these groups.

(4) *Government receipts and outlay table by governmental unit.*—The Government receipts and outlay account presents public transactions in the form of a consolidated statement of receipts, outlays,

[27] The basic difference between consolidated accounts and sectors in the system of national accounts as the terms are used here is that consolidated accounts are articulated, while sectors are not. This means that every flow between any two consolidated accounts is shown explicitly in the system. Thus in a 5-account system a minimum of 20 flows would be shown where only 1 kind of transaction occurs [$n(n-1)$ where n equals the number of accounts]. If the number of transactions identified, i. e., transfers versus purchases of goods and services, is increased, this will lead to a direct multiplication in the number of flows in the system: $mn(n-1)$ where m equals the number of kinds of transactions. Thus if 2 kinds of transactions were systematically distinguished, 40 flows would result. Introducing sectors on an unarticulated basis increases the number of flows in proportion to the number of sectors introduced: $mnn'(n-1)$, where n' equals the number of sectors. This would mean, if 10 sectors were introduced on an unarticulated basis into a system of 2 transaction types in 5 accounts, 400 flows. If the sectors are articulated, however, the formula would be $mn\,(n')\,^2(n-1)$, or 4,000 flows in the above example. Thus introducing sectors on an unarticulated basis reduces the number of flows required by a factor equivalent to the number of sectors from what it would be with articulation.

and saving. For a great many problems it is important to obtain a deconsolidated view of Government operations. A sectoring into Federal, State, and local government is shown in table A–9, which provides the current account portion of the flow-of-funds statement for the government sectors. A further subdivision in each case into (*a*) General Government, and (*b*) Government funds such as the old-age and survivors trust fund, would be very desirable.

(5) *International trade matrix.*—In the presentation of balance of payments data, it has become customary in recent years to show the international trade of a country in terms of both the geographic distribution and the commodity breakdown of imports and exports. Such tables are essentially detailed breakdowns of the foreign trade and payments account in the national income and product accounts. It is therefore recommended that the international trade tables and the foreign trade and payments account be so designed that they fit together. An example is shown in table A–10.

(6) *Saving and investment table by industrial sector.*[28]—For many purposes it is important to know what industries are adding to their plant and equipment, and to what extent it can be financed by the saving going on in the industry. Such information is the capital account counterpart of the value-of-product table by industrial sectors discussed under (2). The columns of such a table would be the same as those shown for the value-of-product table by industrial sector, while the rows would classify investment by type of product, as shown in table A–11. In deconsolidating the gross saving and investment account by industry, it will be necessary to include purchases of existing assets (e. g. used plant and equipment, land, etc.). Such items represent disinvestment by industries selling them and thus like transfers consolidate out in the gross saving and investment account for the economy. A saving and investment table by industry providing this kind of information would be very useful for the analysis of such problems as capital requirements, productivity, and economic growth in terms of specific industries. In many industries it may not be meaningful to compute undistributed profits by industry, since such a concept has meaning only on a firm basis.

(7) *Stock of reproducible goods table by industrial sector.*[28]—The table showing investment expenditures by industrial sector has a counterpart showing the existing stock of reproducible durable goods by industrial sector. This table would have the same rows and columns as table A–11. This new table could be obtained from the information contained in the yearly savings and investment by industry table, if available for a sufficiently long period, plus information regarding depreciation or retirement of durable goods. A problem of valuation would arise, in that expenditures on durables would have to be revalued in constant (or current) prices in order to be comparable over time. On the other hand, valuation at market prices at any given point in time probably would be most useful for comparisons among industries. For some purposes, furthermore, it might be that some measure of productive capacity of the durable goods should be used as the basis of valuation rather than replacement cost; but such problems, some of which are discussed in chapter XIV, would not affect the form of the table.

[28] For discussion of the capital accounts for government and consumers, see p. 144.

(8) *Changes in assets and liabilities table by institutional sector.*[28]—The saving side of the saving and investment account shows the surplus arising in the current accounts of producers, private consumers, Government, and foreign trade. Such surplus results in changes in assets and liabilities reflecting the increase in the equity of the groups involved. The saving side of the saving and investment account can be deconsolidated to show all the changes in assets, liabilities, and equity that have taken place for each sector. The net change in the asset and liability position of a sector, if expressed as the difference between current (market) values at the beginning and end of the period, will not equal the saving for that sector as recorded in the national income and product accounts; capital gains or losses, which do not flow through the income and product accounts, must be added as a part of the deconsolidation process if this equality is to be restored.

The deconsolidation of the saving side of the saving and investment account should follow the institutional sectoring discussed under (2), (3), and (4). Together with tables A–7, A–8, and A–9 in appendix A, this deconsolidation provides a complete flow-of-funds system for the economy, thus integrating the flow-of-funds statement with the national income and product accounts.[29] Each institutional sector is supplied with the equivalent of a profit and loss or income and outlay account plus a saving and investment account. The saving and investment account for the foreign sector, furthermore, becomes a balance of payments account, wherein the changes in gold stock and in holdings of other assets and liabilities in the foreign sector are shown.

A deconsolidation of the gross saving and investment account along these lines is shown in table A–13.

(9) *Assets and liabilities table by institutional sector.*[30]—A table showing the level of assets and liabilities by institutional sector can be drawn up in much the same general form as the table showing changes in assets and liabilities. This table would in effect be a national balance sheet. The problem of valuation mentioned in connection with the table showing changes in assets and liabilities would also extend to this table. Here at least two different valuations may be used. For many purposes (including, for example, the study of taxable capital gains), it is important to show remaining original cost valuation of assets. For other purposes, the current market value or replacement cost valuation may be needed. Table A–14 shows the form of this table, using market valuations for the assets and liabilities, but also showing original cost depreciation and the valuation adjustment.

TABLE C.—*Accounts for the manufacturing sector*

I. MANUFACTURING PRODUCTION ACCOUNT

1. Purchases from producing units on current account	------
2. Payments by manufacturing to individuals	------
3. Income retained by manufacturing	------
4. Payments by manufacturing to Government	------
5. Imports by manufacturing	------
6. Minus: Adjustments	
a. Subsidies	------
b. Government interest received	------

[28] See footnote 28 on p. 152.
[29] Cf. discussion of flow-of-funds statement in ch. XIII.
[30] For discussion of the capital accounts for Government and consumers, see Chs. VII, 2, and XIV.

TABLE C.—*Accounts for the Manufacturing Sector—Continued*

I. Manufacturing Production Account—continued

7. Statistical discrepancy ------

Total value of product ------
8. Sales to producing units on current account ------
9. Sales to consumers ------
10. Sales to Government ------
11. Sales to producers on capital account ------
12. Net change in inventories ------
13. Exports by manufacturing ------

Total value of product ------

II. MANUFACTURING GROSS SAVINGS AND INVESTMENT ACCOUNT

1. Purchase of durable goods by manufacturing ------
2. Net change in manufacturing inventories ------
3. Net purchases of existing assets by manufacturing [1] ------

Total gross investment ------
4. Realized capital gains ------
5. Income retained by manufacturing ------
6. Net borrowing by manufacturing ------

Total surplus and net borrowing ------

III. TANGIBLE ASSETS OF MANUFACTURING

1. Durable goods ------
2. Inventories ------
3. Nonreproducible assets ------

Total tangible assets ------
4. Realized capital gains ------
5. Income retained by manfacturing ------
6. Net borrowing ------
7. Revaluation of assets ------

Total surplus, borrowing, and revaluation ------

TABLE D.—*Accounts for the nonprofit institutions sector*

I. PRODUCTION ACCOUNT FOR NONPROFIT INSTITUTIONS

1. Purchases from producing units on current account ------
2. Payments to individuals for services ------
3. Tax payments ------

Total value of product ------
4. Sales ------
5. Imputed value added by nonprofit institutions (net purchases of goods and services) ------

Total value of product ------

II. RECEIPTS AND OUTLAY ACCOUNT FOR NONPROFIT INSTITUTIONS

1. Net purchases of goods and services ------
2. Transfer payments to abroad ------
3. Transfer payments to individuals ------
4. Surplus ------

Total outlays and surplus ------
5. Transfer payments from business ------
6. Transfer payments from Government ------

[1] Purchases and sales to be shown separately.

TABLE C.—*Accounts for the Manufacturing Sector—Continued*

II. Receipts and Outlay Account for Nonprofit Institutions—continued

7. Transfer payments from abroad	------
8. Transfer payments from individuals	------
Total receipts	------

III. CHANGES IN ASSETS AND LIABILITIES ACCOUNT FOR NONPROFIT INSTITUTIONS

1. Gold	------
2. Currency and deposits	------
3. Loans	------
4. Securities	------
5. New equipment	------
6. New construction	------
7. Net purchases of existing assets	------
8. Other assets	------
Total changes in assets	------
9. Notes and accounts payable	------
10. Mortgages	------
11. Bonds	------
12. Other liabilities	------
13. Income retained:	
(*a*) Depreciation	------
(*b*) Inventory and depreciation valuation adjustment	------
(*c*) Surplus or deficit	------
14. Realized capital gains	------
Total changes in liabilities and surplus	------

IV. ASSETS AND LIABILITIES ACCOUNT FOR NONPROFIT INSTITUTIONS

1. Gold	------
2. Currency and deposits	------
3. Loans	------
4. Securities	------
5. Equipment	------
6. Structures	------
7. Land	------
8. Other assets	------
Total assets	------
9. Notes and accounts payable	------
10. Mortgages	------
11. Bonds	------
12. Other liabilities	------
13. Current income retained	------
14. Realized capital gains	------
15. Unrealized capital gains	------
Total liabilities and surplus	------

(*c*) *Sector accounts in the integrated national economic accounting system*

In addition to providing an integration of the existing national economic accounts, the integrated system which is proposed here also provides a complete set of transaction accounts for each of the industrial and institutional sectors in the economy. Thus for manufacturing, set forth in table C as an example of industrial sectoring it is possible to derive a current production account showing sales and the allocation of receipts from sales, a saving and investment account showing saving and investment carried out by manufacturing, and a tangible asset account showing the total tangible assets of manufacturing. Obviously if finer industrial sectors are chosen, e. g., for the textile industry, similar information would be available in the integrated system of accounts for such sectors. It will be noted that government and foreign countries are shown as industrial sectors.

As producing industries the accounts of these two sectors would have the same form as that shown for manufacturing. They would contain only those transactions of the government and foreign sectors that relate to production. In the case of government there might be some sales of products on current account, but the major item in the account would be purchases of goods and services by government and the compensation of government employees. According to national income accounting practice the net purchases of goods and services by government are imputed as government product, and in the accounting structure this is handled by recording imputed government sales on the right hand side of the production account equivalent to the difference between sales and costs. The account would thus balance.

For the institutional sectors an additional account sometimes appears. For example in the case of nonprofit institutions, shown in table D, the production account would be similar in nature to that discussed above for government. In addition, however, a receipts and outlay account would be needed that would show the receipts and disposition of all funds of nonprofit institutions, not merely those relating to production. Finally, two more accounts, changes in assets and liabilities, and total assets and liabilities, would also be provided for the nonprofit institution sector.

For some of the other institutional sectors, such as corporations, only three accounts would be needed: the production account, the changes in assets and liabilities account, and the assets and liabilities account. Corporations, unlike nonprofit institutions, do not require a separate receipts and outlay account, since all of their receipts and outlays are covered in the production account. Finally, individuals (other than farm, entrepreneurs, nonprofit institutions, and nonfarm entrepreneurs) do not require a production account, so in this case again only three accounts will appear: The receipts and outlay account, the changes in assets and liabilities account, and the assets and liabilities account.

With respect to the consuming and Government sectors, the committee has considerable reservations as to the content, and even the meaning, of capital accounts. The issues involved are discussed in greater detail in sections VII.1 and VII.3. The committee is reluctant to classify all expenditures on intangibles as current expenditures and all outlays on tangible assets as capital expenditures. All too often, the rate of outlays for producers' goods or durable goods is regarded as a measure of the contribution that is being made to economic growth. This conclusion neglects the fact that, for example, our $8 billion annual outlay for research and development (about half private and half public) is probably a more important contribution to economic growth than an equal amount of outlays for producers' goods, although most of such expenditures would be recorded in the current accounts.

Particularly in the case of Government, investment in human capital, including health and education, are so important than the conventional classification into current and capital accounts is not very meaningful and may even be misleading. For these reasons, the committee prefers to regard the capital accounts as durable goods accounts, rather than accounts which record capital in any economic sense. For consumers and Government, furthermore, the committee feels that the problem can best be handled by including all expenditures on goods and services, whether durable or nondurable, as expenditures on current account. This treatment avoids the necessity of drawing a line of demarcation between current and capital expenditures. Saving, in this treatment, becomes the difference between total receipts and total outlays on goods and services (except residential housing).

As a consequence of this treatment of expenditures on consumer and Government durables, it would logically follow that these durable goods should not appear either as capital expenditures or as assets in the capital accounts. Nevertheless, the committee does feel that it would be useful to have an inventory of these consumer and Government durable goods, and recommends that such supplementary information be provided. These accounts for consumers and Government are purely supplementary tables. They are of the same general form as the capital accounts for the other sectors, but unlike the usual capital accounts, the data on consumer and Government durables would not be tied in to the current accounts in the manner that the capital accounts for the other sectors are related to their current accounts. The saving and equity items in the capital accounts for consumers and Government will thus be unrelated to the saving and surplus items in the current accounts.

(*d*) *Summary flow tables for the economy*

For many purposes, it is useful to set forth the pattern of receipts and outlays of different parts of the economy, showing to what extent various sectors have an excess of outlays over receipts or vice versa. From the point of view of the economy as a whole, obviously, it will be found that the deficits will exactly balance the surpluses. The system of national economy accounts described here permits such a summary table to be constructed. Table E shows the kind of table that could be drawn up.

Besides showing current and capital accounts for specific sectors of the economy, it is also possible to abstract from the integrated set of national economic accounts a table showing receipts and outlays for all industrial or institutional sectors of the economy. Such a table is presented in table E below. This table is derived from tables A–7, A–8, and A–9 in the appendix. It shows the current account for all sectors of the economy.

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TABLE E.—*Summary of receipts and outlays for the economy*

Sector	Receipts				Outlays					Excess of receipts (+) or outlays (−)
	Goods and services	Taxes	Transfers	Total	Goods and services		Taxes	Transfers	Total	
					Current	Producer durables				
1. Consumer households										
2. Nonprofit institutions										
3. Enterprises										
(a) Nonfinancial private corporations										
(b) Financial private corporations										
(c) Nonfarm unincorporated enterprises										
(d) Farm enterprises										
(e) Government enterprises										
4. Government										
(a) Federal										
(b) State										
(c) Local										
5. Foreign countries										
6. Subtotal										
7. Adjustments for intermediate purchases, transfers and statistical discrepancy										
8. Gross national product										

6. SUMMARY OF RECOMMENDATIONS

Integration of the various forms of national accounts into a single system is feasible at an aggregative level. The national income and product accounts provide a framework that can be utilized for this purpose. In recommending that such integration should take place, however, the committee does not mean to suggest that it be carried out at any but a highly aggregative level. Different Government agencies interested in such fields of national economic accounting as input-output tables, flow-of-funds statements, and balance of payments will find it necessary to make considerably more detailed studies for their own special purposes. Nevertheless, the committee believes that there is considerable merit in using the data arising from these more detailed studies, supplemented in some cases by additional data, to produce ultimately a single integrated national economic accounting system of the type described in this chapter.

CHAPTER VI. CONSTANT DOLLAR ESTIMATES [31]

1. THE PROBLEM

In the committee's judgment, one of the areas of most needed development is the estimation of national product and its components in

[31] This chapter is virtually limited to a discussion of constant-dollar estimates of national product and income. This limitation was indicated by the predominant importance of the income and product account for the problems of deflation and the similarity, though not identity, of the deflation problems encountered in the other segments of the national accounts. It was, moreover, enforced by the limitation of time at the committee's disposal. Some remarks on the special problems of constant-dollar national balance sheets will, however, be found in chs. V and XIV.

terms of constant dollars, i. e., in terms free from the influence of year-to-year variations in prices. The potential uses of such constant-dollar estimates for the economic analyst are as great as those of the current-dollar estimates. Without such figures it is not possible to say whether an increase or a decline in the current-dollar estimate of gross national product from one year or one quarter to the next reflects a decrease in the physical volume of production, or is due primarily to a change in prices. The answer to this question, however, is clearly of critical importance to the Government in reaching a decision as to what policies to adopt, and will probably be of significance to business firms in formulating their sales and production programs.

Again, constant-dollar estimates of gross national product are necessary to assess changes in the Nation's level of living. We wish to know whether the average volume of commodities and services per member of the population is higher in 1957 than a year or a decade ago, and, if so, whether this higher level is due to a greater supply, say, of food and clothing, or automobiles, or defense goods. But for this type of comparison use of the current-dollar estimates of gross national expenditure is insufficient, since the more recent expenditures were made at a price level which averaged noticeably higher than that of a decade ago; hence, it is necessary to turn to a constant-dollar estimate.

We are interested also in tracing changes in the Nation's productivity, as reflected, for example, in the average output per man-hour of work. Has productivity increase in this country been greater in recent years than abroad? In what parts of the economy has it been most rapid—in agriculture, manufacturing, trade? Where has it lagged behind? Again, answers to these questions require estimation of national product and its components in terms free from the influence of price changes.

At the present time constant-dollar estimates are published by the National Income Division only for total gross national product and certain very broad expenditure components. Consumption expenditures, for example, are divided only into expenditures for durable goods, nondurable goods, and services, and Government purchases are split into Federal and State and local expenditures. What is equally serious, these estimates are available only for annual periods.[32] The overwhelming proportion of the National Income Division's resources is devoted to preparation of the current-dollar estimates. Indeed, prior to 1950 there were no constant-dollar estimates published at all. The lag in this area is no reflection on the National Income Division. First, by the nature of the estimating process, the current-dollar figures must precede the constant-dollar ones. Secondly, the National Income Division is critically dependent in this area on the close cooperation of other statistical units in the Government that are engaged in assembling and analyzing price data, particularly the Bureau of Labor Statistics and the Agricultural Marketing Service. While such cooperation has been generously given, these other agencies, too, operate under the constraint of limited resources, and hence progress has

[32] Quarterly estimates of total disposable-income and personal-consumption expenditures in constant dollars (without component detail) are published in the Economic Report of the President under current practice in January of the following calendar year. These estimates are quite crude, however, since they are obtained by adjusting the current-dollar estimates by the consumer price index.

been less than if the development of price data specifically for national accounting purposes had been an explicit assignment of these agencies. Thirdly, the National Income Division has hardly the staff required for current-value estimates alone.

However, with only a modest increase in the resources devoted to preparation of the constant-dollar estimates, a noticeable expansion in scope of the estimates could be achieved while, with the initiation of a comprehensive program, great progress could be made. For this reason and because of the fundamental nature of the uses which these estimates serve, the committee is inclined to assign to this work a very high priority among the possible additions to the national accounts. The desirability of this work is further attested to by requests from all types of users for expansion of the constant-dollar estimates.

In the committee's view, most of the uses to which constant-dollar estimates might be put would be served by annual estimates in considerable detail of the price and volume components of the current-dollar series for gross national product, subdivided both by type of expenditure and by originating industry, plus similar though more abbreviated estimates on a quarterly basis, particularly for the expenditure distribution. The following recommendations are accordingly framed with a view to the development of such data. Before presenting the detailed recommendations, however, it may be helpful to explain more fully the nature of the ultimate objective which the committee envisages.

Each element of national product, which is in the nature of the aggregate expenditure by 1 or more sectors on a given type of commodity or service, can be regarded as the product of 2 components, 1 a quantity, the other a price. The expenditure figure is always explicit. The quantity and the price component may be either explicit (i. e., they reflect observed quantities or prices) or implicit (i. e., they result from the division of expenditures—a current dollar magnitude—by either a quantity measure or a price, which in turn may be an average or an index). In many cases the two components can be measured explicitly, but their product will not yield the given expenditure figure because of differences in coverage and for other more technical reasons. Hence, in the final estimates one of the components will be determined implicitly. Wherever possible an explicit measure should also be derived for purposes of control; that is, an index of observed prices as a control of the implicit price index and an index of quantity of output as a control of the deflated expenditure figure.

If the suggestions envisaged below are accepted as a long-range goal 2 sets of 3 tables each would be published to show the relationship between current- and constant-dollar figures. The first table of the first set would show the well-known estimates of gross national product by type of expenditure in current dollars; the second would present estimates in constant dollars; and the third would show the corresponding price indexes. In every case multiplication of matching entries in the second and third tables would yield the corresponding entry in the first. To illustrate, the first part of the current value table would consist of a condensed version of the present table 30 of National Income, 1954 edition, "Personal consumption expenditures by type of product"; the corresponding part of the second table

would present constant-dollar figures for the same items as in table 40; and the corresponding part of the third, the consumer price indexes (as in table 41). Similarly, matching entries in the successive tables would be provided for various categories of domestic investment and of Government purchases, and for net foreign investment. A second set of three tables would provide the desired data on the distribution of gross national product by industry of origin. The first table, which would resemble in appearance the present table 13, "National income by industrial origin," would present the distribution in current dollars; [33] the second, the distribution in constant dollars; and the third, the price indexes.

Since the latter set of tables showing a constant-dollar distribution of national product by industry of origin would constitute a substantial innovation in the supply of constant-price data, it is perhaps helpful to recall some of the uses this set of data would serve. It would provide what are in effect indexes of output (deflated value added) for all major sectors of the economy, closing a major gap in our present body of statistical knowledge, and permitting analysis of the changing industrial structure of the economy. Thus, one might determine whether an expansion in total output was associated with a more rapid expansion of agriculture or manufacturing, of transportation or trade. On the statistical side, aggregation of the industry indexes of net output (deflated value added) would provide a largely independent estimate of total real (constant dollar) gross national product, thus providing a check on the total derived by summing constant-dollar expenditures. Equally important is the possibility of using these data together with matching data on man-hours to derive measures of output per man-hour of the economy, and to analyze the role played in these changes by different industrial sectors and by shifts of workers between low- and high-productivity industries. Such productivity analysis, which requires a distribution of constant-dollar product by industry of origin and is not possible with the distribution by type of expenditure, would be important not only in increasing our knowledge of the past and present, but also in attempting to project the future productive capacity of our economy.

The recommendations in sections 2 and 3 which follow are framed with a view to developing a body of data of this type on a limited scale in the immediate future, but in the required detail later on.

2. RECOMMENDATIONS FOR THE IMMEDIATE FUTURE

(*a*) *Development of quarterly estimates*

The development of a constant-dollar estimate of gross national product and its components on a quarterly basis is of very great importance for improving current interpretation of cyclical movements in our economy and for the formation of public policy. The regular preparation of such estimates at an early date appears feasible by adapting the methods presently used in preparing the annual estimates

[33] Aside from showing less industrial detail, this table might differ from table 13 in that the entry for each industry would relate to gross product originating rather than national income originating, possible at market prices rather than factor cost. The committee has not attempted to specify whether valuation should be at market price or factor cost, or the product originating estimate should be net or gross of capital consumption allowances, since the choice at the present time must largely rest on feasibility of statistical derivation.

to the more limited price data available quarterly. Much of the necessary preliminary exploration and testing has already been done by the National Income Division. The extent of detail on expenditure components that can be published will of course be limited by the supply of quarterly price data. If, as is recommended below, the supply of data is sufficiently expanded, publication of quarterly constant-dollar estimates in detail as fine as that presented for the quarterly current-dollar estimates should be aimed for.

(*b*) *Expansion in component detail*

At present the published annual estimate of constant-dollar personal consumption expenditure is subdivided only among durables, nondurables, and services. In the actual preparation of this estimate, however, constant-dollar figures are developed for considerably narrower categories. While some of the estimates for more detailed categories are of necessity crude, some expansion in the published detail could be achieved if sufficient opportunity were available to test and strengthen these estimates by comparison with alternative sources. For the immediate future, it would be very useful if detail could be published as fine as that now given in the present quarterly (current-dollar) estimate, where, under durable goods, separate data are given for "automobiles and parts" and "furniture and household equipment," while among nondurable goods, estimates are provided for "clothing and shoes," "food and alcoholic beverages," and "gasoline and oil," and under services, data are given on "household operation," "housing" and "transportation." [34]

(*c*) *Distribution of gross annual national product between Government product, household and institutional product, and business product*

At present no regular estimate is made of the distribution of gross national product in constant dollars by industry of origin, though as indicated above, such an estimate would be very important for analyzing the growth of productivity in the economy. However, from time to time the National Income Division has prepared an estimate in constant dollars of gross product originating in agriculture,[35] and this has permitted the development of a crude industrial distribution of gross national product among gross private farm product, gross private nonfarm product, and gross Government product. These data are currently brought up to date by the Council of Economic Advisers in the Economic Report of the President.[36]

The committee favors the direct preparation and publication of these estimates by the National Income Division on a regular basis, as part of the regularly published annual constant-dollar estimates, since despite the crudity of the industrial classification, these data provide an important starting point in analyzing productivity change in the economy. Also, since the present practices used in deriving the constant-dollar estimates assume, for lack of appropriate techniques, no productivity change in the household and institutional sectors of the economy, the committee favors the separate presentation of a constant-dollar estimate for these and similarly situated sectors,

[34] E. g., Survey of Current Business, February 1957, p. S–9.
[35] E. g., Survey of Current Business, August 1954.
[36] Cf., e. g., table E–3, January 1957 report, p. 126.

so that the segment of the total product to which productivity analysis can be properly applied may be isolated. In addition, matching series on man-hour employment should be developed in cooperation with the Department of Agriculture and the Bureau of Labor Statistics, and presented along with the product estimates.

3. RECOMMENDATIONS FOR THE LONGER RUN

The recommendations listed above appear feasible within the limits of currently existing data or with only moderate additions thereto. Those listed below, however, would probably require greater expansion in underlying data and in some cases would presuppose further exploration on methodology.

(*a*) *Expansion in detail of constant-dollar expenditure estimates*

We have already noted that some extension in the detail of constant-dollar consumption expenditure seems feasible at the present time. Over the longer run, additional expansion seems desirable, particularly in the area of consumers' durables. Of even greater urgency is the development of detail on expenditures on producers' durable equipment, for which no subdivision is now presented, and on Government purchases of goods and services in the same detail as proposed for current expenditures in chapter VII, sections 2 and 3.

(*b*) *Development of matching constant-dollar and man-hour estimates*

The committee suggests a cooperative attempt (among the National Income Division, Bureau of Labor Statistics, Agricultural Marketing Service, Federal Reserve Board, and other interested agencies) to develop constant-dollar estimates of output and man-hours for the major nonagricultural sectors of the economy in as much detail as seems warranted.[37]

As indicated above, a constant-dollar division of gross national product by industry of origin and a corresponding distribution of man-hour employment appears feasible at present only for a very crude industrial distribution-agriculture, household and institutional, government, and "all other." The major gap is detail for the real product of the nonagricultural sector of the economy other than government and household and nonprofit institutions. Considerable preliminary work toward developing the desired estimates has already been done by certain nongovernmental organizations, and the Bureau of Labor Statistics has developed constant-dollar estimates of the net output of manufacturing that could be adapted for purposes of real product measurement. Further exploration is still necessary, and will be furthered by the recent formation by the Office of Statistical Standards of an Interagency Committee on Production and Productivity Estimates set up specifically for this purpose. The 1958 meeting of the Conference on Research in Income and Wealth, which will be devoted to conceptual and statistical problems in the estimation of real output, input, and productivity, should further contribute to this end. These studies together with prior work should provide the

[37] A recent examination of this problem and other issues in the measurement of deflated national product is given in John W. Kendrick, Measurement of Real Product, Studies in Income and Wealth, vol. 22 (in press, to be published by Princeton University Press for the National Bureau).

foundation for development of the desired current real output estimates in considerable industrial detail by means of the cooperative program recommended above.

Needless to say, a ratio such as net output per man-hour does not provide a measure of the contribution of labor to output. Eventually, it would be desirable also to develop measures of the capital input in each industry, but work in this area has not reached as advanced a stage as that on the measurement of real product and labor input. For this reason the committee has emphasized the latter as the primary areas for the development of official estimates at the present. Elsewhere, however, the committee is recommending work on the development of estimates of real capital stocks, and with substantial progress on the stock estimates, the development of estimates of current capital input might become feasible.

(c) Development of additional price indexes

A series of conferences should be initiated among interested users and producers to review the present constant-dollar estimates, to survey the needs for development of additional price data and indexes for use in strengthening and extending constant-dollar estimates of both national product and input-output data, and to recommend an integrated program for meeting these needs.

Though listed last among the major recommendations for the longer run in the preceding paragraphs this is in a sense the most urgent. A review of the type suggested is clearly necessary to the extensions of the constant-dollar estimates recommended above. Moreover, it is basic to improving the quality of the present estimates—estimates that have not yet been subjected to a thoroughgoing review and revision, as well as to strengthening those extensions of the estimates which are believed practicable in the near future.

The present annual constant-dollar estimates suffer from some important shortcomings. While some of these are more or less inevitable, a number are due simply to the fact that the price data and indexes presently used have been assembled for purposes other than the development of constant-dollar estimates of national accounts data. If the latter were recognized as an explicit objective, substantial improvements might be effected.

The price data presently used in deriving constant-dollar estimates do not provide comprehensive coverage of the various commodities and services included in national product. This is particularly true with respect to producers' and consumers' durables, Government procurement, and certain types of consumer and business services. This lack of data forces resort to a number of compromise solutions. In some cases the price movement for selected items is imputed to an entire group, as in the case of the special industry machinery category of producers' durable equipment; or the price movement of a good in a certain geographic area may be imputed to other areas. While such devices will always be necessary, it would be desirable to narrow their range as much as possible. Again, indexes of production costs (total or partial) are sometimes used instead of price indexes, as in the area of new construction; or indicators of man-hour employment have been used to extrapolate the base year expenditure for a particular group of items, as, for example, in the case of Government expenditures for employee services. These techniques, as the National

Income Division stresses, fail to allow for productivity change and in some cases for changes in profit margins.

If more price data of the proper type were assembled it would be possible to construct constant-dollar estimates for narrower categories of expenditure than at present, thus reducing the range of imputations necessary, and some cost or input indexes might be replaced by price indexes proper. In addition to assembling new data on final expenditures, it would be desirable to increase the collection of price data on materials and other intermediate products purchased by producers, and also to extend the body of data collected on a quarterly basis. This would facilitate implementation of some of the extensions in the constant-dollar estimates recommended above. Attention should also be given to the advantages and limitations of hypothetical price indexes for products which change materially in their makeup over a period of time. (Such indexes could be constructed by assuming a set of specifications for a finished product and by taking periodic hypothetical bids for its production from a representative group of producers.)

Finally, improvement in the constant-dollar estimates would result from the construction of price indexes with weights more appropriate to national product deflation. At the present time many of the price indexes used in deriving the constant-dollar estimates are weighted with a view to some other purpose, and this necessarily reduces their usefulness in deriving the constant-dollar estimates.

Collection of more data and the construction of new indexes will not solve all problems relating to the derivation of constant-dollar estimates, however. For certain sectors of the economy it is difficult to conceive of a physical volume measure, and the very concept of "real product" seems called in question. This is particularly true with respect to the treatment of financial services, domestic servants, nonprofit institutions, and services of Government employees. At present constant-dollar estimates for most of these sectors are derived by extrapolating the current-dollar figure in the base year by a series on factor input in the sector, a technique which involves the very questionable assumption that productivity change is zero.[38]

Some efforts have already been made to go beyond a measure of factor input in treating these sectors. In some countries an attempt has been made to develop direct indicators of physical volume of output; for example, changes in the volume of hospital services have been measured by changes in the number of people receiving medical attention. The shortcomings of this approach are obvious; the matter therefore calls for further exploration. Other investigators have attempted to measure volume of real output in these sectors by adjusting the measure of man-hour input for the productivity change registered in analogous sectors of the economy, though identification of an analogous sector would clearly be difficult. Indeed, several committee members favor the adoption of this treatment at the present time in estimating the real volume of output in the Government sec-

[38] This is not true with regard to financial services. However, the procedures followed in deriving constant dollar estimates of these services are rather difficult to interpret. For example, in the case of life-insurance companies, in obtaining the physical volume of services, the service provided is broken down into the insurance and investment components, and the former is extrapolated by the dollar volume of insurance in force, deflated by the consumers' price index, while the latter is extrapolated by the total admitted assets of insurance companies, similarly deflated.

tor, on the ground that despite the shortcomings the error would be less than that involved in the present procedure.

It is obvious that a good deal of further work is needed before agreement can be reached on reliable measures of constant-dollar output for these sectors, and the committee recommends that these problems be subjected to intensive study both within and outside the Government. The Conference on Research in Income and Wealth might wish to consider this as a special topic of study in a forthcoming program.

4. SUPPLEMENTARY RECOMMENDATIONS RELATING TO CONSTANT-DOLLAR ESTIMATES

(a) *Development of constant-dollar income estimates for different groups in the population*

There remains one major type of use of constant-dollar estimates which the foregoing set of data would not serve, namely, comparison of the level of economic well-being of different groups in the population. One wishes to know, for example, how the national income is shared between persons in high- and low-income groups, between the farm and nonfarm population, and among members of the population in different parts of the country, and what changes are taking place in the shares of these groups over time. Such information, when considered in conjunction with data on the changing numbers in these groups, is important in appraising the performance of our economy and in formulating public policy. The estimates previously discussed provide a basis for determining the change in the level of economic well-being of the population as a whole, but not for these different groups within the population.

The distributions of personal income by size of income and by State, published by the National Income Division, and the estimates of income of the farm and nonfarm population, published by the Department of Agriculture, provide an important point of departure for answering these questions.[39] They suffer, however, from the defect of being in current-dollar terms only. It is possible, of course, to convert them to constant dollars by use of a national price index, such as the implicit price index for personal consumption expenditures, and this is sometimes done. But conceptually this is inadequate, for it fails to allow for the possibility that the price level and trend differs among various groups in the population, and therefore that the current-dollar shares of these groups (which, of course, would remain unchanged if a national price index were used as a deflator) differ from their "real income" shares.

There is at the present time some information on the price level and/or trend experienced by various groups in the population. The Consumer Price Index of the Bureau of Labor Statistics refers essentially to the prices paid by wage and salary earners in the lower and middle income groups living in urban communities, and the Department of Agriculture compiles indexes on the prices paid by farmers.

[39] In passing it may be noted that there would be some merit from the point of view of convenience to users in incorporating the farm-nonfarm estimates in the national income supplement with the few modifications necessary to shift to the personal-income concept. The National Income Division estimate of the distribution of national income by industry of origin is, of course, inappropriate for the present purpose, since it does not take into account income accruing to the farm population from nonagricultural sources and, conversely, for the nonfarm population.

There have also been one-time studies of price differentials between rural and urban areas and of differential price trends in the various States.[40] But much needs to be done to improve the comparability of such indexes with the income categories distinguished in the national income accounts and to fill in gaps for groups in the population not presently covered. The extent to which development of continuous indexes stretching at least from 1929 up to the present would be desirable cannot, of course, be determined in advance, but depends on the extent to which significant price differences are uncovered as a result of such studies.

An additional conceptual difficulty arises with regard to the question of whether and how the part of personal income used for the payment of taxes and the acquisition of intangible assets should be deflated. The committee, therefore, recommends that the Bureau of Labor Statistics in conjunction with the National Income Division consider this problem as well as the possibility of developing price indexes relating to the personal consumption expenditure of various income-receiving groups in the population. Some further comments along these lines appear below (secs. IX 2c, IX 3c, and X 14).

(*b*) *Constant-dollar estimate of net as well as gross national product*

This would require the development of an estimate of capital consumption allowances in constant dollars. The committee recommends in chapter VII, section 5, the preparation of supplementary replacement cost estimates for capital consumption allowances which presuppose constant-dollar estimates. Once these are available derivation of the net product estimate will be a simple matter of subtraction from the deflated gross product total. Such an estimate would be useful in providing a better approximation to the real net output of the economy by excluding from the final product total the estimated fraction of the capital stock used up in current production.

(*c*) *Periodic reweighting of the constant-dollar estimates*

It is shown that the degree of change shown by a constant-dollar measure of gross national product will be influenced by the choice of the weight-base year. For example, if relative price and physical volume movements of individual commodities are negatively correlated—as is often the case in the long run—then the rate of real output growth will be greater if the weight-base year refers to an earlier rather than later date in the period. There is no unique solution to the choice of the weight-base year, though some analysts prefer a more recent date, since it is more consonant with current experience. When first published, the constant-dollar estimates of the National Income Division were in 1939 prices, but they were subsequently shifted to a 1947 price base. The committee favors the use of fixed base weight indexes and endorses the policy of periodic reweighting in terms of more recent year prices. It also favors the occasional recomputation of a recent year estimate in prices of an early year for the purpose of analyzing the influence of the choice of the base year. If possible, development of constant-dollar estimates in 1929 prices for selected years would be helpful for this purpose, but such an estimate is of low priority compared with other needs.

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[40] Cf. Nathan Koffsky, Farm and Urban Purchasing Power, Studies in Income and Wealth, vol. 11; and Abner Hurwitz and Clarence B. Stallings, Interregional Differentials in Per Capita Real Income Change, Studies in Income and Wealth, vol. 21.

(*d*) *Extension of the constant-dollar estimates back of 1929*

The committee recommends elsewhere the extension of the current-dollar estimates back of 1929. A similar extension of the constant-dollar series for gross national product and the principal expenditure components is also recommended. Not only would such data be of interest for a closer study of economic growth in this country, but it would be useful in providing a broader base for comparison than the present initial year, 1929, which from many points of view was an exceptional one.

(*e*) *Preparation of a special supplement on constant-dollar estimates*

At present very little is published on the methods and sources of data underlying the constant-dollar estimates. Preparation of a supplement to the Survey of Current Business presenting information in substantial detail is important for the proper interpretation and use of these estimates.

(*f*) *Other proposals*

A number of other proposals relating to the constant-dollar estimates were considered of lower priority, because insufficient developmental work had been done to merit their being undertaken on an official basis at the present time, or because the quantitative departure from the present or proposed estimates would be small. Among these were the development of constant-dollar estimates of factor input, obtained by adjustment of the current-dollar income estimates by indexes of factor rather than of product prices; and the development of constant-dollar expenditure estimates valued at factor costs as well as at market prices.

The committee also considered the question of developing constant-dollar estimates of certain financial flows, for example, personal saving and undistributed corporate profits. Since these flows do not relate to any identifiable product magnitude, the choice of a price index for adjustment to constant-dollar terms seems essentially arbitrary, and can be determined only with reference to the particular purpose at hand. If, for instance, the amount of saving supplied in recent years should be compared with that of the twenties, one might deflate present-dollar figures by use of a composite index reflecting the price measurement of investment goods, particularly producers' durables and construction. In this case, we measure the ability of saving to finance investments. For other purposes, other indexes may be more appropriate. For instance, if we measure private saving as a reserve for old age, or for financing children's education, or for the case of serious illness, different methods of deflation would be warranted. The committee believes that the selection of the appropriate deflators must be left to the analyst using the data. Therefore, the committee refrained from recommending any attempt to develop a general price deflator for saving.

Chapter VII. Specific Problems of Main Accounts

1. THE PERSONAL ACCOUNT

The personal segment of the national income and product accounts covers essentially the consuming public, and therefore incorporates

vital information for the understanding of economic processes and trends. At the present time, the personal account includes mainly the activities of individuals and families in their capacity as income receivers and consumers. In addition, it includes nonprofit organizations, personal trust funds, and private pension, health, and welfare funds.

To make the information in the personal account more useful, four types of revisions and additions to the estimates now prepared should be made as soon as the data permit. First, the account should be deconsolidated in supplementary tables to show separate figures for households and institutions and, within the household sector, data should be shown separately for nonfarm households, farm households, and other households. Secondly, estimates of the purchases, holdings, and depreciation of durable assets of households (including homes, automobiles, and major household appliances) should be prepared in both current and constant prices. Thirdly, supplementary information should be provided on realized capital gains and losses. And, fourthly, in connection with the development of the national balance sheet, it would be desirable to have periodic estimates of unrealized capital gains and losses.[41]

(*a*) *Treatment of nonprofit organizations and funds*

Since the personal account shows the transactions of the persons and institutions in the personal sector with the other sectors of the economy, the income receipts of nonprofit organizations, personal trust funds, and private pension and related funds are included in personal receipts, and their purchase from other sectors are included in personal consumption expenditures. For the same reason, transactions between households and nonprofit institutions (except wages paid by these institutions to households) disappear altogether from the present national accounts.

The troublesome feature of the present practice is that the nonprofit organizations and financial institutions included in the personal account are organized primarily to provide services, so that they cannot be regarded as consumers. Moreover, even the treatment of financial intermediaries is not entirely uniform. The production activities of mutual financial intermediaries, such as life-insurance companies and investment funds, are included in the business sector, but the net increase in equities in such institutions accruing to individuals is, by a process of imputation, transferred to the personal sector.[42] On the other hand, nonprofit organizations, personal trusts, and private pension, health, and welfare funds are included entirely in the personal account, so that their current-account activities (regarded as consisting solely of the payment of wages and salaries) are counted as income originating in households. As a result of this rather complicated treatment, all savings accumulated for the benefit of individuals, either in their own accounts or in the accounts of funds or mutual financial intermediaries, are counted as personal saving.

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[41] Recent changes in methods of income disbursement call for a review of the methods of compensation and of withdrawing incomes from corporations. The subject is treated below in ch. X, sec. 9.

[42] Specifically, premiums and other remittances paid by individuals to life-insurance companies and other mutual organizations and cash benefits received by individuals from them are treated as though they constituted transfers among individuals and hence are omitted from the accounts, and the income and operating expenses of these intermediaries are treated as if they were income and purchases, respectively, of households.

Three possible approaches were considered by the committee to remedy the deficiencies of the present treatment.

First, the present coverage of the personal account might be retained, but personal trusts and private pension, health, and welfare funds could be treated at life-insurance companies are treated at the present time. The magnitudes shown for personal income, personal-consumption expenditures, and personal saving would remain as they are now, but the production activities of the trusts and funds would be removed from the personal account. To distinguish the incomes, savings, and investment of nonprofit organizations and financial intermediaries from the corresponding figures for households, it would be necessary to provide additional supplementary tables showing a breakdown of the personal account between households and institutions. The disadvantages of this approach are: (*a*) Nonprofit organizations cannot be regarded as households and (*b*) the motivations and operations of personal trust funds and private pension, health, and welfare funds are different from the motivations and operations of households.

Second, all nonprofit organizations and mutual financial institutions now included in the personal account might be treated like businesses, and the present imputation of the increase in equities of mutuals to households eliminated. Although this approach would clean up the personal account, it would be inappropriate to treat the savings of nonprofit organizations, and particularly of mutual financial intermediaries, in the same way as the undistributed earnings of corporations.

Third, all nonprofit organizations and mutual financial institutions (including mutual life-insurance companies and investment trusts) might be combined into a new sector having its own articulated account. The advantage of this approach is that it would combine into a single account all mutual financial intermediaries and other institutions not in corporate form managing funds that belong to individuals or that eventually are paid to them in the form of pension, health, or welfare benefits. However, this improvement would be obtained at a substantial price, since the addition of a new articulated account would complicate the national income and product tables and would require the estimation of some crossflows between the new account and the other accounts which have relatively little practical significance, although other crossflows that would be shown for the first time are of considerable size and interest.[43]

Although a solution that would satisfy all theoretical as well as practical requirements is not possible, a majority of the committee felt that, on balance, the first approach should be adopted. In arriving at this decision, the majority was fully aware that the third approach would provide an accounting structure that better fits the realities of the Nation's economic organization. However, it was persuaded that the practical difficulties of setting up a new articulated account out-

[43] Among the complications created by this solution are the following: (1) A separate line would appear in the product table showing the imputed value of the services provided without charge by nonprofit institutions; (2) expenditures that are now included as a single total in personal-consumption expenditures (e. g., the cost of education provided by nonprofit schools and colleges) would be divided between personal-consumption expenditures and expenditures by nonprofit organizations; and (3) transfers from government and business to nonprofit organizations and institutions would have to be taken into account explicitly in reconciling gross national product and personal disposable income.

weighed the advantages that would be derived, particularly since it is possible to provide adequate breakdowns to permit the separation of the activities of institutions and households. Moreover, the transactions of the institutions and mutual organizations that might be included in the new account, though important, are small relative to the totals for the economy as a whole. Finally, no other country has a separate account for nonprofit institutions and mutual organizations, so that the change would not contribute to international comparability.

Accordingly, the only change we recommend is that personal trusts and private pension, health, and welfare funds be treated as life-insurance companies are now treated. However, we strongly urge that separate receipt and outlay tables be provided, at least on an annual basis, for each of the major categories of organizations in the personal account—particularly for the financial organizations on the one hand and for institutions like churches, labor unions, foundations, and colleges on the other—so that the user can make the combinations that best meet his needs.

There are no very serious statistical difficulties in obtaining separate data on the receipts and outlays of nonprofit organizations and private pension, health, and welfare funds. The committee recommends, therefore, that this be done immediately. However, the data on personal trust funds are still too poor—particularly for the funds not administered by banks and trust companies—and not sufficiently current to make this separation feasible at the present time. When data are available—and every attempt should be made to obtain them in the near future, in the interest of providing the basis for more adequate analyses of the capital markets—the receipts and outlays of personal trust funds, at least those administered by banks and trust companies, should also be shown separately.

The committee has also considered the possibility of transferring the Government retirement and other employee trust funds to the personal account, since the operations, at least of the State and local government retirement funds, are fundamentally similar to the operations of private pension, health, and welfare funds. We believe, however, that, on balance, it would be desirable to keep Government retirement funds in the Government account, particularly those of the Federal Government. In the first place, the largest of the Government funds—the Federal old-age and survivors insurance trust fund—is sufficiently different from private pension funds to warrant separate treatment. In the second place, transferring Government funds to the personal account would introduce still another deviation between the official figures on cash receipts and expenditures of Government agencies and the corresponding figures for Government in the income and product accounts. Moreover, the receipts and outlays of Government funds are already shown separately in the national income supplement in sufficient detail to permit interested users to treat like private funds all Government retirement and other employee trust funds (including Federal, State, and local funds) when this is preferable for their purposes.

(*b*) *Classification of households*

Eventually, the national accounts should provide separate estimates for the transactions of at least three major groups of households in the personal sector: (1) Households of farm entrepreneurs; (2)

households of nonfarm entrepreneurs (including, and possibly separating, the households of self-employed professionals); and (3) other households, i. e., primarily those of wage and salary earners and retired persons. Unfortunately, data are not yet available to make such a subclassification to a satisfactory degree of accuracy.

A first step in this direction has, however, been taken in the survey of farmers' expenditures in 1955 by the Department of Agriculture, which, on the basis of a sample of farm households, provides an estimate of farmers' personal and business income and expenditures. The committee endorses the attempts of the Department to put this survey on an annual basis, and urges that the results be made available in time to be used in the preparation of the annual national income and product estimates, i. e., not later than the middle of the year.

Difficulties are admittedly much more serious in the case of nonfarm entrepreneurial families, even if no effort is made to separate business from household activities. (See discussion in ch. V.) No attempt that has as yet been made to obtain income and expenditure data for this group of economic units has been really successful. These units are, however, so important for many aspects of national accounting—not to speak of their importance for economic and social policy—that these attempts must be continued and, indeed, must be accelerated and intensified, as will be stressed in chapter XI, section 2 (*a*). Until satisfactory data become available, all nonfarm households will have to be retained as a sector of the personal account without distinction between entrepreneurial and other nonfarm families.

So long as there is reasonable hope of obtaining data on nonfarm entrepreneurial families, the committee is loath to recommend as a compromise a shift of business income and expenditures of nonfarm entrepreneurs to the business sector that would involve estimating—rather arbitrarily—proprietors' withdrawals as the bulk of nonfarm entrepreneurs' income in the personal account.

Another breakdown of the personal account that is important for economic analysis is a classification, by size, of family income. The available size distributions are based, to a large extent, on meager data, and a substantial effort should be made to improve the statistics underlying them. Our recommendations for making the necessary improvements are contained in chapter X, where the problems of constructing income-size distributions are discussed in some detail.

(*c*) *Treatment of consumers' durables*

Outlays on consumers' durables other than houses are now treated as current expenditures and, hence, are not taken into account in the calculation of saving or capital formation.

Some members of the committee regard this treatment as unsatisfactory for at least five reasons. First, treating consumer durables as current expenditures runs counter to the principle that whatever is regarded as part of reproducible national wealth—and few would exclude items like automobiles, household appliances and furniture—must also be included in capital expenditures. Second, since the services of consumer durables outlast the period in which they are purchased it may be, and often is, misleading and exaggerates fluctuations in actual consumption if a year's purchases are equated with the services of the stock of consumer durables. Third, exclusion of consumer durables from capital formation violates the principle of invari-

ance. As consumers switch from patronizing streetcars and commercial laundries to the use of their own automobiles and their own washing machines the national accounts register a decline in capital formation though in reality all that has shifted is the ownership of the stock of urban transportation or laundry services. Fourth, one important category of consumer durables, household machinery, has become so much an integrated part of the house that a distinction between the bare frame of the house and the equipment in it appears to be arbitrary. Fifth, consumer durables are often bought on credit. To regard an increase in debt on consumer durables as dissaving but not to include the acquisition of the durables themselves in saving is not likely to lead to figures useful in the analysis of the saving process or the capital market.

In all these respects consumer durables appear to be entirely similar to owner-occupied homes. These, however, are capitalized in our present national income accounts, i. e., they are excluded from current expenditures, but instead, depreciation allowances are added to current expenditures and estimates of the use value (equated to imputed net rent) is added to consumer income. Mortgage debt on owner-occupied homes is, of course, treated as a component of dissaving. The committee minority would like to see the basic economic similarity between the major consumer durables and owner-occupied homes recognized by equality of treatment in the national income and product accounts.

The majority of the committee, however, felt that it would be better to leave the accounts as they are on the ground that the change would, on balance, lessen the usefulness of the basic figures for purposes of economic analysis. In the first place, many items purchased by consumers last more than 1 year (e. g., pots and pans, linens, house furnishings, tennis rackets, clothing, etc.), and it would clearly be undesirable to regard many of them as capital expenditures. Any dividing line that would be drawn between goods bought by consumers that should be capitalized and those that should be treated as current expenditures must inevitably be arbitrary. Second, few consumers regard their outlays on durables as savings. Thus, most people would find it hard to interpret a figure for consumer expenditures which excluded outlays on an arbitrary list of durable goods and included depreciation on such goods. Third, the fact that some consumer durables are purchased on credit hardly distinguishes these consumer purchases from many others. In recent years, credit for financing the purchases of services and goods that are now classified as nondurables has risen sharply. From the standpoint of setting up balance sheets for households, it would be impossible accurately to allocate consumer debt (other than mortgages) to particular assets except on a rather arbitrary basis. Finally, it would be possible to show in supplementary tables the purchases, stocks, and depreciation of selected consumer durables to enable users to treat them as capital expenditures, without impairing the simplicity and clarity of the data on consumer expenditures.

Although the committee is divided on the appropriate treatment of consumer durables, it is unanimous in recommending that the national income and product tables should provide an integrated set of estimates of purchases, stocks, and depreciation allowances of the

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major consumer durables. This would enable users who so desire to calculate a broader measure of capital formation and personal saving than is now currently available. Users who want also to allow for the use value of the stock of consumer durables to complete the parallelism with the treatment of owner-occupied houses would, however, still have to make their own estimates, as the majority regards these as too speculative to be undertaken by a Government agency.

(d) Treatment of capital gains and losses

Some very important problems are posed by the treatment of capital gains and losses, both realized and unrealized. Since they concern mostly the personal account, though they also affect the business and government sectors, they are treated at this point in the report.

At present, realized and unrealized capital gains and losses are excluded from the national income and product accounts—as well as from other segments of the system of national accounts—on the argument that capital gains and losses do not reflect output; nor can they be regarded as transfer payments. (The latter interpretation would be possible only in cases, such as gambling gains and losses, in which one party's gain must be at least balanced by another party's loss.) This treatment may satisfy those who regard the national accounts exclusively as a measure of output of the economy. It is difficult to reconcile with the fact that both realized and unrealized capital gains and losses may, and probably do, affect the behavior of consumers and producers; and with the further, and possibly more significant, fact that realized capital gains and losses represent additions to or reductions in recipients' purchasing power which are quite similar in distributional effect and in some, but not all, other respects to their ordinary income.

Although the committee does not recommend a change in the concepts of national income and product, we suggest that an effort be made to provide estimates of realized and unrealized capital gains and losses in view of their significance for many types of economic behavior and analysis, both in the short and in the long run, as well as for economic policy; and, because of the importance of the figures, for a reconciliation between cumulated current saving and changes in the current value of assets and net worth.

We recommend, therefore, that the National Income Division should develop estimates of realized capital gains and losses for each sector, distinguishing the main types of assets on which such gains and losses arise, i. e. primarily corporate stock, real estate, and inventories. (In the latter case, the necessary estimates are already being made by the National Income Division in the form of the inventory valuation adjustment.) The main source for these estimates will be Statistics of Income, but more detailed tabulations than are now available will be needed. These estimates will have to be prepared in such a form that they can be combined with current income in the computation of a broader concept of income. The preparation of statistics of income including and excluding capital gains and losses is particularly important for distributions of personal income by type and by size.

Attempts should also be made to develop estimates of unrealized capital gains and losses, possibly by the organization which will pre-

pare national balance sheets. These estimates should be made for each sector distinguished in the system of accounts and for each of the major types of assets subject to substantial fluctuations in value. This would exclude claims and liabilities having a fixed value if calculations are carried through in current prices, but would have to include them if the estimates are expressed in constant values because in that case unrealized capital gains and losses will arise also for assets and liabilities which are collected, or discharged, at face value. All these estimates of unrealized capital gains and losses will necessarily have to be very rough; but they are important enough, e. g., for the explanation of changes in the distribution of wealth, to justify the effort to tie them into a system of national accounts.

2. THE GOVERNMENT SECTOR

(a) Conceptual problems

(1) *Government domestic interest payments.*—In the United States system of national accounts, interest payments on the Government debt are excluded from the income and product total in the same way as transfer payments. While few disagree regarding transfer payments, there are substantial differences of opinion concerning the treatment of interest payments. The committee has not tried to produce a final theoretical solution of this problem. We are setting forth first arguments advanced for treating Government interest payments like transfer payments then arguments for regarding all interest payments as factor costs. While the committee was not unanimous on this theoretical question, the great majority agrees in its practical recommendation which will be presented later in this section.

The following is the trend of thought which leads to the treatment of Government interest like transfer payments.[44] Transfer payments are excluded from gross national income and product totals because these payments have no counterpart in the production of goods and services in the same accounting period. The criterion does not depend on whether or not the relief recipient or the veteran has "earned" these payments by his previous services, but rather on whether these payments were received in the accounting period, without a corresponding production or service in that period.

A similar reasoning has been applied to the interest on the war debt. Both wtih respect to the care of war veterans and the cost of borrowing an argument could be made that these expenses should be considered in a computation of the costs of a war. Nevertheless, after the war is over, payments to war veterans and payments to the holders of war bonds are made for a service in a period of the past; there is no counterpart in production during the years when these payments occur.

The suggestion that interest payments on the war debt should be treated like transfers originated in the post-World War I period. It was argued that the inclusion of interest on the war debt as a part

[44] Some theorists have taken the position that all interest payments by producers are essentially like dividends, i. e., a distribution of profits. In this view it might be proper to consider both interest and dividends as transfers in the system of natonal economic accounts. Government interest would then also be viewed in this light and considered as a redistribution of income collected by taxes. Consumer interest in such a theory could either be considered as a transfer or a payment for specific services. The majority of the committee has not accepted this line of reasoning.

of national income would lead to absurd results. Could one say that a country becomes poorer by avoiding or redeeming a war debt by high taxation or wiping out a war debt by inflation, repudiation, or currency reform? Or could one say that a country becomes richer if it raises the interest rate on all war bonds?

Certainly, all such measures would affect total production of goods and services favorably or unfavorably. These effects are measured by the usual estimates of total income and production. In this view, there is no additional effect which should be measured by counting interest payments on the war debt as a payment for a current factor of production.

The question must then be asked why are interest payments on, e. g., bonds issued by an industrial enterprise included in the national income and product total? The reason is that generally there exist tangible assets which have been financed by bonds and these assets contribute their services to production during the period when interest is paid. Thus, there is in this case, a simultaneous counterpart to production which would be neglected if interest payments on commercial debt were not included in income and production totals. This is apparently the reasoning why the National Income Division makes the distinction between payments of Government interest and private interest. The assimilation of Government interest to transfers thus rests exclusively on the argument developed with respect to the war debt. How about the interest on Government debt issued for financing assets, such as roads or schools or municipal waterworks that contribute services to current production?

Proponents of the opposite view, who recommend that all payments for interest be treated as factor payments like salaries and wages, do not face this difficulty. They argue, in the most general way, that no Government or private individual or business firm is willing to pay a price unless a service is rendered worth the price. Thus the fact that interest is paid proves that there must be a service performed and that there is no need to search any further to find out what kind of contribution to the national product has been made.

Those who argue for inclusion of all Government interest in national product, but are not satisfied with the mere fact of market acceptance as justification for treating all Government interest as a factor payment, have advanced two different reasons. Some have suggested that the community which approves borrowing for wartime purpose determines that it prefers investment in war to investment in factories or roads. Government interest payments thus would reflect the services of defense and self-preservation arising out of the war—services which might otherwise have reflected investment in civilian economy. If it is asked how such interest commitments would be considered if war should bring defeat, proponents argue that in that contingency the interest on the war debt would be comparable to that on a business investment which turned out to be a failure. If interest is paid under those circumstances, so the reasoning continues, it represents the price which the community is willing to pay for an asset, namely, for avoiding the undesirable consequences of repudiation. The asset is the preservation of confidence in the Government's credit, and possibly the currency, which would be impaired by repudiation in one form or another. This seems a farfetched argument, but it maintains the criterion that there must be some use-

ful, even though imaginary, asset corresponding to the debt and that the interest payment is considered to be equivalent to the service of that asset.

The second argument raises an even more fundamental question. It denies the necessary and direct relationship between financial claims and tangible assets, between income and production. Rather, incomes are considered to be derived on the basis of contracts. A worker earns his wage on the basis of a contract. Even if he should (unnoticed by the employer) idle on the job and make no contribution to production, he still receives his wage. An inventor who has sold a patent may receive royalties under a contract even if it turns out that his invention is not used. Likewise, an investor in private obligations acquires a claim for interest payments irrespective of whether or not the firm has succeeded in making productive use of the capital. There is a relationship between incomes and production in the economic process, but that relationship is too complex for use in distinguishing between payments for factor costs and transfer payments, or between incomes received from current production and transfer incomes. In the last consequence, this view leads to the conclusion that national economic accounts can only depict the flow of funds and that it is futile to try to identify and separate the payments and receipts which represent production of goods and services and their disposition.

Most members of the committee, while recognizing the logical consistency of this position, believe that the purposes for which national accounts primarily are used cannot be served merely by tracing a flow of funds without relationship to production and disposition of goods and services, and that such a mere description of flows without distinction of their economic character does not satisfy even the requirements of business accounting. They acknowledge that relating the flow of funds to production requires some more or less arbitrary assumptions for which no more can be claimed than that they are reasonable and useful in economic analysis. It is true that there are exceptions to the rule that interest payments on private debt have a counterpart in a contribution to production in the same accounting period; it is also true that the interest payments may not always adequately reflect the real contribution to production. Nevertheless, there is no better and simpler method available for accounting for the services of the assets financed by credit. The interest on the war debt however is too large an item—it is now on the order of $5 to $6 billion a year—to be considered just another exception to the general correspondence of interest payments and continued contribution of an asset to production.

The committee generally, therefore, does not disagree with the present practice of treating the interest on the war debt like a transfer. It does object, however, to the practice of treating interest on all other Government debt, particularly on the State and local debt, in the same way. Since by far the largest part of the Federal debt is the war debt, it is not a matter of urgency to attempt a separation between the part of interest payments which must be attributed to the war debt, those which must be attributed to deficits in current accounts, and those which reflect the acquisition of assets contributing to current national product. The committee is willing to accept for the present the National Income Division's treatment of Government interest as

far as the Federal interest payments are concerned. The State and local debt—approaching $50 billion—involves estimated annual interest payments of more than $1 billion, to which the war debt argument does not apply. The committee recommends, therefore, that in the future, the interest on State and local debt be treated as a part of the income and product totals on the assumption that they reflect the continuing contribution to production of assets financed by the issue of these loans.

This proposal is advanced as a practical interim solution. It cannot be regarded as the final answer because this solution still does not account for the services of Federal assets in general and of those State and local assets which have been financed by current revenues. A final solution consistent with the treatment of interest in the private sector would include that part of Federal interest payments which could be regarded as reflecting the services of Federal assets; and an imputed interest payment for those State and local assets, on the basis of the interest rate actually paid for the assets which have been financed by borrowing. Such a more nearly complete accounting for the services of all Government assets should be adopted only after an inventory of Government assets has been obtained in connection with a comprehensive national wealth and balance sheet account. (See ch. VIII, sec. 2c and ch. XIV, sec. 5.)

(2) *The treatment of Government transfer payments and payments of Government interest abroad.*—The present treatment of Government transfers to and from foreign countries in the National Income Division's statistics leaves much to be desired. At present, Government transfers to and from abroad are netted and included among Government expenditures on goods and services. Government payments to and from abroad include two kinds of transactions: First, grants of funds or drawing rights which essentially facilitate other countries' imports from the country giving the transfer or from third countries; and second, transfers in kind, e. g., goods given by one government to another.

In the case of consumer transfer payments, the transfer is recorded as an income item or source of funds to the individual consumers receiving the transfer payment, and the resulting expenditures by consumers are reflected in gross national product. If the same treatment is followed for international government transfer payments, the transaction would be recorded in the Government account as a transfer and in the international trade account as a payment to abroad. If the transfer were in the form of credit or cash, the foreign country would be recorded as using this credit or cash for the purchase of exports, much as in the consumer account the recipient uses his transfer payment for consumer expenditures. If the payment were one in kind, the same fiction would be maintained. In the case of military aid, exports would show the shipment of munitions as a transfer payment recorded on the other side of the ledger. In cases where the Government drew down existing assets, e. g., defense goods, it would be necessary to show this as sales by the Government to abroad in the Government account much in the way other surplus sales are shown in the Government account. They would also, of course, appear as exports to the countries receiving the transfer in kind.

By treating transfers by the Government to and from abroad in this manner, greater explicitness would be introduced into both the

Government account and the international trade account: the export and import figures would reflect the actual movement in goods and services, and transfers would be shown in their proper role as part of the financing of such movements.

The proposed change in the presentation of international transfers in the Government account should correspondingly be applied also to other transactions such as the payment of interest to foreign holders of Government bonds. At the present time an inconsistency exists in the treatment of Government interest payments in the balance of payments and the rest-of-the-world account on the one hand, and in the Government account on the other. In the international account, payment of interest, irrespective of whether on private or Government loans, is treated as paid for a service; in the Government account, it ih treated as a transfer.

If we think in terms of a worldwide system of economic accounts, Government interest paid or received should be treated the same irrespective of the residence of the bondholder. For a national account, however, one can see some justification for treating Government interest paid to a foreign bondholder differently from that paid to a domestic bondholder.

Nevertheless, in the interest of consistency, the committee proposes that property income paid to or received from abroad be subdivided between Government interest transactions and all other property income transactions. Government interest received from abroad should not be included in the amount of export and service receipts which go to make up the property income segment included in gross national product (cf. ch. V). This recommendation is complementary to the proposal that Government interest payments, like all transfer payments, should in general be excluded from Government purchases of goods and services, but that an imputed allowance for the current service of Government assets should be made.

(3) *The problem of intermediate Government services.*—One of the most difficult conceptual problems of national economic accounting is the propriety of including all Government expenditures for goods and services as component parts of the gross national product. It has been much debated in the guise of the appropriate treatment of "intermediate" Government services.[45]

The argument is that some Government services become embodied in the value of private goods and are counted twice under present practice, once in the production of private goods and once in the value of goods and services of the Government. Without passing on the theoretical merits of the case the committee believes that an attempt to differentiate intermediate from final product in the Government account would give rise to too many controversial questions of classification to be embodied in the near future into the official national accounts. The committee also is uncertain whether the refinement resulting from eliminating a possible source of double counting would outweigh the possible introduction of additional sources of error. After weighing the arguments on both sides the committee thus decided it could not endorse separation and exclusion of intermediate Government services from national product.

[45] See, e. g., Studies in Income and Wealth, vols. 1, 1937; 20, 1957; 22 (in press).

However, the committee recommends that an attempt be made, preferably by a private research organization, to work out, both in general and in quantitive terms, a separation between Government services whose benefits accrue to the individual consumer, nonprofit private institutions, business, or other governmental units, and those services (e. g., national security, tax collection, and other administrative expenses) which do not fit into such classification by beneficiaries. Once such a distribution were successfully worked out, so that it could be kept up to date in the official national accounts, analysts would be enabled to make their own adjustments in the Government account and in the national product and income total.

(4) *Current surplus of Government enterprises and subsidies.*—The National Income Division's system of accounts treats subsidies, i. e., monetary grants provided by Government to private business (including payments to farmers) differently from transfer expenditures. The subsidies are considered to be included in the gross return of business, and, therefore, reflected in profits and farm incomes. A compensating deduction is, therefore, made in computing the gross national income. With this treatment of subsidies we do not disagree.

However, the National Income Division deducts the subsidies from the current surplus of Government enterprises and enters only the net figure in its national accounts, with the result that neither subsidies nor profits of Government enterprises are shown separately. The committee recommends that subsidies and profits (or losses) of Government enterprises be entered separately in the gross national income and product account in a manner parallel to the treatment of transfer receipts of corporate and noncorporate private enterprises.

The National Income Division justifies the present netting of subsidies and current surplus of Government enterprise by the difficulties in ascertaining the subsidy payments to Government enterprises. We recognize these difficulties, but recommend that an effort be made to obtain the data needed for a separate estimate of these items, each of which is of interest to the analyst.

(*b*) *Classification of Government expenditures*

A functional classification of Government expenditures should be developed which is applicable not only to Federal, but also to State and local government. For the Federal Government the functional classification system appears to be well developed. However, the same definition for "national defense" expenditures should be used both in the budget and in the national accounting classification. Procurement for military foreign aid should be shown as a special item under national defense expenditures but in such a manner as to make it clear that it is not included in the gross national product summation. United States representatives to international organizations should attempt to have the same definition also used for purposes of international comparison. If, for certain reasons, different classification systems are needed for domestic purposes and for international comparison, a reconciliation should be published in the national income supplement.

Special analysis D of the Budget Document separates current expenditures, outlays for aid and development programs, and additions to Federal assets. We propose that a similar classification of Government expenditures be adopted for the national accounts. Some of

the data in special analysis D are on a net basis—that is, capital expenditures are shown after deduction of certain revenues. For the national accounts, however, an attempt should be made to present, as far as possible, gross outlays for the acquisition of assets.

The additions to Federal assets should separate those for defense and those for nondefense purposes. Additions to defense assets should further distinguish between: (*a*) Military construction and construction equipment, (*b*) weapons (all "hardware" from bullets to battleships), and (*c*) inventories such as strategic stockpile.

Outlays for nondefense assets of the Federal, State, and local governments should be subdivided by major functions and by the character of the capital goods acquired, particularly distinguishing acquisition of new reproducible assets (structures, equipment, inventories), existing tangible assets (e. g., land) and financial assets. Grants or subsidies used for financing additions to assets held by private institutions, farms, and business enterprises should be shown separately. The classification of capital outlays should, as far as possible, dovetail with the classification of the asset accounts (see subsection (*c*) below) so that the asset account can be kept up to date.

The committee emphasizes that its proposal for developing information on the additions to assets of various kinds should not be interpreted as a recommendation for setting up a capital budget. The committee's proposal aims at providing useful information concerning government transactions within the perspective of the economy as a whole. There is no intent to provide a breakdown of expenditures which in itself leads to conclusions about the desirability of expenditures or methods of financing.

In order to provide more detailed information, particularly for the purpose of computing national input-output tables, it would be most desirable if Government expenditures (either on an accrued expenditures or cash expenditure basis) could be classified by (*a*) programs, and (*b*) detailed object classification. The object classification should fit in with the standard commodity classification (standard industrial classification) and should give somewhat more detail than the present object classification used for obligational authority in the Federal Budget. Such finer cross-tabulations should be of value for progress reports on various programs. At the same time, they would permit a more detailed economic analysis of Government operations and would be essential for the computation of input-output tables.

The committee has been advised that it would not be feasible to prepare such a cross-classification of expenditures by coding and processing checks issued in the Treasury Department, but that tabulations would have to be prepared on the basis of the accounts of the individual agencies. Such a classification, if held desirable, would have to be considered by the Bureau of the Budget, Treasury, and General Accounting Office within the framework of the joint accounting program. The committee therefore recommends that the feasibility of the cross classification be explored by that group.

In order to utilize these asset breakdowns, and the segregations of durable expenditures in particular, in developing a capital account for Federal, State, and local governments another step is necessary—the calculation of depreciation allowances on tangible Government assets, allowances which can be subtracted from durable expenditures

to yield a figure for net capital formation, parallel to what is now called net private domestic investment in our official national income and product accounts. Since most of the Government agencies involved do not themselves provide figures on capital consumption allowances—there are exceptions, e. g., the Atomic Energy Commission—the depreciation allowances will have to be calculated by the national income estimators, as is already done in the case of depreciation allowances on owner-occupied residences. This calculation presupposes, in addition to assumptions about the length of useful life of the different types of Government durables, the existence of estimates of the stock of Government assets, and this is closely related to the problems connected with the derivation of a balance sheet for the various governments discussed below under (*c*).

Because of the difficulties in setting realistic rates of depreciation and obsolescence for military durables (weapons) the committee proposes that they be treated in the main set of national income accounts as "used up" immediately after delivery, i. e., that they be excluded from the asset account. Because of the size of the amounts involved relative to total national capital formation we suggest, however, that users of the national accounts also be furnished with an alternative estimate, possibly prepared outside the Government, in which expenditures on military durables are capitalized, i. e., removed from current expenditures but appear in the current account in the form of use value on the income side aid of depreciation allowances on the expenditure side.

Thus, Government expenditures should be classified:

(1) by functions and programs;

(2) by character, e. g., outlays for current administration, for aid and development programs, for additions to assets. The additions to assets should be further classified, as far as feasible, in the same categories as one suggested for a classification of assets in the next section;

(3) by objects (in accord with the Standard Commodity Classification).

For the most important items, cross-classification (e. g., outlays for assets by functions) would be desirable.

(*e*) *Estimate of Government assets*

The committee recommends in chapter XIV that there be developed a system of national balance sheets. Estimates of Government assets would have to form an important component part of such a system. The development of such a system requires inclusion of asset information in the Census of Governments and otherwise adding to present information concerning assets of the Federal Government. The Government assets should be broken down:

(1) By jurisdiction (Federal, State, local, autonomous authorities of various kinds).

(2) By character (land, structures, equipment, commodity inventories, financial assets).

(3) By functions (agriculture, education, health, transportation, general administration, etc.).

(4) By location (for Federal physical assets only—continental United States with possible classification by regions or States; island possessions; foreign countries).

Cross-classifications are essential for (1) and (2), and (2) and (4) and desirable for (1) and (3), and (2) and (3).

For the Federal Government, the General Services Administration in cooperation with the various executive agencies has compiled an inventory of real property owned by the United States, subdivided by agencies, type of property, and location.[46] This report covers a large part of the federally owned assets, but is based on original cost without allowance for depreciation or changes in prices.

With respect to equipment, it is probably possible to estimate an inventory with sufficient approximation on the basis of an adequate breakdown by objects by using the so-called perpetual inventory which consists of cumulating and depreciating expenditures on durables. The committee, therefore, feels that more detail on the classification of expenditures, particularly durables, deserves higher priority than an inventory of nonfinancial assets of the Federal Government, other than real estate. It may also be desirable to collect directly from governments or with the help of appraisals, sample information on useful life, and similar data which would be of help in estimating inventory magnitudes on the basis of purchases of equipment.

For State and local governments, no data on nonfinancial assets are now being collected. The committee recommends that the Government Division of the Bureau of the Census be asked to explore what records concerning assets are available in the hands of State and local governments. Depending upon the outcome of such explorations, consideration should be given to the inclusion of questions concerning nonfinancial assets of State and local governments in a future Census of Governments or to conducting a special sample survey in between census years. (For a discussion of these and other questions concerning the improvement of data with respect to State and local governments, see ch. XI, sec. 2e.)

(*d*) *A problem of presentation*

There is a difficult problem with respect to the most useful presentation of the Government sector in the system of national accounts. The importance of this problem results from the fact that national accounts have been used for presenting the budget estimates in the perspective of the national economy as a whole. This was the purpose of the tables on the Government budget and the Nation's budget which appeared for a few years in the President's budget messages. In some countries (e. g. France and some Scandinavian countries) such a connection between budget proposals and the national accounts is even required by statute.

This very important use of national accounts is impaired by the fact that the data presented in the Government sector of the accounts differ from the data which can be found in the Government budget. This is true of the consolidated Government receipts and expenditures accounts, as presented in table IV of the annual National Income supplement. The differences are more drastic in the gross national product tables and the summary tables of the national income and product accounts which include in the Government sector only Government purchases of goods and services.

[46] For a summary, see Inventory Report on Real Property Owned by the United States Throughout the World as of June 30, 1956, Committee on Appropriations of the U. S. Senate, 85th Cong., 1st sess. Document 25, February 11, 1957.

The differences result primarily from the exclusion of transfer payments and the acquisition of land and existing assets and from the use in the national accounts of actual data wherever feasible instead of budget estimates. Thus, we have, in addition to the so-called conventional budget concept and to the consolidated cash concept of the budget, a national income and product accounting concept of the budget. This situation has resulted in considerable confusion.

As a minimum, there should be published in each annual national income issue of the Survey of Current Business a reconciliation between the budget data, especially for the Federal Government, and the estimates included in the Government sector. It would also be desirable if each Federal budget would give for the past, the current, and the ensuing year the budget data in a breakdown which permits translation into the Government sector concepts of the national income and product account. The same applies to the publication of State and local budget data by the Census Bureau.

In addition it is necessary to continue to show separately the Government payments for both purchases of goods and services and transfer and interest payments. National accounts are often used for distinguishing the economic transactions which are subject to market fluctuations from those which are determined by Government. For purposes of an economic stabilization policy, for example, it would be erroneous to include transfer incomes as a part of other personal incomes but to exclude it from the Government sector. An increase in transfer expenditures generates additional personal income and consumer spending similar to an increase in, say, wages resulting from expenditures for public works.

It would be desirable therefore if, in an additional summary table, national accounts were presented in a manner in which the Government account, subdivided by Federal and State-local transactions, would show both expenditures for goods and services and transfer payments even though only the goods and services would be included in gross national product. Correspondingly, personal incomes would be subdivided into incomes derived from current production and transfer incomes with only the first included in a summation of total gross incomes. Table E of chapter V is a variant of such a summary table based on the revised form of accounts proposed by this committee.[47]

3. THE FOREIGN TRADE AND PAYMENTS ACCOUNT

The rest-of-the-world sector in the United States national accounts, like the other sector accounts, was originally designed to derive the income originating in the rest of the world, so that it could be added to the income originating in other sectors of the economy to yield national income. For this reason, special attention was concentrated upon items important to the derivation of the income originating in this sector. Imports were netted with exports and factor income was netted with factor payments to derive net foreign investment. However important this procedure was in the development of the national income aggregate, it has left a great deal to be desired in the develop-

[47] For another presentation, see the Economic Report of the President, January 1957, table E6, p. 129, or, in an improved form, Studies in Income and Wealth, vol. 20, p. 126.

ment of national income and product accounts for analytic purposes. To be useful for these purposes, the flows in the accounts should be set forth in such a manner that their behavior over time will be easily discernible. The rest-of-the-world account in its present form is particularly unsatisfactory in this respect. Furthermore, it requires considerable labor to integrate the entries in the rest-of-the-world account with the balance of payments published by the Department of Commerce and the balance of payments manual published by the International Monetary Fund. For students working in the field of international economics, it is extremely important to be able to move easily from the international trade and financial statistics into the domestic accounts of individual economies. At the present time it is not easy.

Some of these objections relate to the classification system and form of presentation used rather than to the concepts employed in the account. But the form of the presentation is not unimportant. As has already been pointed out in section V, the aim should be complete integration between the national income and product account dealing with foreign transactions and the published balance-of-payments tables.

The committee, therefore, recommends that the rest-of-the-world account be redesigned as a foreign trade and payments account, dealing with international transactions in gross terms. One side of the account would show receipts from the sale of goods and services transfers received, and the surplus of foreign countries with the United States on current account. The other side of the account would show payments for imports of goods and services and transfers to abroad. The account thus drawn up, showing figures for the year 1953 as an example, is shown below.

Foreign trade and payments account for the United States, 1953

[In billions]

1. Exports	$21.3
(*a*) Merchandise	16.5
(*b*) Shipping, tourism, etc	2.9
(*c*) Labor and property income	1.9
2. Transfer payments to individuals from abroad	0
3. Transfer payments to Government from abroad	.1
4. Surplus of foreign countries with United States on current account	1.9
Receipts from abroad	23.2
5. Imports	16.4
(*a*) Merchandise	11.0
(*b*) Shipping, tourism, etc	5.0
(*c*) Labor and property income	.5
6. Transfer payments from individuals to abroad	.5
7. Transfer payments from Government to abroad	6.3
Payments to abroad	23.2

It will be noted that in this account transfers are shown as receipts and payments in the international account. This differs from the current United States procedure, where transfers from consumers and Government to abroad are shown as current expenditures on goods and

services by consumers and by Government. Also, they are now shown on a net basis, thus often obscuring the actual amounts involved.

Transfer payments should appear in the international account, irrespective of whether the transfers are in goods and services or in financial claims. Transfers in kind should be reflected not only as transfer payments but also as exports of goods. In instances where the Government gives to other countries goods which it had accumulated in a previous period (e. g., defense goods), they should be treated as sales of surplus goods by the Government, and also included in exports of goods. When consumers send gifts in kind abroad, they should not be included in consumers' expenditures, but should be classed as exports of merchandise.

In this area, in particular, it is important that the Department of Commerce coordinate the treatment of the individual flows in the international accounts with the International Monetary Fund, the United Nations, and the Organization of European Economic Cooperation to insure comparability with the data of other countries and to facilitate the provision of information to these groups on a comparable basis. There may be points, however, where, after due consideration, it is decided that, in the interests of internal consistency and the principles of national accounting, the principle of international comparability may have to be given up. One point in particular deserves mention. Since the committee has decided that Government interest should be treated as a transfer payment, interest paid by the Government to abroad and interest received from foreign governments should also be classified as transfer items in the national-income accounts. This treatment is not consistent with the present treatment in the balance-of-payments tables or with the United Nations national income accounting system. Many of the other points in question are on a very detailed level—such things as the treatment of locally recruited staff of embassies, staff of international organizations, production activity on ships, gold transactions and export of gold ore, international defense transactions, and pension funds. These are all problems to those dealing with them, but do not significantly affect the overall design of the accounts and, hence, need not be discussed further here.

In chapter V it was pointed out that the surplus item in the foreign trade and payments current account could be deconsolidated to show changes in assets and liabilities of the United States with foreign countries and foreign countries with the United States. This information is now shown in various places; in the table showing transactions with the rest of the world in the national-income statistics, in the rest-of-the-world account in the flow-of-funds statement, and in the financial data in the balance-of-payments tables.

Finally, it should further be pointed out that the same classification that is used for changes in assets and liabilities of the foreign sector (table A–13 of appendix A) can also be used for showing the level of assets and liabilities, thus giving the balance sheet for the foreign sector.

4. TREATMENT OF CAPITAL EXPENDITURES [48]

(a) Scope of inquiry

The development of economic analysis over the last two decades has been characterized by increasing emphasis on the role of capital expenditures and their financing in the course of national income, flows of funds, and the financial situation. In view of this crucial role of capital expenditures, it is particularly important to have reliable estimates of capital expenditures and their financing in the national income and product accounts and to develop estimates of the stock of capital.

The committee has not undertaken to review the estimates in one important sector, inventories, because a task group organized by the Federal Reserve Board less than 2 years ago has surveyed the field thoroughly and has made detailed recommendations.[49] In another very important field, residential construction, the committee has received detailed suggestions from the agency responsible for the statistics, which include plans for verifying the reliability of the statistics now available in detail going well beyond anything the committee itself could have done. The committee, however, has studied the problems in other areas of capital expenditures sufficiently, with the help of the documents and conferences with the agencies participating in producing the statistics, to have definite views as to where the main gaps lie and as to the directions which further statistical work in the field should take.

(b) Sectoral investment accounts

Virtually all users of the National Income Division's figures agree that the provision of accounts showing changes in the different assets and liabilities of the sector ranks high among the desired improvements. The Division itself acknowledges this, and is now considering ways to fill the gap. If the committee's recommendations regarding finer sectoring, particularly the subdivision of the present personal account, and the separation of Government enterprises within the business sector are accepted, accounts showing changes in assets and liabilities will also have to be provided for each of them.

The main obstacle to immediate implementation of these obvious suggestions is the difficulty of obtaining the necessary data. This

[48] Although the report retains for readers' convenience the customary term "capital expenditures," the committee wants to emphasize at the beginning of this discussion that it is using the term in the narrow sense of expenditures on durable, reproducible, tangible assets. Retention of the term does not imply that only expenditures on durable assets have the effect of increasing productivity and output in the future. Several other categories of private or public expenditures, particularly those on education, health, research, and possibly even advertising, have similar effects. Because of the difficulty of segregating those expenditures in the other categories that have output-increasing effects, it is as yet impossible to include them in a broader concept of capital expenditures. The criterion, therefore, has been whether an expenditure increases the stock of tangible, reproducible, durable assets. Use of this criterion has the advantage of being in accord with business-accounting practice and of providing a direct connection between capital expenditures and reproducible national wealth, the latter being equal to cumulated net capital expenditures (after deduction of capital-consumption allowances). It also permits us to use the handy term "capitalization" for the process of treating an expenditure as creating a depreciable asset in the accounts, in distinction from "expensing," i. e., charging an expenditure in full to the current account of the period during which it is made. Readers who prefer a more rigorous terminology may throughout this discussion substitute "expenditures on durables" for "capital expenditures," or for the term "investment," which is sometimes used in the same sense, e. g., in the National Income Division's publications, but is only rarely used in this report because of the danger of confounding it with investment in the financial sense of acquiring an asset of any type.

[49] Reports of Federal Reserve Consultant Committee on Economic Statistics, hearings before the Subcommittee on Economic Statistics of the Joint Committee on the Economic Report. 84th Cong., 1st sess. (1955), pp. 3 ff. and 395 ff.

difficulty, in turn, results from the fact that estimates of capital expenditures are generally derived from data on expenditures for different types of structures and equipment based on output or sales of equipment manufacturers or on construction contracts, none of which provides information on the sector which is making the expenditures. The data from which capital expenditure estimates by sectors could be directly derived are usually not available, or they become available only relatively late after the event.

If sector changes in asset and liability accounts are to be developed as soon as possible, it will be advisable to proceed in two directions. First, energetic attempts must be made to obtain a breakdown of the statistics of the value of output, shipments, or sales of producer and consumer durables and of construction statistics, by sector and industry, of ultimate buyer. The committee regrets that funds requested to improve the manufacturers' sales data by providing such breakdowns, as well as more accurate data, have for 2 years been disapproved by the Congress. It hopes that such improvement will be authorized in the near future. Secondly, data must be collected, possibly with the help of sampling, which cover more sectors, which are available more promptly and which subdivide capital expenditures more adequately than has been possible hitherto. The schedule by which this information is collected can probably also be used to obtain data on capital-consumption allowances, net borrowing, issuance of securities, and acquisition or sale of existing tangible assets, all of which are needed for the establishment of complete sector accounts showing changes in assets and liabilities.

(*c*) *The scope of capital expenditures.*

Two of the complex theoretical and conceptual problems connected with the measurement of capital expenditures in the national income and product accounts are important enough at least to be brought to readers' attention, in order to permit an evaluation of the recommendations the committee is making in this field, even though they cannot be adequately discussed in this report. They are, first, the difference between gross and net capital expenditures and secondly, the scope and method of capital consumption allowances. The first of these problems is important not only in determining the volume of net investment, but also, as will appear in chapter XIV, in measuring the stock of reproducible durable assets as part of national wealth. The second problems has substantial influence not only on the values at which net, in contrast to gross, capital expenditures and saving are entered in the national accounts, but also on the calculation of business profits, since capital consumption allowances must be deducted from receipts before profits are determined.

In the matter of defining the scope of expenditures that are regarded as capitalizable and hence later are subject to depreciation, the committee generally accepts the present practices of the National Income Division. The committee, specifically, sees no reason for recommending changes in the present convention of—

(*a*) regarding all expenditures on currently produced commodities with an assumed regular life of more than 3 years as capitalizable;

(*b*) classifying expenditures on repair and maintenance as current, but including expenditures for major alterations and additions to existing durables with capital expenditures;

(*c*) treating transfer costs on existing durable (as well as intangible) assets, such as real estate dealers' commissions, as current expenses;

(*d*) disregarding altogether both discovery and depletion of natural resources;

(*e*) excluding from capital expenditures all outlays on the creation of intangible assets, such as expenditures for research and advertising; and

(*f*) not including expenditures on what may be called human capital, particularly expenditures on health and education, in national capital formation.

All these types of expenditures have been the subject of extensive discussion and the arguments for inclusion of some of those now excluded in a broader concept of capital formation have considerable merit. In the present state of information and so long as the national accounts are basically molded along the lines of business accounting, the present treatment appears on the whole preferable, provided no claim is made, or implied, that the category "Capital expenditures" includes all expenditures relevant, or contributing, to economic growth.

However, in line with its general principle of providing the basic information for as may useful alternative approaches as possible, the committee would like to see expenditures on these disputed items shown separately, wherever that is feasible, though of course still as a part of current expenditures, so as to permit the derivation of estimates of national capital expenditures on a broader concept by users who prefer it. The committee recognizes that some of these alternatives present such conceptual and statistical difficulties that the National Income Division should not be asked to add these estimates to its already overcrowded schedule, but economic research organizations should be encouraged to do the basic work necessary before the estimates can be put on a regular and more routinized basis, including the development of estimates back to 1929. Some of the topics involved would, it seems to the committee, be well suited for sessions of the Conference on Research in Income and Wealth.

5. THE TREATMENT OF CAPITAL CONSUMPTION ALLOWANCES

The second problem, the treatment of capital consumption allowances—which is of importance for the measurement of net national product and still more so for that of net capital expenditures, saving and net business profits—involves two quite distinct questions. The first is the decision whether to use capital consumption allowances as reported in the books of accounts or tax returns of the different sectors where they are available, i. e., chiefly for corporations and to some extent for unincorporated business. The second question arises for all sectors if it is decided that reported capital consumption allowances do not fit into a system of national accounts, but is posed in any case for the numerous sectors for which no reported capital consumption

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allowances are available, i. e., at the present time households, nonprofit organizations and governments.

The present practice of the National Income Division is to accept capital consumption allowances reported in corporate tax returns (or figures extrapolated from them) except for depletion allowances which are added back to profits; to step these figures up to take account roughly of the capital consumption allowances of unincorporated nonfarm business enterprises; to use the capital consumption allowances in agriculture as estimated on the basis of replacement cost by the Department of Agriculture; and finally to add an estimate for the capital consumption allowances on residential structures not owned by corporations based on a 50-year straight-line amortization of construction expenditures.

This practice means, first, absence of uniformity since most business capital consumption allowances, as well as those on residential structures, are based on original cost, while replacement cost is used in agriculture; and since most but not all businesses calculate capital consumption allowances on the straight-line rather than the declining-balance or other methods. It means, secondly, that all changes in the tax laws and regulations regarding depreciation are reflected in the national accounts; for instance, the accelerated-depreciation provisions of recent years, although these provisions may not reflect actual capital consumption. It means, thirdly, that most capital consumption allowances that appear in the accounts of one year are not comparable to the capital expenditures of the same year since they reflect the price level of an earlier period, sometimes as much as 50 years ago, when the expenditures were made. It means, fourthly, that no capital consumption allowances at all are calculated on the stock of durable consumer goods or on the structures or equipment owned by governments.

Even if it were decided to abandon the present method and to derive all capital consumption allowances in the national accounts on a systematic and uniform basis, at least four questions would remain to be decided. They are the sources of the capital expenditure data on which capital consumption allowances are to be based; the length of life and the proportion of scrap value to original cost to be used in setting depreciation rates; the method of depreciation which is to be applied; and the question whether to use original cost or replacement cost or another basis of calculation of capital consumption allowances. Most of these questions have been so thoroughly discussed among accountants, economists, and businessmen that there is no point in going here again over the arguments. All the committee needs to do is to indicate the stand it is taking on the different controversial points and to translate its decisions into recommendations that can be implemented within a reasonable time and can be fitted into a system of national accounts.

Of these questions, the first—the capital expenditures on which the calculations of depreciation allowances are to be based—is conceptually the easiest but statistically probably the most difficult one to implement. The degree of difficulty, however, depends to some extent on the depreciation method used. Under the standard straight-line method the figures required are the expenditures by the different sectors on as many types of durable assets as are distinguished, and these

data are needed for as many years before the year to which the calculation applies as correspond to the assumed life of the asset. Since the capital expenditure figures of the National Income Division go back, at least for private sectors, to 1929, there is no particular difficulty in calculating depreciation allowances for 1957 and later years for all types of assets for which the length of life is set at 28 years or less. For longer lived assets, or if depreciation allowances are to be calculated for years before 1957, it would, however, become necessary to use other unofficial estimates of capital expenditures, or to derive such estimates afresh. This is a considerable task, particularly since the figures have not always been prepared or are not available separately for each sector. Calculation of capital consumption allowances for the Government presents the additional difficulty that in the past no distinction has been made in the National Income Division's accounts between current and capital expenditures, so that in this case the entire set of capital expenditures would have to be developed from the beginning.

The length of life and the proportion of scrappage value to original cost which are necessary to determine depreciation allowances both under the straight-line and the declining-balance method are far from uniform for the same type of asset as among different businesses, although regulation F of the Treasury Department has been used as a guide in many cases. Astonishingly enough, no thorough investigation has ever been made of the actual length of life, time of scrappage, or ratio of scrap value to original cost for different types of durables except for a few regulated industries. Such a study, however, will be a prerequisite for any satisfactory calculation of depreciation allowances in the national accounts. Beyond that, such a study would make a substantial contribution to our understanding of the problem of investment and economic growth.

Of the two main methods of distributing the original cost of an asset over its total useful life the straight-line method has the advantage of simplicity involving equal amounts of depreciation in each year of the asset's life, and of still being the predominant practice in business. On the other hand, arguments have been advanced that the declining balance method (in which a year's depreciation is equal to a fixed percentage of the depreciated value at the beginning of the year and hence varies in amount from year to year) conforms better to an economically significant interpretation of the decline in the value of a durable capital asset over its life.

The committee does not feel that a decision must be made at this time on the method which—not limiting the choice to straight line and declining balance methods—should ultimately be used in calculating capital consumption allowances for our national accounts. The final decision in this matter may wait until more relevant data on the increase in operating cost of durable goods with age and on the decline of their value in the second-hand market are available.

There remains the most contentious problem, that of original cost versus replacement cost, the latter interpreted as original cost adjusted for price change between the time the capital expenditures are made and the period for which the depreciation allowance is calculated. It is but a reflection of the status of the discussion among economists and accountants that the committee was unable to formulate a recom-

mendation on this problem that was acceptable to all, or even to most members.

The evident disagreement in this area results in part from the fact that the national accounts are used for various purposes, and the appropriate treatment of depreciation may vary depending on the purposes which are emphasized. If we are interested primarily in an estimate of the total net national product or of net capital formation, the deduction for depreciation should correspond as closely as possible to expenditures that would be needed to maintain the capital stock intact, i. e. be on the replacement cost basis.[50] The problem appears in a somewhat different light when the national economic accounts are used to depict the comparative position of different economic groups. The relative position of recipients of profits and other incomes would be distorted if depreciation allowances are currently calculated were increased to a replacement cost basis without at the same time revaluing capital assets and assigning the resulting capital gains or losses to the owners.

All members of the committee agree that, since each of the two alternative bases of depreciation allowances is useful for some purposes of economic analysis, the users of the national economic accounts should be furnished depreciation estimates on the basis of both orginal and replacement cost; that such estimates should be prepared by the National Income Division, on an annual and quarterly basis; and that the estimates should include depreciation not only for the types of reproducible assets for which it is now shown (privately owned structures and producer durables), but, in agreement with the recommendations made in chapter VII, sections 1 and 2 also for publicly owned reproduction durable assets and for the main types of consumer durables.

The majority of the committee would like to see depreciation allowances shown for each type of asset in the following form which permits users to shift from replacement to original cost basis if they so prefer:

Total depreciation allowances ((*a*) plus (*b*))

(*a*) Book or original cost basis

(*b*) Depreciation revaluation adjustment (adjustment for capital gain (+), or loss (−) on valuation of depreciation)

The committee believes that these estimates of replacement cost depreciation should be supplemented by data on the capital stock against which the depreciation is charged, also revalued to replacement cost. As is done throughout the national product account, estimates in constant as well as current dollars would be needed for all three of the measures involved—gross capital expenditures, capital consumption, and capital stock. With such data progress in the accumulation of real capital could be distinguished from realized and unrealized gains or losses and the change in position of various groups of holders of such assets could be evaluated. Accordingly, the committee recommends that estimates of capital stock and of unrealized capital gains to the holders of that stock should be developed as rapidly as possible and incorporated in the national accounts as soon as they become available.

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[50] Whether or not depreciation is based on original or replacement cost it should neither underestimate the actual replacement need nor include as depreciation outlays that actually add to existing assets.

The committee's recommendations in the matter of capital consumption allowances may then be summarized as follows:

(1) Provide estimates of capital consumption at constant and replacement values for those assets for which depreciation is already carried in the national accounts, i. e., business structures and equipment and owner-occupied homes, and develop corresponding estimates of capital stocks in current and constant dollars.

(2) Develop as soon as feasible estimates of depreciation allowances and capital stock, both on original and replacement cost basis, for assets for which such estimates are not now included in the national accounts, i. e., for Government structures and equipment and for major consumer durables.

These two recommendations should not be regarded as a judgment by the committee on the use of replacement cost depreciation in business accounting, in taxation, or in regulatory practice. The committee feels that it is not its function to deal with these fields in which different tests may apply, and that the decision with respect to the treament of depreciation in the national economic accounts should not constitute the basis for any position on the treatment of depreciation in such other areas.

(3) Initiate studies of actual length of life, scrap value, and loss-of-value curves for different types of durable assets and of their significance for economic analysis and the national economic accounts. These studies may well be handled by an independent research organization rather than by a governmental agency, and might utilize the material now being collected in connection with an inquiry by the Internal Revenue Service into the useful lives of depreciable property,[51] which is to be used in preparing a new edition of bulletin F, last revised in 1942.

(4) Develop, after the results of (3) are available and probably in connection with building up capital stock figures, consistent estimates for capital consumption allowances of corporate and unincorporated business, to be used instead of the allowances reported in tax returns underlying the present depreciation estimates in the national accounts.

(5) Develop estimates of unrealized valuation changes of the stock of durables. These estimates will have to be tied to national balance sheets (see ch. XIV and tables A–13 and 14).

6. TREATMENT OF FINANCIAL INTERMEDIARIES

The treatment of financial intermediaries poses a special problem in national income accounting, since the bulk of the revenue of these institutions takes the form of interest and dividend receipts, rather than sales receipts. In the usual procedure for deriving income originating in an industry, interest and dividends received by the industry are deducted from interest and dividends paid, and the resulting figure for net interest and dividend payments is added to the sum of other factor incomes originating in the industry to obtain total income originating. If this procedure were followed in the case of financial intermediaries, however, net interest payments would be negative, and might be so large as to yield a negative entry for total income originating in the industry, a result clearly contrary to commonsense.

[51] See Internal Revenue Service release 182, February 18, 1957.

To avoid this outcome, the National Income Division departs from the usual procedure in deriving income originating in financial intermediaries. The departures are basically of two types. In the case of commercial banks and investment trusts, an entry is made on the debit side of the accounts for imputed interest paid depositors, equal in amount to the excess of property income received over interest paid, and a corresponding amount, assumed to represent the value of services rendered to depositors without explicit charge, is entered on the credit side. The effect of these adjustments is to cancel out the original excess of interest receipts over payments, yielding a figure for income originating in banking equal to wages plus profits. In the second procedure, followed in the case of life insurance companies and mutual financial intermediaries other than life insurance, the enterprise is, in effect, treated as an association of individuals. Its expenditures for labor and other cost purchases and its saving are treated as though made directly by individuals, while items such as death-benefit claims and premiums are excluded from the income and product flows, since such transactions are viewed as interpersonal transfers.

These procedures have been criticized from time to time and sometimes violently. In the case of the banking procedure, for example, it has been pointed out that banks render services to borrowers as well as depositors, and the present procedure fails to recognize this. Thus, it is argued, the present treatment gives an unrealistic picture of the nature of banking operations. The conception of life insurance companies as associations of individuals has been similarly criticized.

While the unsatisfactory nature of the present procedure is generally recognized—by the National Income Division as well as others—little progress has been made toward general acceptance of any of the alternatives thus far advanced. In the committee's judgment, therefore, it would be premature to recommend a change in the present procedure. What is needed is a thorough review both within and outside the Government of the treatment of financial intermediaries in the national accounts with a view to developing an alternative, and if possible simpler, procedure that would conform more closely to the realities of the activities of these enterprises. Such a review, together with one for the closely allied area of nonprofit institutions, might go far toward clarifying and strengthening the estimates for these areas.

Chapter VIII. Short-Term Estimates

In considering short-term estimates—quarterly or monthly—the emphasis shifts almost exclusively to their usefulness in analyzing current developments. The preponderance of attention given those short-term estimates by economic analysts throughout the country, particularly those in business concerns and labor organizations, is directed toward this objective. Changes in various components of gross product and national income are closely followed as a means of understanding what is happening in the economy and of gaining insight into what the future course of developments may be.

Their usefulness in this context is in strong contrast to the very limited contributions they make toward the solution of longer term problems. Quarterly or monthly fluctuations tend to be of little significance for many kinds of basic analysis; for example, those relating

to changes in the structure of the economy or the comparative status of various economic groups.

The user of the short-term estimates and their inherent limitations necessitate the application of different criteria from those relevant for the annual data. The fact that the same conceptual framework may be applied for both purposes testifies to the fundamental validity of the measures appearing in the national accounts. But it involves compromises in the actual process of measurement, because the standards applicable to the collection of annual data cannot be applied in compiling data suitable for keeping up with changes through short periods within the year. The compromises are forced first, by considerations of cost and, second, by the basic conflict between speed and accuracy.

As an unavoidable consequence of this situation, the short-term analyst must necessarily work with data that are partial or, compared to annual figures, substandard to some degree. All he can ask for is the best possible compromise between timeliness and accuracy. He wants the initial indications of change at the earliest possible moment; but he wants even more to avoid the gross errors that arise from jumping too quickly to a conclusion. His initial view of the situation is always provisional and subject to revision as additional information becomes available.

The committee recognizes that there is no complete solution for this problem. It attempts no more than to specify where reasonable lines of compromise might be drawn for the national accounts data and to indicate where some improvements can be made in the published data and in the underlying source materials that go into their makeup.

The guiding criterion for the short-term estimates is that they should provide: First, a timely survey of important changes in the entire economy; second, sufficient detail to define significant sources of change and to permit analysis of related components of the overall flows; and third, a degree of accuracy and stability that would rule out most of the possibility of misleading indications in the first reports.

1. TIMING

One frequent proposal aimed at greater timeliness calls for putting the gross national product estimates on a monthly basis. The committee recognizes the merit of the contention that quarterly data are comparatively slow and may fail to report a turn for more than 6 months. However, careful consideration leads the committee to conclude that development of monthly estimates of gross national product would not be warranted.

The gross national product is a composite made up of diverse elements that differ widely in behavior and other characteristics. Some of these, like Government services, are quite stable, so that specific monthly data contribute little to knowledge of the situation. Others, like inventories, are highly variable, and as a result of large, erratic fluctuations, the change in any month may be difficult to interpret. Month-to-month changes in the composite would generally be determined by the volatile elements and would at times depict erratic fluctuations of little or no significance. Variation of this character is

inappropriate in a broad measure of activity whose primary objective is to portray the movements of the entire economy.

This in no sense implies that the short-term analyst should wait for the gross national product to obtain his earliest information on current changes. Rather, it suggests that the latest national accounts data should provide a solid point of departure from which the analysis might proceed in terms of supplementary information. Prior data are available for most of the components of gross national product, in such monthly statistics as: industrial production; construction; employment; retail sales; manufacturers' sales, orders, and inventories; and merchandise exports and imports. The personal income series is a basic component of the national accounts already available on a monthly basis. A number of weekly series also serves as timely indicators of current developments. Among these may be mentioned department store sales, wholesale prices, business loans, freight car loadings, and a number of production series, including electric power, steel automobiles, coal, petroleum, and paper products. It is clear from this listing that the short-term analyst is not without recourse in the absence of a monthly gross national product series. However, the committee wishes to make clear that it is desirable to compile as many of these supplementary series as possible on a monthly basis, and on an even more frequent basis where weekly or other interim statistics of that kind would be significant.

The role of the gross national product data must be judged in relation to the supplementary statistics available. A gross national product estimate may be regarded as providing a basic summary of economic activity on a quarterly basis, which is capable of tentative extrapolation by means of other available data. Where this procedure is followed, the gross national product need not be affected by the deficiencies of the monthly data as it smooths irregular fluctuations within the quarter. Any areas of uncertainty in the monthly extrapolation based on supplementary series are then directly tied to the specific items in which they appear. The committee therefore concludes that the gross national product serves best as a quarterly statistic and would be incapable, if provided on a monthly basis, of meeting the objective toward which such proposals are directed.

The one item in the national accounts whose delay tends most to frustrate current analysis is corporate profits. The short-term analyst is put in the position each quarter of distributing an unspecified residual between corporate profits and the statistical discrepancy. Since corporate profits are the most variable item on the income side of the accounts, this imposes a serious burden on the user, who is generally in no position to carry it.

The committee therefore recommends that preliminary estimates of corporate profits be developed and if possible included in the initial quarterly reports. If this is not possible, they should be made available the following month, or as soon as feasible after the initial report for each quarter.

More timely preliminary estimates of corporate profits could be obtained by a combination of methods. In the first place, the tabulations of presently available data by the Federal Trade Commission-Securities Exchange Commission financial reports program could be speeded up with some additional effort and some increase in cost, as,

for example, by obtaining telephone reports. At least one month could be gained by this procedure. Additional reporting samples should be initiated for specific areas of nonmanufacturing where we now have almost no current financial information. And finally, tentative estimating procedures should be developed in some areas, by the Office of Business Economics to supplement survey reports by utilizing related data, such as sales and prices, data which provide in large part the basis for the present estimates of proprietors' income.

2. ACCURACY

Most of the data going into the national accounts have to be drawn from existing records, which were brought into being by operating needs of the organizations preparing them or by legal requirements unrelated to their subsequent uses as economic statistics. Where new records are created, as in field surveys of households that do not maintain records, frequent collection of data is very costly and therefore usually has to be restricted to comparatively small samples. Even where comprehensive records are made in the ordinary course of business operations, the results do not become available for some time after the end of the period to which they apply. Some concerns from which reports are desired complete their records quickly, others in a more leisurely manner. If collection is limited to the former, the possibility of bias cannot be eliminated; and if the latter are included, the setting of an early reporting schedule tends to limit cooperation.

As a consequence, strict sampling procedures cannot be insisted upon, but cutoffs have to be established in accordance with processing and publication requirements. If primary attention is given to the month-to-month or quarterly changes indicated by the respondents reporting in time, acceptable preliminary estimates can usually be obtained by matching reports and analyzing the partial and complete samples obtained from period to period.

From the standpoint of the short-term analyst, it is the change from period to period that is most important. Probability samples that give the best estimates of the total are not designed necessarily to give the best estimates of the change. The sampling error may be small in relation to the total but large in relation to the change. It introduces a disconcerting element of erratic variation into the changes portrayed. It is doubtful, for instance, that the reliability of the estimates of changes in retail sales data has been improved by the more scientific sampling procedures adopted in recent years.

We, therefore, suggest that, except in the case of benchmark data, the agencies compiling statistics that enter into the national accounts direct their efforts primarily to minimizing errors in the changes, and where necessary recast methods of compilation with a view to meeting this criterion as fully as possible. This applies to annual as well as quarterly or monthly estimates, depending upon the specific purposes of the data and the conditions under which they are compiled.

It is unrealistic to expect that the quality of all the current items included in the national accounts can be brought to, or even close to, statistical perfection in the near future. Some components will undoubtedly fall short of meeting the standards of statistical accuracy that would make them suitable for publication. We feel, however,

that in most cases the details behind the current estimates should be made available to interested research workers for examination, discussion of problems involved in their preparation, and such use of them as may be justified. Subjecting them to scrutiny and testing by outside specialists in this way is likely to be a most effective means of achieving improvements over a period of time.

Although the committee advocates a bold approach to the problem of providing preliminary estimates, it does not concur in suggestions that would give a spurious impression of accuracy in those estimates. Two proposals bearing on this point were put before the committee: The first is to eliminate the statistical discrepancy from the accounts; the second is to hold revisions to the minimum. Whatever merit these suggestions may have for the annual data (see ch. XI, sec. 1), we feel that they are inappropriate to the current estimates. Under conditions of current reporting, discrepancies and revisions are unavoidable aspects of the process of overall data compilation. We feel that it is better to make this clear to all concerned than to leave users with a sense of security not justified by the facts.

3. DESIRABLE DETAIL IN THE QUARTERLY ESTIMATES

Users of the national income and product data almost universally agree that more detail in the quarterly estimates would be desirable for analytical purposes. The National Income Division has been publishing detail on consumer expenditures in the statistical pages of the Survey of Current Business, to supplement the three-way break by durability (nondurable, semidurable, durable) shown in the quarterly gross national product estimates. A similar degree of disaggregation would be desirable for the other segments of gross national product, and for convenience all should be brought together in a single table.

A suggested listing of items to be shown on the expenditure side of the account in accordance with this proposal is provided in table B–1 of appendix B, which does not constitute a recommendation by the committee as to every detail. The primary breakdown not now regularly available and most widely desired is that for producers' durable equipment. The analysts consulted almost universally propose some breakdown of this item—some suggesting detail by type of equipment, others by user. An illustrative listing is included in table B–1, which is presented merely as a useful compromise based on a primary break by type. Since the nature of the major kinds of equipment largely determines their use, a large part of what is desired in the break by user would be indicated in these data. The "all other" category is somewhat of a conglomerate, but most industrial equipment as such is excluded, appearing in the other categories. We recognize, of course, that new source material will have to be developed in order to provide any such breakdown of the producers' durable goods total.

Nonresidential construction as presently shown is also too inclusive. If it were to be divided in such a way as to separate out the portion intended for industrial use, the additional information would be of considerable analytical value.

Government capital expenditures should also be shown separately, on a basis as nearly comparable with those in the private sectors as

possible. The breakdown shown in table B–1, which is intended to be illustrative only, makes such a separation and also subdivides the remaining expenditures between compensation of employees and other purchases from business.

In the case of the foreign sector, a basic change is recommended which is in accord with that suggested for annual estimates in chapter VII, section 4. The net balance on current account is substituted for net foreign investment, and the major components are shown. The most important aspects of this change are that it reveals the gross flows of goods and services into and out of the economy, and directs attention to what is, for nonmilitary items at least, the more relevant point of analysis. This change has been under discussion for some time and has already been accepted in principle by the National Income Division.

It is suggested that data on the income side of the accounts be presented separately, as illustrated in table B–2. This rearrangement makes for more logical treatment of the data in current analysis than the present arrangement, in which gross national product appears between "national income" and "disposition of personal income." The amount of detail proposed is not greatly increased.

The detailed breakdown of personal income is shown in preference to that for national income. The latter is of less significance for current analysis, except for the data on corporate sources and uses of funds, which are covered in the proposed table B–3.

The breakdowns in table B–3, both as to sectors and as to items shown for each, are again primarily illustrative. Some of the quarterly data in the section on sources and uses of corporate funds are not now published. This is not a complete statement of sources and uses of funds, since certain working capital items are left out of account.

International transfer payments are shown in table B–3 in both the personal and the Government sectors. These items would be removed from personal and Government purchases with the shift from net foreign investment to the net foreign balance on current account and therefore should be separately shown at some other point in the quarterly tables.

4. NEED FOR NEW CURRENT DATA

Most consistent among the demands for new current data are those relating to deflated gross national product. Since the interim movements of the constant-dollar measures diverge at times from the current-dollar estimates, the purposes for which they are constructed can be served only by making them currently available. Most of the price indexes used in deflating the current-dollar estimates are available on an interim basis, so that deflation of the quarterly estimates would appear to be feasible. The fact that estimates of this kind are sometimes computed and published by commercial periodicals and congressional committees reinforces this conclusion. These demands envisage not only the deflated gross product total but also substantial detail. Most analysts would like at least as much detail as in the quarterly summaries now published. The committee is aware that some of the price series are seriously lacking in quality and that in many cases they also miss the time schedule for publication of the current estimates. This illustrates again the need for a concerted

attack on the problem, involving the coordinated efforts of the various agencies involved, that has been discussed in some detail in chapter VI with respect primarily to annual estimates.

Other requests for new current data were not, in the view of the committee, acceptable. These were either impractical or of a character that made their compilation on a basis more frequent than annually inappropriate.

Even with requests limited to this extent, there may be certain detailed items of information in addition to corporate profits which the National Income Division cannot provide as promptly as the basic quarterly series. For all such items, it is suggested that a dual publication schedule might be devised to achieve the most timely presentation of results consistent with minimum standards of accuracy. This could be done by reporting the results initially available as soon as possible after the end of the quarter and supplying additional detail after a short time lag of, say, 1 month instead of a full quarter. The additional work and publication costs involved in this proposal would be justified by the widespread and growing use of these data in current analysis throughout the community.

The same line of reasoning leads to the recommendation that as additional data become available which permit revisions these revisions be released as soon as they are made instead of being held, as is the practice now, until the annual estimates are published in July of the following year. At the least, these revisions should be released at the time a new quarterly estimate is given out, in accordance with the usual practice in reporting other current statistics.

The recommended quarterly reports from the National Income Division should be supplemented by the flow-of-funds data now being compiled annually by the Federal Reserve Board. Insofar as possible, the Federal Reserve should plan to make its publication schedule as timely as that of the National Income Division. This suggestion is discussed in chapter XII.

Chapter IX. Problems of Regional Estimates

The committee has confined this chapter to a brief summary of recommendations without a detailed discussion of the estimates now existing or of some of the basic problems that arise in building up national accounts for areas smaller than the entire United States because a fairly exhaustive treatment of these subjects has recently become available in Regional Income (Studies in Income and Wealth, vol. XXI, a collection of the papers presented at the meeting of the Conference on Research in Income and Wealth held in June 1955); and because the National Income Division has just published a detailed description of its revised estimates in Personal Income by States Since 1929.

1. NATIONAL INCOME DIVISION ESTIMATES

Official estimates of State incomes were first published in 1939 and now are available on an annual basis back to 1929.[52] In recent years,

[52] The first systematic unofficial estimates of income by States were prepared by the National Bureau of Economic Research in the early 1920's. (Cf. O. W. Knauth, Distribution of Income by States in 1919, and M. Leven, Income in the Various States: Its Sources and Distribution, 1919, 1920, and 1921.

annual estimates have been regularly published in the August issue of the Survey of Current Business. These estimates have found widespread use. Business firms employ them for market analysis, and State government agencies utilize them in estimating tax revenues and in formulating tax and expenditure policies. Within the Federal Government, they have been used as a basis for allocating Federal grants-in-aid and more generally for research underlying administrative decisions and policy recommendations touching on regional problems. Finally, research workers both within and outside government have used them in analyzing a variety of regional problems, and in studying the spatial characteristics of the economic growth of the Nation.

The revision just completed and published by the National Income Division constitutes a major advance over the previously available estimates and should be of very great value to all users of State income data. The old income-payments concept has been replaced by the personal-income concept now employed in the national accounts, and the estimates have been placed wholly on an income received rather than a mixed basis. Not only has there been conceptual improvement, but the figures themselves have been substantially strengthened by the incorporation of data from a number of new sources and by a thorough reworking of all the component series back to 1929. The estimates for total personal income have been extended to 1927, thus providing a more solid point of departure for trend analysis than was possible when 1929 was the earliest year covered by the series. Of very great usefulness is the expansion of industry detail on the source of wage and salary incomes in each State. The new series also covers more types of income in kind. In addition, for selected years, estimates of disposable income in each State have been published for the first time. Finally, recent studies of interstate differences in price trends have been used to determine the extent to which the trends shown by the current dollar estimates deviate from those shown by constant-dollar figures. The latest revisions, therefore, represent a very substantial addition to our knowledge of the distribution of income among the States and will provide a fruitful source of information for a wide range of studies on regional and State incomes.

Since the latest revisions incorporate most of the statistical refinements that are possible on the basis of data currently available, the committee's recommendations are largely of a longer run nature. Of primary importance is the collection and tabulation of new data needed further to strengthen the components of the personal income estimates. The committee recognizes that demand for substantially more data in this area is great and that eventually a more effective response to it must be made. At the moment, however, it is more important to devote most of the scarce resources available to Federal statistical agencies to the improvement of the national estimates. However, the committee believes that a continuing search should be made in State government departments, universities, and other research agencies at the local level for both new data sources and analytical innovations capable of serving eventually to extend more of the national-accounts estimates to a regional and State basis.

2. STRENGTHENING THE PRESENT STATE INCOME ESTIMATES

Notwithstanding the substantial improvements introduced in connection with the recent revisions of the State income estimates, there remain some important weaknesses—particularly in the estimates of nonwage incomes—which could be remedied if additional data were obtained.

(a) Wages and salaries

Although the wage and salary estimates are for the most part firmly based, here and there the underlying information is sparse. Perhaps the most important gap is the lack of information to adjust the wage and salary data from a where-paid to a where-received basis. The tabulations of Federal individual income-tax returns published in Statistics of Income are based on the addresses shown by the taxpayer, but they cannot be used as a basis for allocating wages and salaries by state of residence because they do not cover the earnings of low-income employees who are not required to file returns; moreover, they do not provide any breakdowns by class of worker or by industry. The residence adjustments are based, therefore, on data of a piecemeal variety which permit the conversion of the estimates to a where-received basis for only 14 States and the District of Columbia. To remedy this weakness, consideration should be given to the addition of a question in the decennial censuses to determine whether the wage or salary worker is employed in the same State in which he resides. Tabulations based on the replies to this question would be useful not only for the preparation of State income estimates, but also for analyses that are now being conducted in a number of cities on the problems of metropolitan areas.

The most recent old-age and survivors' insurance figures on the payrolls of small firms by States relate to the first quarter of 1951. Until recently, these figures were used to correct the excellent State data derived from the unemployment insurance records for firms employing fewer than eight persons. Beginning in 1956, however, the coverage of unemployment insurance was extended to firms employing four or more persons, so that the 1951 old-age and survivors' insurance data cannot be used to make the necessary corrections. The committee recommended that a new tabulation of the old-age and survivors' insurance data by States be made for a more recent year and that similar tabulations be prepared periodically, say, once every 3 years, in order to keep the corrections up to date.

Aside from these two major improvements, the committee recommends a number of steps to improve some of the industry detail in the wage and salary estimates by States:

(1) The Office of Education should expand its questionnaire on employment and payrolls of private educational institutions. Since this is an area in which it has expert knowledge, it would be desirable that the Office of Education act not only as a collection agency but also prepare the estimates that are incorporated in the official State income series.

(2) Considerable work needs to be done to improve the reliability of the State allocations of military payrolls and other disbursements. Consideration should be given by the military services to the sampling of both individual and payroll records and of the records of depend-

ency allotments in order to provide the necessary information. At a minimum, an effort should be made by the military services to break down their payroll data as between persons in continental United States and those employed overseas.

(3) Improved estimates of the State distribution of wages and salaries paid by the railroad industry could be made if the Railroad Retirement Board were to require the reporting of payrolls by State of residence. If this information were available on the records submitted to the Board, it would be relatively easy to tabulate the wages and salaries paid by the small number of class I railroads in a manner that would be usable directly for the State income estimates.

(4) The sample of the census surveys of State and local government employment and payrolls should be enlarged and consideration should be given to taking them once every 3 or 6 months, instead of only once a year. (For a discussion of this and other recommendations for improving the data for State and local governments, see ch. XI, sec. e.)

(5) The State tabulations of income data collected in the decennial censuses should be cross classified by type of income (wages and salaries, self-employment income, and other income), by class of worker (public or private employees, or self-employed) and by industry.

(*b*) *Nonwage incomes*

The primary source on the distribution of property and nonfarm proprietors' incomes by States are the tabulations of Federal individual income-tax returns. However, in recent years, these tabulations have contained distributions only of wages and salaries, dividends, and interest by States. For other items the latest distributions available are 15 years old. It is likely that the present sample can provide sufficiently reliable State totals for rents and royalties and nonfarm entrepreneurial incomes. In any case, the information should be tabulated for the benefit of the National Income Division and only the figures that have a sufficiently small sampling error should be released to the public. In preparing such tabulations, the Internal Revenue Service should separate farm from nonfarm entrepreneurial incomes, since the combined totals are of practically no value either for estimating purposes or for analyses of State income differentials.

With respect to farm income, the major problem is that there is now very little basis for estimating the production expenses that must be deducted from gross farm incomes to arrive at the net figures by States. It may not be necessary to obtain such data every year for each State. However the Department of Agriculture should devise sample surveys to provide the necessary information at least at less frequent intervals.

In the case of nonfarm business incomes, the information on self-employment incomes reported to the Social Security Administration could be utilized more effectively if benchmark tabulations comparing total self-employment income with taxable self-employment income were prepared. Such tabulations, combined with the type of income breakdown of the State data in the decennial census recommended above, would ultimately permit the estimation of nonfarm business incomes in the various States by industry.

(*c*) *Price data*

A recent study by members of the staff of the Bureau of Labor Statistics shows that price trends in the various States have been fairly similar over the past several decades.[53] This suggests that the relative trends among States shown by the current-dollar estimates of personal income are a reasonable approximation to those in constant dollars. As a check of the constancy of this relation, the committee recommends the extension of these price estimates by the Bureau of Labor Statistics on an occasional basis.

(*d*) *Disposable income*

As noted above, Personal Income by States Since 1929 presents for the first time official estimates of disposable income in each State for selected years: 1929, 1940, 1946, 1950, and 1953. On the whole, these estimates do not result in any significant alteration of the relative income position of the various States that is derived from the estimates of personal income before tax. The committee recommends that these estimates should also be continued on an occasional basis, so that a continuing check on the relationship between State personal and disposable incomes can be maintained.

3. FURTHER EXTENSION OF DATA IN THE NATIONAL ACCOUNTS BY STATES OR OTHER AREAS

A number of possible extensions of the State estimates have been suggested to the committee. At the extreme, it has been recommended that the long-run objective should be to prepare for each region or State a set of social accounts paralleling those for the national economy, including an income and product account, a balance of payments, an input-output matrix, a flow-of-funds statement, and a balance sheet. As we have already indicated, such an approach would be unwise simply because the preparation of estimates for 48 States—or even for half a dozen to a dozen regions—would be prohibitively expensive. Even though the additions to our knowledge of the causes of interregional and interstate differentials might be considerable, it is the committee's view that, at least for the foreseeable future, the emphasis by the Federal statistical agencies should be mainly to expand and improve the accounts for the Nation as a whole.

We would like, however, to encourage further work on regional and State economic problems by State agencies or private research organizations. It is our belief that most progress will be made in this direction if the States themselves undertake to develop more comprehensive accounts, with the cooperation of the universities, private foundations, and the regional Federal Reserve banks. We urge the Federal statistical agencies to cooperate in such undertakings, as they have done in the past. For example, the Census Bureau has on occasion conducted sample income-distribution surveys for particular States on a contract basis.

In the committee's view, this is by far the best procedure. Not only would the direct preparation of more detailed State data be beyond the resources of a Federal agency like the National Income Division, but in many respects it would be less efficient. The local unit

[53] Abner Hurwitz and Clarence B. Stallings, Interregional Differentials in Per Capita Real Income Change, Studies in Income and Wealth, vol. 21, pp. 195–264.

may be able to utilize sources of information that would be overlooked if the operation were centralized in Washington and would be able to enlist the talents of persons who are familiar with local conditions and who can provide expert assistance in the planning of the type of study needed for the particular committees and in the collection of the necessary information. The recent studies of the Chicago Federal Reserve Bank in Milwaukee and Indianapolis are valuable attempts to develop a system of income and product accounts for metropolitan areas. Experiments have also been made with the use of local input-output tables as a means for community surveys by a research group of the National Planning Association.

The following are among the areas that might be explored in this way by local groups. In submitting this list, the committee wishes to emphasize that the items are illustrative only. There are undoubtedly others that are worthy of exploration and these should also be examined when the need arises.

(*a*) *Income estimates for areas smaller than the State*

Estimates of income for areas smaller than the State, for example for counties or metropolitan areas, are of use to governmental units in the study of local problems and to business firms in market analysis. In recent years a number of studies of this nature have appeared, particularly estimates of county income in a number of Southern States. The approach followed in developing these estimates is illustrative of that favored by the committee—preparation of the estimates by a local organization with assistance by the statistical agencies of the Federal Government on methods and data. This arrangement seems most conducive to the future development of estimates of this type.

(*b*) *Income originating*

The present State income estimates relate to the income received by the residents of a State. For some purposes—for example, in problems of taxable capacity or regional comparisons of productivity—it would be helpful to have estimates of income originating in the State, that is, the income paid out by establishments operating within the boundaries of the State, regardless of whether the income recipients live within or without the State.

The chief obstacle to securing figures on this basis is the difficulty of distributing property income by State of origin. For example, a firm having establishments operating in a number of States may report its profits only on the combined operations of all establishments under its ownership. The same problem is encountered in estimating the distribution of income originating by industry, since a particular firm may own establishments operating in several industries. Elsewhere we have recommended that the problems of estimating profits by industry of origin be explored. It would be desirable to explore at the same time the possibility of extending the allocation to States as well as to industry of origin. For such exploratory work, the method need not be highly refined. What is needed is a rough indication of the extent to which income originating in each State differs from the present estimate of income received, so that the problem may be assessed properly and rough allowances made, if necessary, for the disparity between the two income estimates.

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(*c*) *Interstate price differentials*

Although a fairly comprehensive investigation has recently been made of interstate differences in price trends, there is still no information on the differences in price levels among the various States. Such a study is needed to determine the extent to which interstate differences in money income reflect real income differences, a consideration of importance in using the estimates for allocating grants-in-aid. Needless to say, a study of this type would require close cooperation with the Bureau of Labor Statistics and the Department of Agriculture.

(*d*) *Gross regional product*

It is clear that the development of an estimate for each State of gross product and its components would add an important body of data on the economic structure and development of various areas of the United States. Such estimates would provide a variety of useful information—for example, they would provide comparisons of regional expenditure patterns, distributions of important categories of goods produced by geographic area, and estimates of personal savings in the various States, and would permit an analysis of the geographic impact of changes in demand for particular categories of goods. Although the difficulties of deriving gross product estimates by geographic areas are very great, consideration should be given to the possibility of preparing such estimates. Exploratory studies on several components of the gross national product (for example, producers' durable goods and houses) might be undertaken first and the list could be enlarged after some experience with the practical problems is obtained. Such studies would provide interesting insights irrespective of whether the derivation of the entire gross product proved feasible. It would also provide a firmer basis than now exists for assessing the difficulties and estimating the costs of preparing the complete range of gross product estimates for each State.

(*e*) *Other national accounts*

Further work might also be done to extend the input-output tables, the balance of payment statements, the flow-of-funds accounts, and the balance sheet in directions that would improve their adaptation to regional analysis. Although work of this type has progressed much less than that on the income and product accounts, some estimates—generally preliminary and exploratory in nature—have been prepared at several of the Federal Reserve banks. Regional input-output tables are perhaps of greatest potential usefulness, since they would help to improve and check the existing income and product data and would provide a basis for estimating gross and net flows of goods among regions. However, considerable refinement of all three of these relatively new and still evolving techniques of summarizing national economic activity will be required before they can be applied to regional analysis.

Chapter X—Size Distributions of Income

Distributions of personal income by size classes broaden the picture of the economy that is obtained from other data in the national income and product accounts. They are useful for many purposes—as a

description of how widely income is distributed among the Nation's family units; as an indication of the relative welfare of various groups in the community; as an aid in understanding consumer decisions to spend and save; as a basis for the formulation of marketing programs and policies by business; as a guide for governmental policies to improve the earning capacity and living conditions of low-income persons; and as a basis for measuring the relative tax burdens of the various income classes.

Like most statistics in national accounts, size distributions of income are more meaningful when they are available periodically—if not annually—and when they are broken down for significant groups in the population. We know, for example, that in the United States income is now much more equally distributed than it was in the 1920's and much of the strength of our economy in the postwar period has been attributed by some economists to this change in the distribution of income. Whether the distribution of income is changing—and the direction and size of the change—is information which is necessary for the development of both public and private policies. For this reason, the committee believes that size distributions of income should remain an integral part of the national accounts, and that the data underlying these distributions should be improved in order to obtain more reliable estimates.

The only available set of income distribution estimates that is integrated with total personal income as shown in the national accounts is prepared by the National Income Division.[54] The blownup statistics derived from sample field surveys of family income as well as those from individual income-tax returns fall considerably short of these income totals, partly because nonmoney items of income are almost entirely excluded, but to a considerable extent also because of understatement of the various money items. Moreover, the relative amount of income understatement in the primary data varies considerably among types of income and also from one year to another. By adjusting to the annual income totals for separate types of income, and by integrating the field survey data with the basic information from tax returns, the National Income Division provides a size distribution series that is more comparable over time than the survey or tax return data, and that can be interpreted in conjunction with the income totals from the national income and product accounts.

Although considerable progress has been made in recent years in improving the statistical techniques for making estimates of income size distributions, these advances have not—and, indeed, cannot—overcome the gaps in our knowledge about the income of important groups in the popuation. To fill these gaps, it will be necessary to allocate more resources to obtain information to improve the corrections for understatement of income embodied in the source material and to provide more adequate material for combining the various sets of basic data.

1. INTEGRATION OF FIELD-SURVEY AND TAX-RETURN DATA

Field-survey and tax-return data cannot be directly integrated because of two major problems: First, the reporting unit is different in the two sets of data; and second, the income concept is not identical.

[54] See Income Distribution in the United States by Size, 1944–50, 1953, and Income Distribution in the United States by Size, 1950–53, in Survey of Current Business, March 1955.

The reporting unit in field surveys is the family or unattached individual required for purposes of income size distributions, and the family income that is used as a basis of classification by income size in these surveys covers a wider range of money income items than the tax return statistics. On the other hand, survey data generally suffer from substantial understatement of income due in large part to the faulty recollection by respondents of their incomes. Field surveys are particularly weak for the income ranges at both the lower and the upper ends of the income distribution. Tax return data are, of course, weakest at the lowest end of the income scale, because persons with incomes below the income tax filing requirements do not file returns unless they are eligible for refunds.

In view of the deficiencies in the two sets of data, the cheapest method of obtaining distributions of money income by income classes would be to utilize the best information in each source. To do this correctly, it is necessary to have sufficient information to bridge the two sets of data. Such a bridge can be constructed by multiple cross-classifications of family units in the field surveys by income-size classes, by numbers of earners in the family, and by the types of incomes received by each income recipient in the family. By matching a sample of the income recipients covered in the field surveys with the tax returns they file, it is possible to reclassify the tax return tabulations by size of family income.

This is, in essence, the method now used by the National Income Division, but the latest data for establishing a bridge between field surveys and the corresponding tax return data are for the year 1949. Since the intervening years have produced numerous changes in the economy, it is essential that new and more current cross-classifications be obtained as soon as possible. The committee recommends that, in connection with its annual surveys of income, the Census Bureau should provide these cross-classifications periodically, say, once in every 3 or 5 years. We also recommend that a subsample of the census sample be matched with the corresponding tax returns for these years in order to complete the bridge between the two sets of data.

Unlike the 1949 study, the new matching studies should concentrate more on the upper end of the income scale in order to obtain a larger number of matched income-tax returns in the top income sector than in 1949 when the sample of matched cases was small in the top income ranges. Although consumer units in all income classes should be covered in the sample that is selected for matching, a larger than proportionate number of upper-income census families and unattached individuals should be drawn.

Another important data gap would be filled if tax returns filed by members of farm operator families—the persons reporting farm income and, separately distinguished, other persons in the family—were separately tabulated by income classes as part of the matching study. The National Income Division now attempts to remove the tax returns filed by all these persons before combining the returns into family units, because income size distributions are developed from other data sources in the case of farm operator families. The Internal Revenue Service has provided a special tabulation for persons reporting farm proprietors' income by income classes, but the necessary data for other members of the farm family can be obtained only by a matching study of the type proposed here.

2. CORRECTION FOR UNDERSTATEMENT OF INCOME

The available evidence suggests that, even after reports of field surveys and tax returns are matched and appropriately combined, the resulting distributions fall substantially short of accounting for total personal income received. The missing income consists to a large extent of entrepreneurial and property incomes. Since these income items are not distributed proportionately by income classes, some factual basis is needed for allocating the missing incomes by income levels.

One of the sources of data used for making these allocations has been the audit control studies conducted by the Internal Revenue Service for returns filed in 1948 and 1949. In these studies, a scientific sample of individual income-tax returns was drawn and each return was subject to a full field audit by trained internal revenue agents. Although the studies were used primarily for evaluating administrative techniques of tax enforcement, they also yielded information on underreporting of incomes by taxpayers. As of this time, all of the information on income errors for the 1949 survey has not yet been tabulated. Moreover, a similar study was made for the year 1950, but no income information has been tabulated as yet in a form that would be useful for correcting income size distributions for understatement of incomes.

The committee urges that the information from the 1949 and 1950 audit control studies be tabulated by the Internal Revenue Service as soon as possible to provide estimates of the amounts of each type of income disclosable by audit, by the income classes used in Statistics of Income. These tabulations should be made available to the public—except to the extent that they involve confidential information—in order that non-Government research students be given the opportunity to use them in analytical studies of income size distributions.

Tabulation of the 1949 and 1950 audit control studies will not satisfy the needs for the future, since the understatement of incomes on tax returns among income classes and types of income may not remain the same for a long period of time. Accordingly, it would be desirable to have such surveys at least once in every 5 years as a basis for allocating the missing income. The committee recognizes that these surveys are expensive. Nonetheless, we believe that the purpose for which they would be used is important enough to warrant the expenditure of the necessary funds, particularly since they would provide extremely useful data for administrative purposes as well. With individual income-tax receipts at a level of about $35 billion, the expenditure of funds for locating returns with tax errors and for evaluating the efficiency of auditing techniques cannot be regarded as a luxury. We also suggest that the Internal Revenue Service should design the tabulations in consultation with the National Income Division in order to avoid the loss of key information needed for statistical purposes by inadvertence and also to avoid tabulation of unnecessary information.

3. SPECIAL STUDY FOR TOP INCOME TAX RETURNS

Because the National Income Division's family income distribution series is determined to a large extent by the pattern of income changes over time shown by Federal individual income tax returns, the revised

income size distributions will reflect the decrease that occurred in the number of Federal individual income tax returns reporting high incomes between 1950 and 1953. In view of the general increase in incomes and in particular the almost certain increase in upper bracket salaries in this period, the decrease is puzzling and merits close investigation. One thing the Internal Revenue Service can do immediately to shed light on this question is to prepare for the years 1950–53 size distributions of tax returns, by source, on the basis of the income as reported less net capital gains. Such distributions should also be prepared for subsequent years, since the National Income Division must in any case adjust the data for capital gains. In addition, the committee recommends that a sample of top income tax returns in 1950 or 1951 be selected, and the returns for the same individuals located, insofar as possible, for succeeding years through, say, 1955. Detailed tabulations of all the income and deduction items, including the details of the capital gains, and related schedules reported on their tax returns by this sample in successive years might throw light on some of the reasons for the decrease in the number of returns in high-income brackets and would, in addition, make an important contribution to our understanding of the financial situation and activities of families at the top of the income pyramid.

4. SOURCE PATTERNS OF INCOME FROM THE FIELD SURVEYS OF FAMILY INCOME

To appraise and adjust the income distributions from the sample surveys in the light of available information on totals for the various types of income, tabulations in terms of source patterns of income are needed. These tabulations should show, for families and unattached individuals in each income class, the aggregate amount of each major type of income reported in the blown-up sample survey, and the number of consumer units reporting that type of income. Since relative understatement of income in the surveys differs for the various types of income, and since the relative importance of the various types of income differs among income brackets, source patterns provide a basis for adjusting the survey results in the light of the independently determined totals for the various types of income.

Source patterns should be tabulated separately for farm operator families, nonfarm families, and unattached individuals partly because the three groups differ greatly with respect to the types of income comprising their total income. If the sample permits, the nonfarm group should be subdivided by major occupation of the family head in order to make possible the derivation of adjusted distributions for important subgroups of the population.

5. IMPROVED DATA FOR FARM FAMILIES

Limitations in the income size distributions for farm families (i. e., families operating farms as defined in the census of agriculture) reflect the fact that total net farm income is substantially understated in practically all sample surveys of farm family income, and even more so in income tax returns. Thus we cannot be certain that the basic shape of the family income distribution for farm families, as measured for example by the Lorenz curve, is even approximated by the primary

data. Nor can these data be used to measure changes in the farm income distribution over time because the results have been obtained from successive surveys which differ substantially from one another.

The committee recommends that a major effort be devoted by the Department of Agriculture to experimentation with alternative methods of enumeration until improved results are obtained, i. e., until the estimates from one year to the next are consistent and conform reasonably well with the annual net farm income totals. These surveys should be designed to cover nonmoney income from farming, as well as the usual money income, to fill an important data gap that accounts for a significant fraction of farm family income.

6. DATA ON LOW INCOMES

One of the important uses of income size distributions is to identify the population at substandard levels of living and the causes of low-income status. A considerable amount of information is already available on the characteristics of low-income groups,[55] but our knowledge falls considerably short of what is needed for policy purposes.

In fact, we are not absolutely certain at the present time about the exact number and proportion of the Nation's family units in the lowest end of the income distribution. Estimates based on the two currently available field surveys of income, by the Census Bureau and by the Federal Reserve System (in cooperation with the Survey Research Center of the University of Michigan), vary widely. Part of the difference may be accounted for by differences in the coverage of the two surveys.[56] But even after adjustments for these differences are made, the variations in numbers of family units below the $2,000 income level are still relatively large. The committee suggests that a major effort be made by the agencies conducting the surveys to determine the reasons for the differences in their figures.

Apart from the question of numbers, there is need for obtaining considerably more information about the low-income groups in order to identify them properly. Low incomes may result from lack of education, age, unemployment, illness, widowhood, broken families, discrimination, and other causes. The relative importance of some of these problems is known approximately, but a complete catalog of all of the causes is not available. For the immediate future, identification of the socio-economic characteristics of low-income units is probably one of our most important problems of data collection.

The committee recommends, therefore, that particular emphasis be placed by field surveys in the near future on low-income units. This will require more adequate samples for the low-income classes in order to provide statistically reliable estimates of the numbers of families and unattached individuals in the various socioeconomic groups mentioned above. Special efforts should also be devoted to improving the data for low-income families by means of special probing questions or other devices. Requiring special attention is the extent to which the

[55] See Characteristics of the Low-Income Population and Related Federal Programs, selected materials assembled by the staff of the Subcommittee on Low-Income Families of the Joint Committee on the Economic Report, 84th Cong., 1st sess. (1955). Additional information may be expected from the work of the New York State Interdepartmental Committee on Low Incomes.

[56] Ibid., pp. 40–43.

number of low-income units, particularly unattached individuals, may be overstated in the surveys because the units are enumerated and their family status determined in 1 year whereas the income information obtained pertains to the preceding year in which they may have had entirely different living arrangements, e. g., lived as members of another family unit on whom they were dependent for support. Finally, an effort should be made to obtain income histories covering a period of several years to determine the persistence of low incomes among families over a period of time. The census of 1960 will provide many data on the characteristics of low-income groups. We attach special importance to the satisfactory tabulation of these data since much meaningful information could thus be provided at low cost.

7. EXPENDITURES AND SAVING BY INCOME CLASSES

No agency of the Government is now collecting, or planning to collect, information on the expenditure patterns of the various income classes for the country as a whole.[57] The last countrywide urban study of this kind was made by the Bureau of Labor Statistics for the year 1950, and even these data were not completely tabulated until recently—with funds provided by a private foundation to the University of Pennsylvania. A similar farm survey has just been completed by the Department of Agriculture.

The committee believes that surveys of expenditures and saving by income classes should be a regular part of the statistical programs of the Federal Government. Plans should eventually be made to make such surveys once every 5 years in sufficient detail to provide estimates of the outlays by consumers for the major categories of expenditures (e. g., food, clothing, shelter, consumer durables, etc.). However, before such surveys are made on a regular basis, considerably more experimentation will be needed to refine techniques of data collection in order to reduce nonreporting or underreporting by respondents.

We also call attention to the report of the consultant committee appointed by the Federal Reserve Board on Consumer Survey Statistics, which made specific recommendations for the improvement of the survey of consumer finances conducted by the Michigan Survey Research Center of the University of Michigan for the Federal Reserve Board.[58] The survey of consumer finances provide material for appraising the economic situation of households and for understanding and predicting consumers' behavior. We believe that immediate action should be taken to implement the recommendations of the consultant committee.

8. INCOME HISTORIES

The income of a family unit in one particular year is the result of both permanent and transitory factors. Lengthening of the period

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[57] In its budget for the fiscal year 1958, the Bureau of Labor Statistics requested funds for conducting such surveys in 4 to 6 of the 46 cities in which prices are collected for the Consumer Price Index. At the time this budget was prepared the Bureau indicated its intention to request such funds annually to make surveys in a different group of cities each year. Final congressional action has not been taken on the 1958 request.

[58] Reports of Federal Reserve Consultant Committees on Economic Statistics, hearings before the Subcommittee on Economic Statistics of the Joint Committee on the Economic Report, 84th Cong., 1st sess. (1955), pp. 249–394.

covered will yield size distributions of income that are more representative of income status than annual data. We have already called attention to the need for such information in connection with the analysis of the incidence of low incomes. Information of considerable value could also be obtained for higher income groups by concentrating on income histories of family units for more than 1 year.

To obtain this information, it is necessary to collect income data for the same family units over a period of years. Field surveys cannot easily be used for this purpose because it is difficult to obtain reliable responses from respondents for the distant past. Accordingly, reliance would have to be placed primarily on a sample of identical tax returns filed with the Internal Revenue Service for the necessary information. The committee recommends that the methology and problems that will arise in connection with such a study be studied in a pilot project based on a small sample of tax returns, with the view to establishing a permanent method of collecting information on the income histories of identical taxpayers. Since tax returns will not cover the low-income groups adequately, consideration should also be given to the possibility of using more refined methods of interviewing through field surveys of low-income units to round out the picture of income histories that would be obtained from tax returns.

9. CHANGES IN THE METHODS OF INCOME DISBURSEMENT

As the economy has grown and the tax system has changed, methods of compensation and of withdrawing income from corporations have been greatly altered. The reliance on pensions, deferred compensation and stock options in lieu of cash wages and salaries, the conversion of ordinary incomes into capital gains, the growth in importance of business expense accounts that cover items of personal consumption, and the use of personal trusts to split incomes among members of the family is likely to have had an important impact on the relative size distribution of income. Since the National Income Division relies heavily on the bookkeeping records of business firms and on the tax returns of individuals to estimate the size and distribution of personal income, their estimates do not take into account many of these changes in income disbursements that have occurred in recent years.

Unfortunately, it is difficult to prescribe procedures for remedying this situation, since the required information is not readily available in official sources. It is important, nonetheless, that the developments described above should be carefully examined by competent research workers. The committee suggests that private research organizations and universities would be the most appropriate agencies for conducting such analysis. In order to make these studies possible, the collecting agencies of the Federal Government, particularly the Internal Revenue Service, should provide research workers maximum feasible access to official records. It will be necessary also to have the cooperation of business firms and financial institutions to supplement the data from Federal Government records.

The committee also urges the Conference on Research in Income and Wealth to encourage research in this area and to make available its facilities for an interchange of views by those interested in participating in such research. We also urge the conference to devote at

least one session at one of its annual meetings to a discussion of these difficult and complex but important matters.

10. REGIONAL, STATE, AND COUNTY DISTRIBUTIONS

Requests are frequently made by Government officials, research workers, and businesses for breakdowns of the national income size distributions by region, for particular States, and even for counties. The collection and tabulation of data to such detail requires samples of a size that would be prohibitively expensive and it is doubtful whether the Federal Government should devote its resources, except for the decennial censuses, to the collection of these data. There is no reason, however, why the State governments cannot undertake to make such sample surveys either directly or through competent sampling organizations. The Census Bureau his cooperated on a number of occasions with State governments on a contract basis. This year, for example, it is conducting special income field surveys for New York State and the District of Columbia. The committee hopes that the Bureau will be able to continue to satisfy in the same cooperative spirit similar requests in the future.

11. PLANS FOR THE 1960 CENSUS

It seems likely that, as in the preceding censuses, income information relating to the income year 1959 will be collected in the 1960 census for a large sample of the population.

The committee has been informed that in all probability a household schedule will be used rather than the line schedule which was employed in the 1950 census. This change will have an important bearing on the usefulness of the income data, since it will be feasible to collect information separately for each family member rather than for the family head and for all other family members as a group. The committee strongly recommends that this change be made.

The committee also believes that the next decennial census should be made the occasion for a concerted effort on the part of other Federal agencies to fill many of the statistical gaps in our knowledge about income size distributions. Plans should now be made for: (1) matching studies between census data and tax returns; (2) tabulation by the census of cross-classifications for combining census and tax return data; (3) an audit control survey by the Internal Revenue Service to obtain estimates of underreporting on tax returns; (4) more detailed census questions to obtain better data on the characteristics of the low-income groups; and (5) a supplementary survey designed to obtain estimates of expenditure and saving patterns by income groups and by other significant characteristics of consumers. We would hope that future decennial censuses will continue the collection of such data. With appropriate supplementation by smaller and less ambitious sample surveys in intercensal years, the Nation would then have a continuous body of data on income size distributions which would shed adequate light on numerous important economic and social questions.

12. PUBLICATIONS OF ESTIMATES

The National Income Division generally prepares preliminary size distribution estimates for the Nation as a whole within 6 or 8 months

after the end of the year. For example, distributions for calendar year 1955 were published in the June 1956 issue of the Survey of Current Business. At this early date, data from the Survey of Consumer Finances are generally available, but the tabulations based on the Census Bureau surveys are not yet complete, and no data are available from tax returns. Accordingly, the estimates for the top income brackets are little more than extrapolations from the last year for which all of the source material is available, with heavy reliance on the assumption that the shape of the income distribution reflected in the Lorenz curves for the major sectors (e. g., farm families, nonfarm families, wage-earning families) has remained unchanged.

Although it is true that Lorenz curves change very little from year to year, wide variations in the distribution of income by size classes may occur even if the changes in the Lorenz curves are small. In view of the facts that the estimates can be misinterpreted by those who are familiar with the approximate techniques that must be used in preparing current estimates, the committee questions the desirability of publishing size distributions of income before survey and tax-return data are available. We recognize that, for some purposes, rough estimates based on constant Lorenz curves are sufficient. Such extrapolations as are now made should be done informally and quickly—if at all—and the results distributed to persons or organizations in mimeographed form with a warning about the character of the estimates. It would be better to avoid giving widespread circulation to such estimates in order to prevent the inevitable misinterpretations that now occur.

13. INCOME CONCEPT USED IN SIZE DISTRIBUTIONS

At the present time, the income size distributions prepared by the National Income Division are based to a large extent on the personal income concept used in the national income accounts. "Family personal income"—the concept used—is equal to personal income less the income of members of the Armed Forces living on military posts, the income of the population in institutions, and the income of nonprofit organizations. The decision to use the personal income concept as a basis for the income size distribution estimates was made in order to provide a close tie-in with the aggregate personal income data that are now widely used.

The committee recognizes that the use of different income concepts makes for confusion. However, we believe that, in this particular case, there is little virtue in enforcing consistency, particularly when some departures have already been made with respect to the income recipient units included in the size distribution totals. It is doubtful whether, for most uses to which the data are put, the concept used at the present time is applicable. Moreover, use of the present definition of family personal income requires the allocation of imputed interest derived by individuals from commercial banking and the property income earned by life-insurance companies to the various size classes which can be done only on a rather arbitrary basis.

To make the data more meaningful to most users, the committee recommends that the basic concept of income for size distribution purposes should be the sum of: (1) cash incomes earned in production, (2) transfer payments, (3) wages paid in kind, (4) the net rental

value of owner-occupied farm and nonfarm dwelling, and (5) the net value of food and fuel produced and consumed by farm proprietors. This concept would avoid the distortions in the size distributions that would arise if all imputed items were neglected. At the same time, it would limit the imputations to those items that are clearly necessary to put the incomes of farm and nonfarm groups and of home owners and renters on a comparable basis.

It would be desirable also to provide size distributions on the basis of three additional concepts that have important practical and analytical usefulness. The first is a distribution based entirely on a cash income concept; the second a distribution based on the revised family personal income concept as defined above plus realized net capital gains and losses; the third a distribution based on the national income concept. The cash income concept is wanted by those who use the data for marketing purposes. The concept inclusive of capital gains is particularly important to evaluate the effect of profits realized as a result of changes in the value of individual asset holdings during inflation or depression. As indicated in chapter V, when data become available, both realized and unrealized capital gains should be introduced into the system of national accounts. It would be desirable to add at the same time unrealized capital gains to the second of the supplementary size distribution concepts suggested here. The national income concept would show the effect on the size distribution of income of all the imputed items that accrue to the benefit of individuals and of undistributed corporate profits.

14. CONSTANT-DOLLAR ESTIMATES

For some purposes, estimates of income size distributions using incomes in constant dollars are useful because they eliminate the effects of price changes. The committee recognizes that adequate deflators for the different types of families in the economy and for the different income levels are not available. Nonetheless, even approximate estimates based on constant dollar figures would be helpful. We suggest, therefore, that rough constant-dollar estimates be prepared when the official estimates in current dollars are released. Initially, the deflation of incomes for price changes might be made on the basis of the Consumer Price Index for urban and rural nonfarm families and the index of prices paid by farmers for farm families. However, later separate deflators might be developed at least for farm, rural nonfarm, and urban families and, if possible, for unattached individuals and high-income families.

CHAPTER XI. STATISTICAL ADEQUACY OF NATIONAL INCOME AND PRODUCT ESTIMATES

1. GENERAL CONSIDERATIONS

To the extent that national income and product data are utilized for public policy formulation, private decision making, and economic analysis, users of the data have a decided interest in their reliability. This concern is shared by the compilers of the figures—the staff of the National Income Division and other Federal statistical agencies—who exhibit a genuine professional desire to produce the best possible data,

and steadly to improve the adequacy and quality of their estimates. We have already indicated that, from the standpoint of accuracy both with respect to aggregates and much of the detail shown, the data in the national income and product accounts probably surpass those of any other country in the world. Deficiencies that do exist are the result primarily of the inadequacy of the basic data, so that major improvements in reliability will be possible only if the primary data sources are improved.

(*a*) *Measurement of error*

In the preparation of the national income and product accounts, use is made of a large volume of statistiacl materials collected by governmental and private agencies for other purposes—information that must be further processed to fill the gaps and to adjust for differences in definition. The final estimates are unavoidably affected by the degree of accuracy of the original data, their adaptability to the national accounting framework, the extent of the coverage as well as the character of the gaps in special-purpose statistics, the regularity with which figures usable for benchmark purposes or for current extrapolations are collected, and the timelags between the dates of collection and publication of the original material. The very nature of the available data thus leaves an imprint on the estimating procedures. No simple mathematical or mechanical procedure can be utilized—the procedure used must depend on the particular item being estimated. The problem is further complicated when subjective adjustments must be made to the original data, or when items that do not represent actual money transactions must be imputed. Reliance must be placed, therefore, on the use of judgment in the development of meaningful and consistent estimates suitable for incorporation in the national income accounting structure and—above all—on the development of checks against independently derived alternative measurements.

Although some measurements in economics may be presented with what may seem to be a great degree of mathematical precision, appearances may be deceptive. One frequently encounters economic data that give the impression of considerable accuracy and exactness, merely because of the form of presentation. This is the case, for example—to the uninitiated at least—with the ordinary balance sheets and cost of production statements. Even if expressed to the last penny, it is likely that only the figures in such statements that reflect the handling or possession of money and some types of claims are accurate. Other types of data, such as those reflecting inventory valuation, amortization, goodwill, patents, special contingency reserves, etc., can hardly be viewed in the same light. It is difficult, if not impossible, to apply the conventional statistical concepts of accuracy to such data because the figures are a byproduct of theories, conventions, and rationalization of self-interest. Because valuation is a subjective process the typical accounting statement is a combination of a hard kernel of relatively accurate figures, representing transactions to which the ordinary ideas of margins of error may apply, and numerous other figures that are fuzzy in character and definition because of the manner in which they are conceived. Yet, for all outward purposes, figures of both types may be indistinguishable in financial statements.

Even when one is not faced with the problems inherent in accounting data, it is not always possible to determine the degree of relative

accuracy with which measurement is carried out in the case of economic and social observations. Although the information sought is comparatively simple and the data are obtained though what purports to be a complete enumeration, errors creep into the final results—respondents may not provide correct answers due to misunderstanding of the questions asked, faulty recollection, inadequate records, desire to place themselves in a particular light or through sheer error, while the collectors of information may fumble by misrecording replies, or by omitting some units or persons who should have been covered.

Some of these difficulties may be minimized through the use of "probability" sampling which helps to reduce the task to a more manageable size and permits the use of more highly trained personnel to collect the information. But even then, although it may not be too difficult to estimate the probable error of measurement due to sampling, it probably will not be possible to account for response errors, or those committed in the course of collection and compilation of the information. As a practical matter, it is only in comparatively isolated instances that the margins of error can be computed in the case of economic statistics.

Thus, the use of estimating procedures in which judgment inevitably plays an important role, and of data collected by governmental and private agencies which are essentially byproducts of administrative routine, makes it virtually impossible to evaluate the relative accuracy of the various components of the national income and product accounts in quantitative terms. Little could be gained by the assignment of quantitative expressions of reliability to individual components so long as such evaluations are not derived from rigorous statistical procedures; and these cannot be used in the case of the national income data because much of the original source material does not lend itself to this type of computation.

Quantitative indicators of relative accuracy that are derived by judgment alone would also be misleading. Quantification of mere opinion, however well qualified, would inevitably give an erroneous impression of mathematical accuracy. Furthermore, the margin of error does not remain the same at all times, particularly when estimating procedures and available data change or when the benchmark data used becomes comparatively old due to the passage of time.

For these reasons, the committee does not believe that any useful purpose would be served by the publication of regular, quantitative estimates of error. The facts concerning the various sources of potential error are stated with great candor in the National Income supplement and, since the error sources are so varied in nature and so subject to change over time, anything more specific than general warnings about inadequacies does not appear to be justified.

If this reasoning is valid it also rules out a compromise suggestion, viz, to attach labels to the various published components of the national accounts indicating their relative reliability, one letter, e. g., identifying the components liability to the largest relative error. Such a classification, unless simply based on nonquantified judgment, presupposes the possibility of ranking the various components according to reliability by some objective criterion. If such a criterion existed it could also be expressed in quantitative terms.

(b) Verification of estimates

In practice, national income statisticians seek to improve the accuracy of their work in several ways. Initial estimates are made for small segments of national accounts, in the hope that, when independently estimated individual estimates are aggregated into broader components deemed suitable for publication, the errors in individual estimates will tend to offset each other. Pragmatic experience does, of course, confirm the theoretical expectation that errors in unbiased data tend to cancel out in the course of aggregation. This is far from certain, however, in specific cases, nor will this be the case when bias is present in the original data.

The reasonableness of particular estimates may sometimes be assessed by checking the conformity of the derived figures to some others in the light of some previously determined or determinable economic patterns. This type of check assumes that long-established patterns are substantially stable. It may perhaps be helpful when the primary concern is with the development of data suitable for the interpretation of long-term developments. However, when one is concerned with changes that take place over shorter spans of time, important deviations from long-term relationships are found more often than not.

Another method of verification is to compare the figures in the national income and product accounts which are usually derived from aggregative statistics—particularly figures relating to households—with blown-up sample data for the same items. However, the differences in concepts and the difficulties of obtaining adequate information from entrepreneurial and high-income families are still so great that this method of verification can be used for close comparisons only in exceptional cases, though it is often useful for checking orders of magnitude in items that are particularly difficult to measure satisfactorily by either method.[59]

The best check now available to national-income statisticians is the reconciliation of aggregates derived by the income method with the results obtained by the product method, i. e., essentially the comparison of gross national product with the sum of national income and indirect taxes. Unfortunately, not all the items represented on each side of the national account ledger are truly independent. The published "statistical discrepancy" between the income and product side thus cannot be taken as fully indicative of the degree of aggregate error in either or both of the two sides of the national income and product accounts. Moreover, the apparent consistency, or lack of it, of the final aggregates and the smallness of the "statistical discrepancy" is not necessarily indicative of accuracy of the global figures, but may be merely accidental.

There is a widespread impression that the National Income Division treats the statistical discrepancy as a simon-pure residual, letting it go where it will after entering the best possible estimates of the other items. Actually, the Division naturally has in mind the magnitude of the discrepancy and its change when making the multiplicity of estimates and adjustments that go into the preliminary data as they are being readied for publication. The corrections or adjustments

[59] For a more detailed discussion of the problems raised in such a comparison in the special case of saving estimates, see Reports of Federal Reserve Consultant Committees on Economic Statistics, hearings before the Subcommittee on Economic Statistics of the Joint Committee on the Economic Report, 84th Cong., 1st sess. (1955), pp. 73 ff.

then made are predominantly in the direction of minimizing the statistical discrepancy. The statistical discrepancy thus is a reflection of the fact that the processes of compiling income and product statistics are not, and cannot be perfect; but it is not necessarily a measure of the imperfection. Nonetheless, the comparatively small magnitude of the statistical discrepancy in the national income and product account for most of the last 30 years [60] may be regarded at least as partial evidence for the fundamental validity of the estimates.

Some users of the national income and product statistics urge that their utilization in practical analysis would be greatly facilitated if the statistical discrepancy were allocated by the producers of the data and not shown as a separate item in the accounts. The committee was about evenly divided on this suggestion. Several members felt that the publication of the discrepancy serves the useful purpose of warning users that the data are subject to error. Others thought that it would be more convenient to have the discrepancy allocated and that the estimators themselves are better qualified for this allocation than outsiders. All members of the committee recognized that the estimating process becomes more complicated if the discrepancy is eliminated—not only because its allocation involves additional work, but primarily because making revisions in individual series would entail numerous complementary revisions just to maintain consistency in the accounts. For this reason alone, the committee believes that allocation of the statistical discrepancy should be applied only to the annual estimates, if it is considered at all, and that no attempt at allocation be made in the quarterly estimates. In addition, before publishing allocations even for the annual data, the National Income Division should first experiment with various approaches in order to determine, in a pragmatic fashion, the extent to which this departure from present and past practice would enhance, or detract from, the usefulness of the data.

(*c*) *Revisions*

(1) *Magnitude.*—A different gage of the relative accuracy of national accounting data is offered by the periodic revisions of the estimates following the publication of additional underlying statistical information. Analysis of these revisions does permit some judgment in the light of new data of the nature of the previously made extrapolations or estimates of levels. But an evaluation of the reliability of any one series cannot be based entirely on the number and extent of past revisions, since the lack of revision is not necessarily indicative of the reliability of the previous estimate—it may be entirely due to the absence of newer data.

In practice, however, it appears that the series that are based on the least reliable data are subject to the largest revision. The committee has examined the successive revisions of all of the more important primary components of the national income and product accounts, both in the annual and the quarterly estimates. Although we have not included statistical summaries of the comparisons in this report, primarily because any one, or even several, measures of change

[60] The discrepancy exceeded 2 percent only in 1 year (1945—2.1 percent) from 1929 through 1955 and was below 1 percent in 18 of the 27 years. It was positive (gross national product exceeding national income plus indirect taxes) in 21 and negative in 6 years.

between revisions may be misleading, the findings corroborate what is already known generally about the reliability of the basic data. For example, estimates of such volatile items as inventory change, capital formation, and corporate profits are subject to rather substantial revisions. Similarly, the estimates of entrepreneurial incomes are subject to large revisions, since there are no reliable indicators of current change in such incomes. On the other hand, the larger components of the national income series—e. g., wages and salaries—and the aggregates both of income and product change relatively little between revisions.

(2) *Frequency.*—In view of the paucity of current information on the movements of a number of key items in the accounts, data for current and recent periods must be regarded as provisional and subject to revision. Nonetheless, complaints are frequently heard that the revisions are too frequent and the National Income Division is urged to keep the number of revisions to a minimum.

One reason for these complaints is that revisions sometimes confuse the users of the statistics and impose additional work in keeping records, charts, and analyses up to date. The committee feels that confusion is more likely to result from withholding the revised and presumably better data than from promptly publishing the corrections. The inconvenience caused by changes is real, but the choice between remaining uninformed of revisions and making the effort necessary to become fully informed seems clearly to be with the latter.

A second argument that has been advanced by those who favor fewer revisions is that they create a feeling of insubstantiality and thus undermine the authoritative character of the data. Authority, however, cannot be created by perpetuating error. What is not an error in the first instance becomes an error if it is repeated after information making possible a correction is available. The revision should be made in routine fashion and frankly presented to the public—not as an admission of error, but as a necessary part of the process of compiling sound data.

A final argument against making frequent revisions is that, by postponing them, the possibility of revisions in the wrong direction will be avoided and compensating errors in other series may result in an averaging out that will render revision unnecessary. The committee sees no merit in this argument either, since the hope that the figure originally published will eventually be justified by unforeseeable contingencies is hardly a sound basis for perpetuating a known error. Moreover, even if a revision in one component is later offset by a revision in another component, it is always better to have the best available information about every component currently.

It is the committee's view that the need for revisions of the totals can be minimized only by improving the quality of the underlying statistics to such an extent that fewer revisions will actually be necessary. Until such improvements can be made, it is better to admit the imperfections of the data and to educate the public in the use of imperfect statistics. The analytical usefulness of the data currently being published is so great as to overshadow criticism arising from unavoidable deficiencies. The most important pleas of the users is for something more—for further improvements—and not for any curtailment of what has already been achieved.

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In view of the provisional nature of the initial estimates, revisions should be made and published whenever the accrual of further information makes significant corrections in the earlier published estimates possible. The committee believes that the general guiding principle should be to make revisions each quarter—at the earliest publication date after there is a reasonably firm basis for the correction. This principle should apply not only to the last quarterly data published but also to any previous quarters for which later data clearly indicate the necessity for revision. It should apply also even if the estimates have already been revised on more than one occasion. Similarly, if new information discloses the need for significant corrections in the annual estimates, they should be made at the earliest possible time. Such a policy would avoid the perpetuation of error in current quarterly estimates simply because the previous annual figures have not been revised. The committee recognizes that, especially in the case of the annual data, it would be very time consuming to make the necessary revisions in all of the income and product tables when one or a small number of items have been revised, and we do not contemplate that this be done. What we have in mind is the publication of revised figures for important components when new data show that the original figures are overstated or understated by significant amounts. Revisions of all the basic tables affected by the change should be reserved for the annual supplement.

(*d*) *Steps toward greater accuracy*

The kinds of improvements needed in the primary data sources from which national income and product data are drawn are fairly well known among experts. They include the undertaking of new surveys, the improvements of existing surveys in terms of reporting samples and of detail covered, and the regularization of censuses and other benchmark sources. Specific recommendations regarding the type of needed information have been presented to the committee by George Jaszi in a memorandum reproduced as appendix E of this report. Since these recommendations are based on the experience of the statisticians in the Division in actually preparing the estimates, the committee has given them serious consideration and believes that they should be implemented as rapidly as feasible. The areas in which action is most urgently needed are discussed in section 2 of this chapter.

Aside from the need for adequate budgets to improve the basic data—which, of course, is of decisive importance—more emphasis should be placed on research. Suitable revision of present procedures cannot be accomplished without direction from research and analysis designed to define data needs more carefully.

The committee believes, however, that the provision of additional resources for research as well as for the collection of basic data would not entirely solve the problem. Unrelated efforts by various agencies with larger resources, though capable of effecting improvements in many respects, might leave many of the existing gaps. Progress demands a higher degree of mutual understanding and cooperation on the part of all concerned. For this reason, concentration on planning and coordination should be continuous.

To avoid the inefficiencies that may result from lack of coordination, periodic surveys of the needs of the National Income Division should be instituted under the auspices of interdepartmental commit-

tees or the Bureau of the Budget. In the course of such reviews, recommendations could be formulated for improvement in the accuracy of some of the presently available information, the gaps in the available body of statistics could be identified and plans made for their elimination, ways could be sought to speed up the release of tabulations or to regularize their collection, and other suggestions could be made for better adaptation of statistics for national accounting purposes without affecting their utility for the primary purposes for which they are designed. Conceivably, private research agencies might be requested from time to time to sponsor such periodic reviews through the undertaking of appropriate inquiries or holding joint conferences of interested users and producers of the data.

(*e*) *Improving public understanding*

Since the national income and product accounts are relatively difficult for the layman to understand, it is in some respects quite remarkable that they are used and quoted so widely. This is, of course, attributable to the fact that the accounts present information that is of value to many different people and for many different purposes. It is still true, however, that a large part of the public does not understand the meaning of the national income and product statistics, and that only a few technicians are familiar with the details of their shortcomings.

A system of national income and product accounts that is designed to portray in summary fashion the manifold transactions of an economy as complicated as ours must make a compromise between presenting a broad picture and giving adequate information which implies considerable detail. The task of finding such a compromise is extremely difficult because the accounts are essentially and necessarily complicated. In formulating its recommendations the committee recognized the need for preserving as much simplicity as possible. Some of the committee's recommendations are designed to increase the clarity and understandability of the accounts. Nevertheless, in a few cases in which there appeared an urgent need for more detail, the committee recommended that a finer subclassification of aggregates be provided even though it increases the complexity of the accounts.

It should be recognized that the full set of accounts would be published only once a year in a special publication designed for the use of experts in Government and various research organizations of business, labor, agriculture, and in academic institutions. In the future, as in the past, these detailed accounts could be used as worksheet information from which various summaries will be derived depending on the purposes to be served. In the past, use was made most frequently of gross national product tabulations giving only the expenditure data of the accounts. The President included for the first time in the budget message of 1946 a tabulation that contrasted income, expenditures, and excess or deficit for each major sector of the economy. This summary table has been presented subsequently in somewhat improved form in the President's Economic Reports.[61] Also the Joint Economic Committee has been using a similar presentation as a frame of reference for the staff projections which have been pub-

[61] See e. g., The Economic Report of the President, January 1957, table E–6, p. 129.

lished regularly in its annual reports.[62] A summary table of this type, based on the revised income and product accounts which we proposed earlier, is shown in table E of chapter V.

The committee believes that the improvements it recommends will make more meaningful summaries possible than could be derived from the present accounts. However, the committee does not wish to recommend one standard form of summarization that would be used for all purposes. It believe that, if its recommendations are realized, the basic system of accounts will be so improved that various users can derive from its summaries that best serve their particular purposes. Experimentation with different methods of summary presentation should be continued by the National Income Division, the Council of Economic Advisers and the Joint Economic Committee in the interest of further simplification and adaptation to various uses.

The committee also believes that consideration should be given to the preparation of a popularized description of the accounts—the structure, the concepts used, the limitations of the data, and their possible applications—for the use of the intelligent layman. Such a description should not supersede or infringe on the technical documents of the type of National Income. It will be helpful, in the committee's opinion, to the widening circle of persons interested in the end results, and will materially improve understanding of this important source of statistical intelligence.

The National Income supplement satisfies most of the needs of the more technically inclined users of the national income and product accounts. However, the information now supplied is occasionally not sufficient for their purposes. In some cases, the description of methodology is too general; in others, the data are not provided in sufficient detail. It has been suggested, for instance, that descriptions of various estimating procedures be presented in sufficient detail to permit the user to duplicate the published figures from the original sources. Such descriptions might be provided in looseleaf form to permit ready supplementation of the basic documents whenever major changes in operating procedures take place.

Another suggestion is that more of the worksheet detail behind the published data be made available to the public.[63] Publication of a more detailed methodology and of more worksheet data would not only be useful to outsiders; it would also give the public a greater appreciation of the problems encountered in the compilation of national income and product data, and would stimulate suggestions for improvement by users who may be expert in one or more of the detailed areas covered by the accounts.

Although the committee was inclined to view sympathetically the suggestion that a more comprehensive description of methodology be prepared, if found that there was little demand for it even among the experts who were canvassed. (See appendix C.) Since the number of respondents who felt the need for more detailed descriptions of methodology was very small, it is clear that there would be no point in devoting considerable resources at the present time to such a project.

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[62] See e. g., 1957 Joint Economic Report, 85th Cong., 1st sess., H. Rept. No. 175.

[63] The committee members know from their own experience as users that the National Income Division is extremely cooperative in satisfying requests for more detail if the information is reliable enough for public use.

On the other hand, there is a significant demand for more detail than is now published. Perhaps the best way of satisfying this demand, and at the same time of providing a better indication of the actual derivation of the estimates, would be to prepare a set of annual summary tables—at least for the more important series—showing the major steps in the derivation of the published figures from the information reported in the censuses and other basic sources. Table 38 of the national income supplement, which reconciles estimates of corporate profits with the data reported in Statistics of Income, is an excellent example of the type of table we have in mind. Some of these tables might be added to the national income supplement, but it would be sufficient to prepare them for distribution in mimeographed form in most cases. The committee appreciates that this cannot be accomplished overnight. However, it should be possible to space the work gradually over a period of years so that it will not interfere with the preparation of current estimates and needed revisions of past data.

2. EXAMINATION OF SELECTED COMPONENTS

(*a*) *Unincorporated business profits*

For the immediate future, the most important single step that could be taken to improve the accuracy of the national accounts would be to improve the data for nonfarm sole proprietorships and partnerships. The inadequacy of the underlying data for this sector of the economy affects the reliability of practically every important component of the accounts; e. g., saving, capital expenditures, depreciation, sales, inventories, and many others, but particularly that of profits. Although estimates of these items are currently included in the various accounts, they can be regarded as little more than informed guesses for the small-business sector. The annual figures are poor enough, but those for shorter periods are even worse, since there are no intra-annual surveys of the operations of unincorporated businesses except for a few scraps of information obtained from private accounting firms. This situation is no fault of those who are responsible for making the estimates. Indeed, the estimates have been made with great care and ingenuity, and every bit of usable information has been employed. The estimators have repeatedly called attention to the need for better data in this area, but the data-collecting agencies have not been able to comply with these requests, mainly because of the limitation of funds.

Unfortunately, it will not be easy to remedy this difficulty which is as old as national income statistics in the United States. "There was general paucity of data on entrepreneurial incomes and the estimates relating to this income type are the most subject to doubt." [64] is a statement which is as true today as when it was made 25 years ago.

The small firm is typically operated as a family enterprise, and its accounts are usually intermingled with those of the proprietor's household. Even the tax returns they file are seriously in error, as the Audit Control Study conducted by the Internal Revenue Service for the year 1948 demonstrated. This study indicated that "the 7 million 1948 income tax returns filed by individuals with business and professional incomes (including income from farming) are more fre-

[64] National Income, 1929–32, p. 9.

quently in error, have larger amounts of tax change, and produce more dollars of tax change per man-year of examination effort expended than is the case regarding the 45 million returns without business incomes. Almost half of the business returns contain tax errors and this frequency of error is more than twice the frequency found on nonbusiness returns." [65] On the basis of a similar study conducted for the year 1949, it was estimated that net profits of nonfarm business enterprises reported on tax returns were understated by an average of almost 20 percent, with the percentages varying greatly among different industry groups and ranging as high as 50 or more in some groups.[66]

The absence of reliable data for unincorporated business enterprises is surprising in view of the great interest frequently expressed by public and private groups in the fortunes of small business. There is virtual unanimity in this country that public policy should protect and encourage small business, yet we know very little about it. Very frequently, the profit ratios of small and large corporations are used as if they showed the relative profitability of small versus big businesses. In actual fact, small corporations constitute a small and unrepresentative sample of all small business—they number less than one-tenth of all small enterprises and are of considerably larger average size—so that any conclusions about small business in general that may be drawn from the profit levels and trends of small corporations must be regarded as highly tenuous. Improvement of the information relating to unincorporated enterprises is, therefore, urgent to provide the basis for the formulation of policy and not merely for purposes of national accounting. The two purposes are, of course, not in conflict since the national accounts provide a useful framework for the analysis of significant economic problems like the problems of small business.

More reliable data on the profits of unincorporated nonfarm enterprises are needed at three different levels: (1) benchmark data, (2) current annual estimates, and (3) quarterly and monthly estimates.[67]

(1) *Benchmark data.*—The National Income Division relies primarily on the information tabulated from schedule C of the Federal individual income tax return as the basic source of information on profits of these enterprises, supplemented from various sources. Since 1939, the sole proprietorship returns have been tabulated biennially in the detail required for national income estimating. The corresponding data for partnership returns were tabulated only for the years 1939, 1945, 1947, and 1953.

The 1953 tabulations to be published later this year will include information not only from the income statements of partnerships but also—for the first time—from their balance sheets. These data will permit a rough calculation of the saving of partnerships and will also be helpful in improving the saving estimates of nonfarm households.

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[65] Marius Farioletti, Some Results of the First Year's Audit Control Program, National Tax Journal, March 1952, pp. 71–72.

[66] Marius Farioletti, Some Income Adjustment Results from the 1949 Audit Control Program, Studies in Income and Wealth, vol. 23 (in press).

[67] To provide the basis for making recommendations to improve the estimates of unincorporated business profits, the committee requested Mr. Thor Hultgren of the National Bureau of Economic Research to examine the procedures used by the National Income Division in estimating unincorporated business incomes other than farm and professional enterprises. Mr. Hultgren kindly consented and prepared for the use of the committee a memorandum describing the procedures and the data used and suggesting methods of improving the estimates. The committee wishes to take this opportunity to express its gratitude to Mr. Hultgren for his assistance.

Unfortunately, the sole proprietorship return does not call for balance sheet information, so that there is no possibility of obtaining the balance sheet items for these unincorporated enterprises from tax sources.

The committee has been informed that the Internal Revenue Service now plans to tabulate the sole proprietorship and partnership returns every other year, probably in odd-numbered calendar years. Since this information is so important, we hope that nothing will interfere with these plans, particularly with the preparation of tabulations for both forms of legal organization for identical years. As it is by no means certain that all partnerships file tax returns, even though they are required to do so, to provide a check, all future censuses of business should distinguish between sole proprietorships and partnerships in the query on legal form of organization.

The Internal Revenue Service tabulations for the income year 1955 are now being prepared, but it is hardly likely that they will be completed before the end of 1957. A 2-year lag is apparently the minimum that must be expected, in view of the industry detail required for the tabulations. Thus, these biennial tabulations will be useful only for benchmark purposes and other sources will need to be developed for the current annual and quarterly estimates.

Even as benchmark materials, these data will have serious deficiencies because of the substantial amount of understatement, mentioned earlier, of profits on tax returns. Corrections for understatement are now based almost entirely on the Audit Control Study of the Internal Revenue Service for the year 1949. The committee believes that such a study should be conducted at least once every 5 years, and should cover not only individual and partnership returns, but also the returns of corporations. As we indicate elsewhere (see ch. X), regular audit control surveys are needed for purposes of estimating the size distributions of income as well as profits.

(2) *Current annual estimates.*—The budget for 1958 provided for tabulating selected information from the income-tax returns 1 year sooner after filing than has been feasible in the past. A recommendation in this direction was also made in a staff report of the Joint Committee on Internal Revenue Taxation. Such tabulations among other things would provide the information necessary to carry forward the benchmark data on profits of corporate and unincorporated enterprises for at least 1 more year. This proposal, which was estimated to cost $300,000, was turned down by the House of Representatives. The Senate report emphasized the merits of this program and recommended that it should be financed with available funds. The committee, therefore, hopes that this proposal will be implemented in the near future. These tabulations should become a regular source of information of great importance for the improvement of the national economic accounts.

Even if this proposal is implemented, data would still be lacking for making firm estimates of profits of unincorporated enterprises in the latest year.[68] Of necessity, such estimates will have to be pro-

[68] This difficulty could only be overcome if a way could be found to abstract and tabulate a few key items from partnership and sole proprietorship returns, as well as from individual returns, as they come into the district offices of the Internal Revenue Service. With full use of the possibilities of rapid microfilming and electronic computing it is not impossible that such data, based on a substantial sample of returns, could become available in time to be used in the preparation of the first annual estimate of national income and product. The time for such an acceleration of preliminary income tax tabulations—which in due course might become sufficiently detailed to be used instead of the tabulations now published in Statistics of Income—appears to be too remote to justify specific recommendations that presuppose its realization.

visional and subject to revision when the more reliable tax-return data become available. However, consideration needs to be given to the development of more current information. For this purpose, the committee recommends that three approaches be considered:

First, the Federal Trade Commission should enlarge the coverage of its corporate profits surveys to include corporations in industries other than manufacturing, with particular emphasis on wholesale and retail trade. Changes in profits of small corporations are already used as an indication of the trend in the profits of some unincorporated enterprises—though this should be done only with great care for the reasons set forth at the beginning of this section. If the Federal Trade Commission industrial coverage were enlarged, this method could be applied more generally.

Secondly, an attempt might be made to experiment with annual mail questionnaire surveys of sole proprietorships and partnerships to supply the necessary data. If the surveys were timed correctly, the respondents would probably use the information they submit with their tax returns as a basis for reporting. Such surveys may be expected to understate profits greatly, but it may well be that they would provide a satisfactory indication of year-to-year changes.

Thirdly, the committee has also considered the possibility of using more elaborate sampling of entrepreneurial families in the annual income surveys by the Bureau of the Census and the Michigan Survey Research Center for this purpose. We do not believe that this would be a fruitful approach, first, because it would be too expensive to obtain adequate samples to provide the industry detail that would be needed; and, second, because experience with these surveys indicates that the response error of entrepreneurial families is very large. There is, however, a possibility of making use of interview data by adopting a suggestion advanced by the Federal Reserve Consultant Committee on Saving.[69] This suggestion provided for drawing a probability sample of a few hundred, or at best a few thousand, respondents among the 4 million unincorporated enterprises now in existence, and envisaged intensive examination of respondents' records by interviewers thoroughly familiar with accounting methods. These interviewers would reconstruct the respondents' income accounts and balance sheets and would calculate the desired figures from their records, instead of relying on respondents to produce the required information from memory or with the help of occasional consultation of their papers.

(3) *Quarterly and monthly data.*—For estimates covering periods of less than a year, the task seems extremely difficult since most small-business men simply do not keep the necessary records. The quarterly and monthly estimates needed for completing the national and personal income totals are now made by projecting annual data forward on the basis of the movement of gross sales and changes in profit margins that may be inferred from available data, particularly from public reports of corporations and the Federal Trade Commission corporate profits survey. To the extent that these sources are strengthened, the quarterly and monthly estimates of unincorporated nonfarm entrepreneurial income will also be improved.

[69] Reports of Federal Reserve Consultant Committees on Economic Statistics, hearings before the Subcommittee on Economic Statistics of the Joint Committee on the Economic Report, 84th Cong., 1st sess. (1955), pp. 135, 136.

The experience with the annual mail questionnaire surveys of sole proprietorships and partnerships suggested above may indicate that collection of data by mail is feasible. In that case, the surveys might be gradually converted from an annual to a quarterly basis. The committee believes, however, that major emphasis should be placed on the collection of annual data for the immediate future.

(*b*) *Inventory changes*

Next in importance among the items urgently needing improvement in the current national accounts is the change in business inventories. A large part of the difficulty in this case goes back to accepted business practice in accounting for inventory holdings and for profits or losses resulting when changes take place in the prices at which inventories are valued. In most concerns, actual physical stocks are checked and valued only once a year, and interim quantities or book values are estimated from purchases and sales, usually in dollar terms. Errors in the interim estimates can be corrected only after the annual inventory check. Furthermore, the established procedure of valuing inventories on the principle of "cost or market whichever is lower" introduces unrealized capital gains or losses into the earnings account, where they are typically treated as though they were realized. These and other distortions produced by the inaccuracies in the inventory records themselves or by the changing bases of valuation used in calculating profit or loss represent one of the most serious sources of potential error in the overall accounts.

This problem is most acute for short-term economic analysis. The extreme volatility of inventory changes is widely recognized. The primary focus of efforts to make improvements must therefore be the monthly or quarterly statistics of quantities and values from which the estimates of overall changes in inventories are derived.

An extended review of this subject has recently been made by the Federal Reserve Consultant Committee on Inventory Statistics.[70] Its published report included 32 recommendations to improve and supplement the data currently available.

The committee finds itself wholly in accord with the views expressed in that report and merely reiterates the following recommendations for special emphasis: That agencies compiling inventory statistics cooperate and integrate their efforts more closely; that negotiations be conducted with business concerns to improve inventory reports in various respects; that reports for independent retail stores be expanded; that additional information be obtained on accounting practices and on the prices significant for deflating book values in various lines; and that inventories be consistently broken down by durability and destined end-use in addition to the present classification by industry or type of business.

We also endorse the position taken in that report on the costs of effecting recommended improvements. Costs are presently small, and the potential returns from a moderate expansion of effort in this area are so great that the attitional outlays required are fully warranted.

(*c*) *Capital expenditures*

Limitations of time and personnel prevented the committee from undertaking as thorough a survey as it would have wished of the

[70] Reports of Federal Reserve Consultant Committees on Economic Statistics, hearings before the Subcommittee on Economic Statistics of the Joint Committee on the Economic Report, 84th Cong., 1st sess. (1955), pp. 395 ff.

adequacy and reliability of estimates of capital expenditures that are now embodied in the national product accounts and in flow-of-funds statements. Some of the committee members who have worked fairly intensively with these figures over many years feel that the estimates that are now of necessity used within the national accounts probably are subject to a wider margin of error than many other series. All members are convinced of the necessity of improving the accuracy of the estimates because of the crucial importance of these figures for assessing both the current economic situation and the business outlook. In addition, the committee is convinced of the importance of securing as soon as possible consistent estimates of total fixed investment classified (*a*) by type of producers' durable equipment and of construction, (*b*) by industry classification, and (*c*) by legal form of organization of the purchasing units.[71]

No breakdown of producers' durables by type has been published in the national income and product accounts for years subsequent to 1952. The chief reason is that, since the discontinuance of series collected by the National Production Administration during the Korean emergency, there has been no source of information on government (particularly Federal Government) purchases of producers' durables. This information is necessary for the allocation of shipments by producers between private and government purchasers. Its lack not only prevents resumption of the breakdown of producers' durable equipment but also has impaired the accuracy of the aggregate figure for producers' durables. In addition, such information is most pertinent to the committee's recommendation for a segregation and classification of capital outlays of the Government. The committee recommends that the Office of Statistical Standards explore ways to obtain the resumption of such data.

Construction estimates are seriously inadequate in quality. A program for the improvement of the estimates of residential construction has been proposed by the Bureau of Labor Statistics and the committee has not investigated this field in detail. We do know, however, that there are serious deficiencies in the available estimates of expenditures on additions, alterations, repair and maintenance of residential structures, and that the estimates of nonresidential construction, including new construction, are far from satisfactory. Detailed recommendations for improvement of the figures that now go into the national income and product accounts would be premature before a thorough study is made of the quality of the present data and the possibilities and means of obtaining more accurate figures. Such a study is consequently recommended by the committee. It might be made either by the suggested Research Section of the National Income Division; or, if no such section is organized in the near future, by a group of experts who can concentrate their attention on this field and have an adequate staff for a careful analysis of all relevant data.

A classification of capital expenditures by purchasing industry is now provided for about three-fifths of gross fixed investment by the

[71] The Federal Reserve Board's Consultant Committee on Business Plant and Equipment Expenditure Expectations unfortunately had to limit its study to the narrower field indicated in its title, and was not able "to review the available statistical series on past plant and equipment expenditures, except as this was necessary for an appraisal of the data on expectation" (reports of Federal Reserve Consultant Committees on Economic Statistics, hearings before the Subcommittee on Economic Statistics of the Joint Committee on the Economic Report, 84th Cong., 1st sess., 1955, p. 13).

Office of Business Economics-Securities and Exchange Commission survey of plant and equipment expenditures. The committee recommends that the size of the sample be increased, particularly in the nonmanufacturing industries, so as to permit the presentation of greater industrial detail (especially in the huge "commercial and other group") as well as to improve the accuracy of the aggregate. The committee further recommends that the Office of Business Economics provide a reconciliation of the plant and equipment series with the gross national product capital expenditure data; and that it develop an industry breakdown of the capital expenditures not included in the plant and equipment survey so as to complete an industry classification of the gross national product total for fixed capital expenditures.

The plant and equipment survey should also be utilized to improve the classification of capital expenditures as between corporations and noncorporate business. This breakdown, which is required to improve saving aggregates and flow-of-funds statements, as well as to develop sector saving and investments accounts, would also benefit from strengthening of the plant and equipment sample in nonmanufacturing industries.

These recommendations provide for separate classifications of total fixed capital expenditures by type, by purchasing industry, and by legal form of organization. The committee's recommendation for a cross-classification of fixed capital expenditures by type and by purchasing industry would go beyond this and may not be attainable in the near future.

(d) Saving

The committee has refrained from studying the adequacy and reliability of the statistics of saving now available as part of the national accounts for two main reasons.

First, these statistics have been investigated quite thoroughly less than 2 years ago by the Federal Reserve Board's Consultant Committee on Saving Statistics.[72] There would have been no point for the committee to go over the same ground again, necessarily in a much more cursory manner, the more so since two members of this committee served on the Consultant Committee on Statistics of Saving.

Secondly, the recommendations of the Consultant Committee have been studied, in accordance with the committee's suggestion, for over a year by the staff of the Federal Reserve Board. The committee understands that the Federal Reserve Board will be ready soon to recommend to the Office of Statistical Standards and to the agencies which furnish the main components of statistics of saving a coordinated program for improving the whole field of statistics of saving. The committee has every confidence from its discussions with representatives of the Federal Reserve Board that the Board's suggestions will fit in with the committee's own recommendations for improvement and expansion of the national income and product accounts and the flow-of-funds statements.

The committee, however, has given enough attention to statistics of saving, particularly with regard to their integration into a system of

[72] Reports of Federal Reserve Consultant Committees on Economic Statistics, hearings before the Subcommittee on Economic Statistics of the Joint Committee on the Economic Report, 84th Cong., 1st sess. (1955), pp. 73 ff.

national accounts, to feel justified in endorsing the Consultant's Committee's recommendations,[73] particularly the development of: (*a*) a separate estimate of saving for nonfarm households, farmers, and incorporated business and private nonprofit institutions; (*b*) supplementary estimates of saving through consumer durables; (*c*) figures on gross flows of saving; and (*d*) corporate statements of sources and uses of funds of corporations on a quarterly basis.

(*e*) *State and local governments*

In recent years, State and local government expenditures have been growing more rapidly than the expenditures of any other major sector of the economy. Between 1950 and 1956, while gross national product increased 45 percent, purchases of goods and services by the States and local governments rose 65 percent. During the same period, the net debt of these units of government almost doubled—from $21 billion to $41 billion. A continuation of these trends, although perhaps not at precisely the same relative pace, is to be expected at least for another decade in view of the many demands on the States and local governments for increased services resulting from such factors as the growth in population, the continued move to the suburbs, the bulge in public-school attendance, the renewal and rehabilitation of our large cities, and the growth of industry and commerce. Accordingly, it is important for economic analysis, as well as for policy purposes, to have reliable information on the operations of the States and local governments. Much of this information—though admittedly not all—would be supplied if the set of accounts envisaged in this report (i. e., income and product accounts, national balance sheets and flow-of-funds statements) were available.

The conceptual problems of fitting the State and local governments into these accounts are generally similar to those raised in connection with the Federal Government, and will not be repeated here. (See ch. VII, sec. 3.) However, the data problems are much more acute for the State and local governments, because the information must be obtained from thousands of jurisdictions that do not keep standardized records and are not required to report periodically to any one centralized agency. For this reason, it is essential that the census of governments, which is now being conducted for fiscal year 1957 for the first time since 1942, should be repeated once every 5 years, as now provided by law. In addition, since the census will supply only periodic benchmark data, it will be necessary substantially to improve and enlarge the flow of data from the States and local governments on an annual and quarterly sample basis to assure satisfactory coverage of this sector in the national accounts. Steps that can be taken to achieve this objective are described below. The committee urges that high priority be given to these recommendations.

(1) *Quarterly nationwide data for the national income and product accounts.*—The National Income Division relies very heavily upon data compiled by the Bureau of the Census for much of its information on States and local government transactions. In particular, the annual Summary of Governmental Finances supplies nationwide aggregates on governmental receipts, expenditures, debt, and financial assets.

[73] See summary in Reports of Federal Reserve Consultant Committees on Economic Statistics, hearings before the Subcommittee on Economic Statistics of the Joint Committee on the Economic Report, 84th Cong., 1st sess. (1955), pp. 74–75.

As a basis for reasonably prompt nationwide estimates on a quarterly basis, however, this census report is recognizably deficient. For example, by August 1957, when the financial summary coverning Government fiscal years ending in calendar year 1956 will be issued, the National Income Division will have had to prepare and issue estimates for six quarterly intervals subsequent to the most recent period covered by the corresponding census report. For such quarterly estimates or extrapolations, the National Income Division can draw upon several series of partial data—e. g., as to payrolls, assistance payments, and construction expenditures of States and local governments. In recent years, however, significant adjustments of the quarterly figures initially based on such series have been necessary when the annual census reports have ultimately become available.

More precise and more timely nationwide aggregates for this sector could be obtained on the basis of quarterly sample surveys with respect to major components of State and local government finances—i. e., at least tax collections, construction expenditures, and wage and salary payments. After a limited initial period of design, testing, and development, it should be possible to prepare relatively precise nationwide estimates on these items (with appropriate supporting detail—for example, showing construction expenditure separately for highways, schools, and other major purposes) within 60 to 90 days after the period covered.[74]

Taxes make up about 60 percent of all revenue of States and local governments, and construction and personal-service payments represent about the same fraction of all their expenditure. Addition of Federal grants on the revenue side and of public assistance amounts on the expenditure side—for which reliable current data are available from the Treasury and the Social Security Administration—would raise these proportions to around three-fourths of the receipts and expenditure totals for this sector. The remainder comprises relatively less volatile items—on the income side, mainly receipts from charges; on the expenditure side, current procurement, interest payments, and retirement-fund benefits. The committee believes that relatively close overall measures of current trends in State and local government finances could be developed even without specific intrayear surveys of these remaining components.

(2) *Biennial surveys of State and local government finances.*—Because the census of governments is a large-scale operation, authorized to be conducted only at 5-year intervals, its findings will be relatively tardy, and will be useful mainly as benchmarks for estimates in the national accounts. These estimates would be improved substantially if the Census Bureau were authorized and equipped to carry out the recommendation made in 1954 to the Secretary of Commerce by the intensive review committee on census programs[75] that biennial surveys be conducted, between periodic governmental censuses, to supply estimates on the finances of State and local governments.

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[74] Responsibility for quarterly surveys on employment and payrolls of State and local governments was reassigned from the Bureau of the Census to the Bureau of Labor Statistics in February 1955. If the more complete quarterly surveys recommended above are authorized, it would be desirable to coordinate the collection of payroll and other financial data so as to avoid imposing an unnecessary burden on reporting on the reporting units of government.

[75] Appraisal of Census Programs, Report of the Intensive Review Committee to the Secretary of Commerce, February 1954.

The proposed intercensal surveys were suggested primarily for their uses in analysis of trends in governmental finance. However, their uses for national accounting should not be overlooked. In particular, they can be helpful for three specific purposes:

(*a*) To supplement the data in the quarterly surveys suggested above for receipts and expenditure items that do not vary greatly over short periods of time or that may be too complex to warrant insertion on quarterly questionnaires.

(*b*) To provide the basis for improved annual estimates of the number of State and local government employees and their earnings, which are included in the State-by-State personal-income series. At the present time, these estimates are prepared on the basis of a special survey conducted by the Census Bureau for only 1 month of each year (October).

(*c*) To provide information on the nonfinancial assets of State and local governments for purposes of national-wealth statements and the national balance sheet.

Therefore, the committee endorses the proposal of the Intensive Review Committee on Census Programs and urges that the first biennial survey of the States and local governments be taken for fiscal year 1959, i. e., 2 years following the census of governments.

(3) *Reconciliation between census data and national income and product data.*—As in the case of the Federal Government, data for the States and local governments which are derived essentially from budgetary accounts must be corrected for differences in timing, concepts, and coverage before they can be fitted into the national income and product accounts. Considerable confusion exists among users as a result of the exitsence of two series of data on receipts and expenditures of the States and local governments—one compiled by the Bureau of the Census and the other by the National Income Division. That there will be differences between the two series is inevitable, since they do not purport to measure the same things. However, the confusion would be minimized if the National Income Division added a table to its annual publication showing a detailed reconciliation between its own estimates and those of the Census Bureau. Together with the corresponding table for the Federal Government (see ch. VIII, sec. 3), the reconciliation statements would provide a useful summary of the differences between the data in government budgets and those that are entered into the national income and product accounts.

CHAPTER XII. FLOW-OF-FUNDS STATEMENTS WITHIN THE SYSTEM OF NATIONAL ACCOUNTS

1. THE PRESENT SITUATION

(*a*) *Nature of flow-of-funds statements*

Flow-of-funds statements, first known under the more descriptive though less accurate name of money-flow statement, are the youngest member of the national accounting family. Morris Copeland's book, A Study of Moneyflows in the United States, published in 1952 by

the National Bureau of Economic Research, represents the first fully developed result of this aspect of national accounting.[76]

Within the system of national accounts, flow-of-funds statements are, in principle, characterized by about a half dozen main features. Some of these features have been omitted or imperfectly realized in the flow-of-funds statistics that have actually been compiled, while actual estimates embody features that are not characteristic of the flow-of-funds concept.

The main characteristics of flow-of-funds statements are:

(1) Coverage of all economic units within the Nation, private and public.

(2) Arrangement of units into sectors on the principle of grouping together decision-making units of similar economic characteristics.

(3) Inclusion of all transactions (both in their monetary and their real aspects) between two units which involve the use of money or credit, and consequently omission of imputations and internal transactions.

(4) Emphasis on financial transactions in addition to transactions in goods and services which are treated in less detail.

(5) Separate recording of gross flows in both directions, where economically relevant, instead of offsetting them and showing only the resulting net flow in the accounts.

(6) No systematic distinction between current and capital account sources, hence no aggregate figure for saving.

(*b*) *Present status of work on flow-of-funds statements*

Morris Copeland's pioneering study provided annual flow-of-funds statements for the years 1936–42. The Federal Reserve Board's basic document [77] contains detailed annual estimates for 1939–53. These figures differ sufficiently from Copeland's estimates to prevent their being used jointly without special adjustments. Somewhat less detailed annual figures for 1950–55 showing all essential magnitudes for the 10 main sectors [78] were published in the April 1957 issue of the Federal Reserve Bulletin. The detailed tables, comparable to those in flow of funds in the United States 1939–53 will, however, become available in mimeographed form, so that analysts soon will have at their disposal a detailed continuous set of figures covering a period of 17 years.

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[76] In addition to Morris Copeland's book (mimeographed drafts had been circulating for a few years before publication) the following documents discuss the basic features of flow-of-funds statements or provide actual figures for flow of funds in the United States:

(*a*) Flow of Funds in the United States, 1939–53 (Federal Reserve Board), 1955. A briefer mimeographed version, Progress Report on the Money-Flows Study, had been available since 1951.

(*b*) R. A. Young, The Federal Reserve Flow-of-Funds Accounts (International Monetary Fund, Staff Papers, February 1957).

(*c*) S. J. Sigel, A Comparison of the Structures of Three Social Accounting Systems, Studies in Income and Wealth, vol. 18, 1955.

(*d*) S. J. Sigel, A Comparative Study of Three Social Accounting Systems; National Income, Input-Output, and Money Flows (Harvard University thesis), 1955.

(*e*) Summary Flow-of-Funds Accounts, 1950–55, Federal Reserve Bulletin, April 1957.

[77] Flow of Funds in the United States, 1939–53, December 1955.

[78] Consumers, corporations, nonfarm unincorporated business, farm business, Federal Government, State and local government, banking, insurance, other inventors, rest of the world.

In recent years simplified flow-of-funds statements, mostly limited to the main types of financial transactions, have been prepared by financial analysts interested in current figures and short-term forecasts of fund flows, since no Federal Reserve Board figures extending beyond 1953 were available until recently. These statements often provide semiannual and even quarterly estimates. The statement prepared early each year by the Bankers Trust Co. is probably the best known of these simplified statements of financial fund flows. The most ambitious of the unofficial projects in this field is the quarterly statement of flow of funds through the capital markets for the years 1953–55 which has been prepared by the National Bureau of Economic Research as part of its postwar capital markets study and which is expected to be published, at least in summary form, sometime later this year.[79]

No foreign country has as yet published a flow-of-funds statement that compares in detail or duration with those Copeland and the Federal Reserve Board have prepared for the United States. A number of countries, however, have been issuing statements of the main financial flows of funds, usually in rather condensed form. This is the case for instance for France, Western Germany, the Netherlands, and Norway.[80] It may be noted that no flow-of-funds statements have as yet been published for the United Kingdom or Canada, although a rather elaborate one is in preparation for the latter country.[81] Most of the more elaborate foreign flow-of-funds statements differ in one respect from the work done in the United States—apart from their being less detailed. They are closely integrated with the national income and products accounts and are prepared by the same organization that is responsible for the national income and product estimates.[82] [83]

(c) *The relation of flow-of-funds statements to the national income and product accounts*

Flow-of-funds statements constitute essentially an alternative selection from, or a rearrangement of, the same innumerable elementary transactions among and quasi-transactions within economic units that underlie the national income and product accounts. Differences, and considerable ones, between the two systems can, however, arise: because different categories of transactions are selected; because these transactions are grouped differently with respect to type of transaction or classification of transactor; because transactions are entered into the accounts at different values or at different points of time; and because transactions may be recorded after more or less extensive netting.

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[79] For a description of this project see 36th Annual Report of National Bureau of Economic Research, pp. 54–57; and article by M. Mendelson in Journal of Finance, 1957, pp. 159–166.

[80] For a brief description of these documents, as well as even more summary statements in this field, see background paper by the Statistical Division, Meeting on Methods of Monetary Analysis, 11th annual meeting of the International Monetary Fund, September 1956.

[81] See L. M. Read, The Development of National Transactions Accounts; Canada's Version of, or Substitute for, Money-Flows Accounts, Canadian Journal of Economics and Political Science, February 1957.

[82] This is not the case for Western Germany where the flow-of-funds statement is prepared, as in the United States, by the central bank. There exists in Germany also an unofficial estimate, prepared by the Institute of Economic Research in Berlin, which has no counterpart in the United States.

[83] Although there is no administrative integration between flow-of-funds statements and income and product accounts in the United States, the two can be reconciled, though it requires a considerable effort, as shown, e. g., in appendix B of Flow of Funds in the United States, 1939–53.

Under present United States practice, the main points of similarity and dissimilarity between the flow-of-funds statements of the Federal Reserve Board with the national income and product accounts of the National Income Division may be summarized as follows, glossing over minor differences in the two systems:

(1) The flow-of-funds system is a quadruple-entry system compared to the double-entry system of the national income products accounts, that is, a given transaction is recorded twice in the accounts of both economic units involved—once as a debit and once as a credit—while only one entry for each participating unit is made in the national income and product accounts.

(2) The flow-of-funds statement distinguishes a considerably larger number of sectors than the national income and products accounts now do. Specifically consumers, corporate business, nonfarm noncorporate business, farm business, the banking system (with four subsectors), life-insurance companies, pension plans, other insurance companies, saving and loan associations, and nonprofit organizations constitute separate sectors in the published flow-of-funds statements. No separate figures for these sectors are shown in the national income and product accounts, which distinguish, insofar as full detail is concerned, only between two private sectors—consumers (including nonprofit organizations) and business.

(3) The flow-of-funds statement provides information on net purchases and sales by each sector (where applicable or where figures are available) on the following 12 types of financial assets, none of which enter into the national income and profit accounts: gold and Treasury currency, currency and demand deposits, time deposits, savings and loan and credit union shares, bank loans, Federal obligations, State and local obligations, corporate securities, mortgages, consumer credit, and trade credit.

(4) The flow-of-funds statement is published only on an annual basis and so far only with considerable delay, while the main aggregates in the national income and product accounts are estimated quarterly and are released less than 2 months after the end of the quarter.

(5) The flow-of-funds statement includes figures for the holdings of claims and liabilities, though not of equity securities and tangible assets, of each sector, information which does not figure at all in the national income and product accounts. This feature, however, is not necessarily inherent in a flow-of-funds statement.

(d) Relation of flow-of-funds statement to national balance sheet

In United States practice the flow-of-funds statement has been coupled with a partial balance sheet for all the sectors for which flow of funds are calculated. Thus the Federal Reserve Board shows the amounts outstanding (amounts held for creditors, amounts owed by debtors) for the same items for which flow data are provided, except that corporate securities are limited to bonds. It will thus be seen that among important types of assets and liabilities the flow-of-funds statement omits corporate stocks, tangible assets, and net worth. In other words, what is provided is essentially a statement of the claims and liabilities of each sector. The reason for including these asset items with the flow-of-funds statement is in part statistical—

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annual flows are obtained as the differences between holdings at the beginning and end of the year. The arrangement to some extent also reflects analysts' need for comparisons of flows with the related stocks, permitting among other things the calculation of velocities of turnover and the evaluation of the importance of indicated net changes in holdings.

(*e*) *Relation of flow-of-fund statements to input-output tables.*

Neither in theory nor in practice is there a close relationship between flow-of-funds statements and input-output tables. Indeed these two aspects of a comprehensive national accounting system are about as far removed conceptually and statistically as is possible within that system. The flow-of-funds statement emphasizes financial flows and collects all its data on an enterprise basis. Input-output tables omit financial transactions altogether, concentrate on flows of goods and services among producers, and must be derived from very detailed data collected on a plant and preferably even on a process basis.

2. RECOMMENDATIONS

The recommendations of the committee for a further development of the flow-of-funds statements are straightforward, and are in accord with the Federal Reserve Board's own plans as they have been reported to the committee, although the recommendations may sometimes go beyond what the Federal Reserve Board is ready to undertake at this moment or in the near future.

(*a*) A shift of the flow-of-funds statements to a quarterly basis is by far the most important recommendation. The Federal Reserve Board is already working in this direction and expects to have a set of quarterly estimates for the last few years—probably through 1957—available late in 1958. The Board's intention is at that time to establish the quarterly statistics on a current basis, releasing the figures not more than half a year, and possibly as little as 4 months, after the end of the quarter.

The quarterly flow-of-funds estimates will necessarily be less detailed than the annual figures now available, and they will be more subject to revisions. The estimates will, however, include all figures of substantial financial significance, though nonfinancial transactions will be shown only in considerably more summary form than in the annual statements. With respect to sectoring the quarterly estimates should be approximately as detailed as the annual statements for 1952–55 shown in the April 1957 issue of the Federal Reserve Bulletin.

(*b*) Speeding up the release of the detailed annual figures is also definitely contemplated by the Federal Reserve Board. It is expected that these figures can be made available approximately 9 months after the end of the year, and that at the same time revised figures for the 2 to 3 preceding years will also be released.

(*c*) In view of the detailed sectoring of the present flow-of-funds statements only a few additions to the sectors now shown separately are recommended.

(1) Probably the most important suggestion is the separation of the personal trust fund departments of commercial banks from consumer households. These departments are now administering about $80 billion of funds (excluding agency and custodian accounts), a

larger sum than any other group of financial institutions except the commercial banks themselves and life-insurance companies. No official, or even unofficial, information is available on the size and structure of personal trust funds or on their transactions. Setting up personal trust funds as a separate subsector will require the inauguration of a regular reporting system, probably on a sample basis. In the beginning annual statements may suffice, but quarterly reports should be the aim.

The absence of regular, comprehensive, reliable and, above all, standardized information on personal trust funds is one of the most important gaps in our financial information, keenly felt not only in the construction of flow-of-funds statements but also in the study of saving and in many other aspects of financial analysis. The committee is therefore inclined to assign a high degree of priority among its recommendations to development of a reporting system for personal trust funds administered by corporate trustees; and urges that the efforts which recently have been made in this direction, particularly by the Federal Reserve System and the American Bankers Association, be continued and intensified.

(2) A second suggestion in the field of sectoring, and one much easier to accomplish, is the division of the Federal and State and local government sectors into separate subsectors for general government activities, government enterprises, government financial agencies (insofar as not included with financial business) and government trust funds. Government enterprises would become a subsector of the broader business enterprise sector, while trust funds would constitute a subsector of the government sector.

(*d*) For intensive analysis several of the asset and liability categories distinguished in the present flow-of-funds statement are too broad. The recent separation, in the April 1957 issue of the Federal Reserve Bulletin, of demand from time and savings deposits and of consumer credit from trade credit and bank loans are steps in the right direction. The committee recommends that, as soon as possible, corporate securities be divided into bonds, preferred stock, and common stock; that mortgages be split into farm mortgages, nonfarm home and multifamily residential mortgages and other mortgages; that term loans be separated from other bank loans; and that United States Government securities be divided into those of short, intermediate, and long maturity.

(*e*) Presentation of transactions on a gross rather than a net basis, wherever the separate flows in both directions are economically relevant, is one of the main basic attractions of the flow-of-funds statements for the economic and financial analyst. The committee, therefore, suggests that continuous attempts be made to put the statistics of as many of the flows as possible, particularly those in the financial sphere, on a gross basis.

In particular, transactions in different types of securities (excluding short-term Treasury and similar securities for which gross flows are of less significance) by the various sectors should in principle be presented on a gross basis, showing separately issues and retirements by issuers and purchases and sales by each of the other sectors. The same principle should apply to mortgages, separating new loans from repayments; to term loans by commercial banks; and to installment loans—in short to all assets and liabilities with an original maturity

of more than approximately 1 year. (At the moment grossing is limited to transactions by issuers in the main types of securities.)

The committee realizes that the recommended shift to a gross basis will take considerable time and substantial effort, but feels that this shift should be the definite goal of a developing flow-of-funds system. Attempts to reach or approach this goal should be made continuously even if in any single instance they may affect only one type of asset and one group of institutions.

(*f*) Full cross classification of flows, leading for each type of asset or liability to a matrix that shows transactions between every one of the sectors distinguished in the flow-of-funds statement, appears to the committee to go too far beyond the data now available or in sight to need serious consideration. Such a cross classification would be formally parallel to the cross classification of the flows of goods and services in input-output tables, but seems to be of much less analytical significance for financial flows.

(*g*) To estimate the flow of funds for a given asset or liability by taking the first difference between holdings (or outstandings) at the beginning and the end of the period must always be regarded as only a substitute for the more informative and satisfactory method of separately determining the volume of acquisitions (issues) and of sales (repayments). At the present time, however, this substitute method is still often used in flow-of-funds statements—not only those of the Federal Reserve Board—chiefly because of lack of primary data on gross flows.

The absence of gross flow data not only reduces the amount of information available to analysts but is likely to lead to uncertainties and errors in the calculation of net flows whenever there are realized capital gains and losses or revaluations, and this is the common situation not only for stocks but for long-term fixed-interest-bearing securities. In that situation specific adjustments to the net flow estimate calculated from balances at the beginning and end of the period must be made, using the profit-and-loss statements of the institutions involved in the transactions. Since these statements are rarely available in sufficient detail rough estimates usually must be resorted to. Because of these difficulties adjustments to the net change in holdings as shown by opening and closing balance sheets are made only for some sectors and assets in the Federal Reserve Board's flow-of-funds statements.

The extension of these adjustments to other groups of transactions and to other assets and their improvements constitute one of the most important steps in refining flow-of-funds statements and in adapting them to a closer analysis of the capital market. The committee recommends that considerable attention be devoted to this aspect of the flow-of-funds statement, although the derivation of net flows as the difference of separate estimates of acquisitions and disposals should remain the ultimate objective.

(*h*) In the longer run the further development of the flow-of-funds statement should be sought, in the committee's opinion, more in the direction of increasing the number of subsectors than in the separation of assets and liabilities beyond the extent suggested under recommendation (*d*). Specifically, the present very large nonfinancial business sectors (both corporate and noncorporate) might be split into

about half a dozen subsectors covering, e. g., manufacturing and mining, public utilities, trade, services, and real estate.

Consideration might also be given to any alternative form of subsectoring that would segregate the large corporations for which more detailed and frequent data are available from the mass of medium sized and small enterprises. Such a separation will probably gain in importance with the spread of electronic accounting among the larger corporations, as this may increase still further the gulf between the information available for them and for smaller corporations, and may make it necessary to derive the figures for the two groups of corporations by quite different methods and on a different time schedule.

Subsectoring of the present consumer sector may be still further off. As far as can be judged from the material likely to become available and the requirements of users the introduction of a small number of subsectors based on the source of consumers' income will probably be the first step to be given serious consideration.

3. INTEGRATION OF FLOW-OF-FUNDS STATEMENTS AND NATIONAL INCOME AND PRODUCT ACCOUNTS

The arguments for or against closer integration of the different parts of the system of national accounts are discussed elsewhere in the report. Proceeding from the assumption that we want to go as far in integration as is feasible without either needlessly complicating the resulting systems or disproportionately increasing costs, the objective should be to minimize the differences now existing between the flow-of-funds statement and the national income and product accounts. These differences are in structure of accounts, coverage of sectors and transactions, classification of transactions, degree of netting, scope of consolidation, timing of some transactions, methods of valuation, estimating procedures, and sources of data.[84] The objective can be approached by gradually eliminating all those differences that are the result of the peculiarities of the origin of the two systems, or are essentially arbitrary in nature, or can be abandoned without serious loss to one of the systems, even though they possibly may have some value to some users. (More correctly, the criterion should be whether the loss to one of the systems from the point of view of its specific objective is regarded as more than offset by the advantage of integration which facilitates joint use of the two systems.) In many cases integration on this basis will be easy to achieve, in others it may involve overcoming considerable substantive difficulties and differences of opinion. The specific differences between the two systems which raise the problem of mutual adaptation are generally too complicated and technical to be discussed here and in many cases not yet sufficiently explored to lend themselves to simple recommendations. The principle enunciated at the beginning of this paragraph will therefore have to suffice, and ought to suffice provided final integration of the two systems is adopted as the goal and there is the will to effect a gradual mutual adaptation until full integration can be achieved.

One of the most important fields for integration of flow-of-funds statements and national income and product accounts is saving and investment. As indicated in chapter V, the flow-of-funds statement

[84] Some of these differences have been mentioned under (*c*), above.

produces, with only few changes—primarily the insertion of depreciation allowances—an estimate of saving which fits perfectly into the national income and product account and can be used as a check upon the direct estimate of aggregate saving which is inherent in the national income and product account, viz, the difference between current income and current expenditure. While that residual estimate of saving is by its very nature indivisible, the measurement of saving derived from the flow-of-funds statement has the great advantage from the point of view of economic analysis of showing the various forms of saving and dissaving. Tables A–13 and 14 in appendix A exemplify this integration.

Chapter XIII. Input-Output Tables

1. The Nature of Input-Output Tables

An input-output table is, so far as the form of presentation goes, a table which shows the flows of commodities and services—represented by their money value—during a given period (usually 1 year) between a number of sectors, here generally called industries (whence the alternative name of "interindustry analysis") into which the economy is divided. Each entry, or cell, identifies the value of commodities supplied by one and received by another "industry"—the term being used for any aggregation of economic units or even production processes within a firm or plant. An input-output table thus is a complete from-whom-to-whom breakdown of all commodity and service flows within thet Nation and between the Nation and foreign countries. Since as a rule the classification of economic units into industries is the same for suppliers and recipients of goods and services the input-output table generally has the same number of rows and columns and hence the form which is called in algebra a square matrix. Input-output tables vary in size from an aggregative table distinguishing less than 20 supplying and receiving industries, and hence having less than 400 cells, to very detailed documents with over 400 industries and more than 160,000 cells, many of which, of course, may be empty.

Input-output tables may be regarded as simply an alternative form of presenting commodity and service flows within a system of national accounts and are so treated in chapter V and appendix A. In that capacity they provide a powerful check on the completeness and compatibility of much of the information used in building up national product and income estimates.

In practice, however, input-output tables have been developed primarily for a second, more ambitious purpose; namely, to serve, together with auxiliary information such as prices and technological data, as a tool of decision making in public policy and private investment planning by business enterprises. This use of input-output analysis is called economic or mathematical programing. For this purpose input-output coefficients and production functions are derived from the input-output data by the mathematical process known as matrix inversion, which requires modern high-speed calculating machines if the number of industries distinguished is substantial.

Input-output tables may depict a closed or an open system. In a closed system all industries are assumed to be completely interdependent and their inputs and outputs to be functionally related. For ex-

ample, consumer households may be considered to constitute one industry having consumer goods and services as input, producing labor as output. In an open system, input-output analysis regards some industries as being related to the other industries in the economy, but not functionally dependent upon them. Hence, in this case consumer goods and services and/or producer goods, Government services and exports are regarded as final uses or output, i. e., autonomously determined by factors outside the input-output system. Labor and management services are regarded as original inputs, but not as produced by a household industry within the system. Also the construction of plants and the production of producers' goods has been usually regarded as final output of investment goods—autonomously determined—even though in a truly dynamic model investment goods should be regarded as input for future output and hence as an integral part of the mutually interdependent input-output system. Thus, the tables in their present open system form answer primarily the question: What output of raw materials and semimanufactured goods is needed to produce a given volume of final output; or what output of the various industries would be needed to meet an assumed demand for final goods and services, a magnitude which is either identical with or can be derived from gross national product. This links the input-output tables with the national income and product accounts.

2. HISTORICAL BACKGROUND

(*a*) *United States*

Input-output tables for the United States were first presented in 1941 in W. W. Leontief's work, The Structure of the American Economy, 1919–1929. During World War II the use of the input-output technique for analysis of war production plans was considered but did not materialize. However, in 1941 the Bureau of Labor Statistics requested Wassily Leontief to construct an input-output table for 1939 which was used in connection with the analysis of postwar economic problems. This input-output table divided the economy into 96 sectors which were later aggregated into 42 sectors.[85]

After the war, mathematicians and economists developed methods for economic (or mathematical) programing. In order to test the economic feasibility of various strategic plans, an up-to-date input-output table for the American economy was required. The National Security Resources Board, the Bureau of Labor Statistics, and primarily the Air Force, supplied funds for the construction of a comprehensive input-output table for the year 1947. This table was constructed by the Bureau of Labor Statistics in cooperation with a number of Federal agencies and some university research organizations. The 1947 table was based on data for more than 400 industries which were then consolidated into about 200 industries.[86] The testing of the usefulness of such an input-output table for mobilization planning was discontinued in 1953 before the testing program was completed.

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[85] The aggregated table is described in Full Employment Patterns, 1950 * * *, appendix A (Bureau of Labor Statistics, May 1946); it is also reprinted as table 24 of W. W. Leontief, The Structure of the American Economy, 2d edition, 1951.

[86] For a brief description, see W. D. Evans and M. Hoffenberg, The Interindustry Relations Study for 1947, The Review of Economics and Statistics, May 1952. For details see Input-Output Analysis: An Appraisal, Studies in Income and Wealth, vol. 18, 1955, and the accompanying Input-Output Analysis Technical Supplement, National Bureau of Economic Research, 1954.

The input-output studies in the United States were conducted relatively independently of the national accounting work, at least administratively. National account data (especially gross national product) were used for making the economic projection of final demand. Input-output coefficients then provided the means for relating the input and output of various industries to the stipulated final demand of future years. However, the work was done essentially outside the National Income Division, primarily by the Bureau of Labor Statistics and in the Department of Defense.

(*b*) *Abroad* [87]

One or more input-output tables now exist for the following countries: The United Kingdom, Norway, Denmark, the Netherlands, Italy, Canada, and Japan. Discussion of plans for input-output work is also taking place in Sweden, France, and Yugoslavia. In those countries where there is a central statistical office (such as Norway, Denmark, the Netherlands, and Canada) the input-output work forms an integral part of the country's unified statistical system and has developed to a considerable extent as a byproduct of the national accounts. The latter is true even in countries where statistics are not centralized administratively.

In putting together any input-output table, there are alternative ways of classifying and tracing the flows of goods and services throughout the economy. The criteria chosen in setting up the accounts, however, are not neutral in terms of their economic implications. In most of the above countries where foreign trade is extremely important, the success or failure of an input-output table and its analytical uses may well rest on the estimators' ability to portray realistically imports and exports, e. g., to distinguish between the so-called competitive and noncompetitive imports. Where foreign trade is of crucial importance for the economy, it is not adequate to treat imports and exports in the somewhat arbitrary manner as done in the United States.

3. POSSIBLE APPLICATION OF INPUT-OUTPUT TABLES

Input-output studies are still in an experimental stage. Therefore, statements about the usefulness of these tabulations must to some extent be of a speculative nature. Nevertheless, more can be said today than a decade ago when the first large scale attempt at developing an input-output table was initiated.

(*a*) *National defense and survival planning*

As mentioned earlier, the 1947 input-output table was developed primarily for the purpose of testing the economic feasibility of various mobilization programs. At that time the problem was: What amount and what kind of war material production would be economically feasible if the United States productive capacity over a period of persumably several years had to be converted from a peacetime to a full war mobilization basis? This question arose out of World War II experience. Input-output tables would be of great usefulness for examining this kind of problem.

However, military strategy has since been adapted to the use of atomic weapons. Today a major war may be decided by weapons in

[87] See Input-Output Tables: Recent Experience in Western Europe, in United Nations, Economic Bulletin for Europe, May 1956.

existence rather than by an economic potential for developing a munitions industry. Therefore economic feasibility studies for defense planning, though still important, are no longer of the same significance that was attributed to them on the basis of World War II experience.

Nevertheless, representatives of the Office of Defense Mobilization and the Defense Department have pointed out the importance of input-output analysis in connection with planning for postattack survival and possible bomb damage analysis. The question here would be: How could the economy best adjust to dislocation and destruction of parts of its productive capacity? To deal with these problems would require a finer statistical breakdown by products and regions than is required for general purpose tabulations. However, the availability of a general input-output table would greatly facilitate such analysis and improve programing efforts for national defense and survival planning.

(*b*) *Other Government purposes*

The Government participates in long range investment planning in the field of resource development such as water supply, energy supply and land reclamation. In other fields the Government is involved in long range planning through its conservation policies. In appraising the future use of resources national accounts proections are a primary tool.

Input-output tables can be quite useful for identifying individual industries or key products within the projected national aggregates. They can also be of use in the examination of specific problems of economic policy— such as in the examination of the impact of foreign aid or of changes in tariff policy on the domestic economy. In such a situation input-output tables would help trace the impact of the foreign aid program not only on industries directly affected but also on those activities indirectly affected by foreign aid shipments or by imports.[88] The input-output approach could also be used to help measure the economic impacts on various industries and activities of a change in general government policy—e. g., to indicate what would be the effect of a program of military disarmament on various sectors in the economy.

(*c*) *Business investment programing and market analysis*

A growing number of corporations are engaged in long term investment planning which, in many instances, involves a four step approach:

(1) Projecting gross national product and its major components.

(2) Projecting the market for particular lines of products within these gross national product aggregates.

(3) Determining the share of the market the particular firm uses as a target for planning purposes.

(4) Determining the investment program which should enable the firm to reach its target.

In making the transition from the first to the second step an input-output analysis can be very helpful to business decision makers. It

[88] See The Foreign Aid Programs and the United States Economy, a study by the National Planning Association prepared for the Special Committee of the Senate To Study the Foreign Aid Program, No. 9, 85th Cong., 1st sess. (March 1957).

permits businessmen to estimate the increase in output for particular industries (or products) which would be in accord with the posited increase in final demand (gross national product broken down by end products).

In this way business is aided not only with regard to its market analysis outlook, but also with regard to its investment plans. Many competent analysts have pointed out that this kind of analysis is not only useful for business from the aspect of sustained profitability, but that it also introduces a factor into the economic system which will tend to promote balanced economic growth. Its availability and use will make possible what has been called a dynamic market analysis, that is, an appraisal of future markets within the frame of reference of a growing economy. We believe that the Government should assist this development by the supply of the proper statistical tools.

A number of larger firms employ their own economic analysis staffs competent to make use of input-output tables for purposes of investment planning and market analysis. Increasingly, consulting firms are concerning themselves with this kind of work on a contract basis. The input-output technique could be put to widespread use by a great number of middle sized firms through recourse to the modern computing equipment available to those consulting firms.

(*d*) *Input-output tables as a check on statistical accuracy*

Basically, an input-output table is an arrangement of statistical information within a certain accounting framework. It can be used, as indicated above, for identifying gaps and inconsistencies in that information. For that purpose, summary tables with a limited number of industry sectors could indicate where additional statistical information is needed. In general, this purpose should be regarded as a byproduct, rather than as a primary objective of input-output tables. Nevertheless, the preparation of input-output tables, together with the other systems of national accounting, can serve as an integrating force in economic statistics, particularly since the emphasis of the input-output approach is real products and services as contrasted with monetary flows and income transactions of the other major national accounting techniques. This possibility is not entirely theoretical. It was the work on the 1947 input-output table which pointed possibly more conclusively than anything else to shortcomings of the current construction statistics and gave impetus to the drive for improving these statistics which is still underway and which the committee has endorsed in chapter XI, section 2.c.

4. POSSIBILITIES AND LIMITATIONS OF INPUT-OUTPUT TABULATIONS

We recognize that after about 15 years experience here and abroad input-output statistics are beyond the pilot study stage. Nevertheless, they are still of an experimental nature.

One may envisage at some future time that there might be developed an accounting system which would automatically yield the information needed for a comprehensive continuous census of industrial and business activities, and would thus at the same time provide the raw statistical material for the national income and product accounts, for flow-of-funds statements and for interindustry flows of products and services. Information would proceed from the busi-

ness unit directly to the final summarization in national accounts and input-output tabulations. With the prospect for wider use of electronic bookkeeping and processing equipment, such an outlook may be visionary but not utopian. (See also ch. XV.)

For a considerable time to come, however, we have to resign ourselves to the fact that there will not be a steady flow of the required information from firms and households for use in final national accounts. Particularly, the information provided by business firms in the census and the other basic statistics sources will not be in a form which can be directly used for input-output tabulations. Estimates and adaptations from available statistical information must still be made which can be used for the input-output tables. Particularly, the census information with respect to the relationship of capital equipment to production is very scanty, to say the least, a deficiency which makes it difficult to place the input-output tables on a dynamic basis.

The construction of a comprehensive interindustry table is a major statistical undertaking which can be done only once every few years. In spite of the fact that the censuses do not yield all needed information, they still remain the basic source of data. Therefore, the input-output tables should be constructed preferably for years for which major economic censuses, particularly the census of manufacturing industry, are undertaken.

However, it is possible to keep such an input-outpt table up-to-date by patch-up work for a limited period. For example, the 1947 table has been revised up to 1952 by modifying input-output coefficients where substantial changes in technology or substitution in the use of raw materials have occurred.

We have already suggested that the Government's general input-output work should be of the nature of general purpose estimates. These estimates are based primarily on the census information which uses the "establishment" as a statistical unit. The breakdown by industries should be fine enough to achieve a satisfactory degree of homogeneity within each industrial group. But it should not be so fine that the output of many establishments would belong to several industry groups, thereby requiring extensive splitting of inputs. A 400 to 500 industry breakdown appears to be the maximum compatible with this principle.

For specific purposes, particularly for purposes of postattack survival planning and vulnerability analysis, special tabulations may be required. These may necessitate even more detailed information and in crucial areas may identify input-output relationships for individual products and industrial processes. A general purpose tabulation can only provide a frame of reference for such special analyses.

5. RECOMMENDATIONS

The committee feels that input-output work should be considered as an important aspect of the national accounting system.

(*a*) We recommend that an abbreviated interindustry table be constructed on the basis of 1954 census data.

(*b*) A fairly detailed input-output table should be constructed on the basis of the 1958 economic censuses. This committee is not in a position to make a recommendation as to the exact detail that would

represent the best compromise between the needs of the users and the unavoidable financial limitations. In formulating the schedules for the 1958 censuses, consideration should be given to questions which would give information needed for the input-output tabulations. For example, information is needed regarding value added estimates for the trade sector. For manufacturing establishments a more inclusive listing of the various input materials consumed in the production process would be useful, and more detailed information regarding capital equipment would be desirable. It is also recommended that the census provide more information on the sales of specific products from manufacturing industries, using the same method as that developed for the 1954 Census of Manufactures. The cost of gathering specific statistical information (e. g., on advertising, insurance, etc.) may be too high to be included in a complete census tabulation. In this case, consideration should be given to collecting such data periodically on a sample basis as part of the census annual survey of manufactures. This kind of information would fill some of the statistical gaps in constructing a 1958 input-output table.

(*c*) Experimental work on capital-output coefficients and on regional breakdowns of input-output tables should be encouraged. (See discussion in ch. XIV, sec. c.) As far as possible such exploratory work should be carried outside the Federal Government.

(*d*) A simplified annual input-output table is included in the integrated system of national economic accounts outlined in chapter V (table A–6).

Chapter XIV. National Balance Sheet

1. THE FUNCTION OF BALANCE SHEETS AND THEIR PRESENT STATUS WITHIN THE SYSTEM OF NATIONAL ACCOUNTS

While the United States has had an official annual estimate of national income for a quarter of a century, no steps have yet been taken toward establishing the national balance sheet as a regular feature of our official national economic accounts. This may come as a surprise to businessmen, and even to laymen only vaguely familiar with accounting, since balance sheets and income accounts are usually regarded as the two primary and complementary parts of a system of accounts. Indeed, in the balance-sheet field there has been definite retrogression in marked contrast to the rapid advances made in the last few decades in the national income and product accounts. Up to the 1920's, long before official or unofficial national income estimates became a regular feature, an estimate of national wealth constituted part of our decennial census. It was prepared for the last time for the year 1922.[89] In this field work even outside of the Federal Government is now so rare that we are limited to 1 continuous and reasonably up-to-date set of national wealth estimates and 1 set of national balance sheets for half a dozen benchmark dates since the turn of the century, and both these attempts have become available only recently.[90]

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[89] National Wealth and Income, Federal Trade Commission, 1926.

[90] R. W. Goldsmith, A Study of Saving in the United States, vol. III, pt. I, Princeton University Press, 1956; see also Thirty-Seventh Annual Report of National Bureau of Economic Research, Inc., pp. 34–36.

The economic statistics available to business, government, and academic users have always included many of the building blocks for a national balance sheet and for balance sheets for economic sectors. The tabulation of balance sheets of corporations in Statistics of Income since 1926 probably represents the outstanding example of data usable without or with only minor adjustments in national and sectoral balance sheets. Other examples are the combined balance sheets for the main types of financial institutions—banks, saving and loan associations, and insurance companies; the data on current assets and liabilities of corporations prepared by the Securities Exchange Commission and the Federal Trade Commission; the statistics on the holdings of Treasury securities by different groups of owners; the estimates of holdings of liquid assets by sectors prepared by the Federal Reserve Board; and the balance sheet of agriculture prepared annually by the Department of Agriculture. Among statistics usable less directly in building up national or sectoral balance sheets, mention may be made of the values of owner-occupied homes reported by the census; estate tax returns, and sample information on selected assets and liabilities collected by the Survey of Consumer Finances.

What we have been missing until recently are the systematic collection of these statistics; the provision of estimates for those items in the national and sectoral balance sheets for which no data are as yet available; and the integration of all this material into a framework consistent with regard to delimitation of sectors, definition of assets and liabilities and valuation. Though one attempt to derive such consistent national and sectoral balance sheets has been made, it had in many cases to use very rough estimates in need of considerable refinement, and is waiting to be put on a current basis.[91]

The neglect of the balance-sheet aspect of national accounting is rather striking in view of the many analytical uses to which the figures can be put and of several significant developments in economic theory—such as the accelerator and the Pigou effect—that call for balance-sheet data for verification and concretization. Among the analytically and practically important uses of national or sectoral balance sheets are:

(*a*) Capital-output ratios, which in one form or another have become an important factor in the theoretical treatment and the statistical analysis of economic growth.

(*b*) Debt-equity or debt-asset ratios, helpful in the analysis of financial developments and business cycle.

(*c*) Liquidity ratios (the proportion of assets of different degrees of liquidity to total assets or to certain types of liabilities), which have come to play a considerable role in monetary analysis.

(*d*) Velocities of turnover of different types of assets (figures similar to the well-known velocity of circulation of money, useful in monetary and business-cycle studies.

(*e*) The financial interrelations ratio (the proportion of tangible to intangible assets in the national balance sheet), a measure of the density of financial relations and changes in it, that is of some value as an indicator of balance between the real infrastructure and the financial superstructure of an economy.

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[91] Cf. sec. 3, hereafter.

(*f*) Size distributions of assets and net worth within sectors, particularly household and business, important tools in the analysis of structural changes in the economy and in the evaluation of the social effects of economic growth.

2. CONCEPTS

The concepts of the national balance sheet and the national wealth statement are essentially not more difficult—indeed, they are probably simpler—than those of national income and product. The national balance sheet is the result of adding together the balance sheets of all economic units in the United States—business enterprises, incorporated and unincorporated; households; nonprofit organizations; and governments. Similarly, sectoral balance sheets are the sum of the balance sheets of all units belong to the sector. The national wealth statement and the parallel sectoral wealth statements are best regarded as partial balance sheets limited to tangible assets and, for the Nation, net foreign balance.

The relationship between balance sheets and wealth statements can then be simply expressed in accounting terminology by the statement that the national (or sector) balance sheet is the combined balance sheet of all units in the nation (sector), while the national (sector) wealth statement is their consolidated balance sheet. The difference between the two statements, as is well known, is the treatment of creditor-debtor and stockholder-issuer relationships among units belonging to the same nation (sector). All claims and liabilities arising from these relationships are preserved in the combined national (sector) balance sheet. On the other hand, claims and liabilities, as well as stockholdings and the corresponding figures for stock issued, are eliminated in the consolidated balance sheet, i. e., the wealth statement, because they offset each other and do not represent claims of national (sectoral) units against or liabilities to foreign units. The table following indicates these relationships and lists the main items included in the national (sector) balance sheet and wealth statement.[92]

A. NATIONAL BALANCE SHEET OF UNITED STATES

I. Tangible assets in United States
   1. Reproducible
   2. Nonreproducible
II. Claims against United States debtors
III. Equity securities of United States issuers
IV. Claims against foreign debtors and equities in foreign properties and enterprises
V. National assets
VI. Liabilities to American creditors
VII. Equities of United States issuers held by American owners
VIII. Foreigners' claims against American debtors; foreign holdings of tangible assets in United States and of equities of American issuers
IX. National net worth
X. National liabilities and net worth

[92] This table is intended to bring out the main accounting relationship underlying a national balance sheet and a national wealth statement. It is not an operational document like table A–14 in appendix A, which shows the main rows and columns in a national and sectoral balance sheet.

B. National Wealth Statement of United States

I. Tangible assets in United States
    1. Reproducible
    2. Nonreproducible
II. Net foreign assets (item IV less item VIII of A)
III. National wealth
IV. Net worth
    1. Households
    2. Nonprofit institutions
    3. Government
V. National net worth

Virtually all conceptual and statistical problems that arise in connection with national balance sheets and national wealth statements can be attributed to two problems.

First, national (sector) balance sheets or wealth statements, to make economic sense, must be based on balance sheets of the component units which are uniform with respect to scope and classification of assets and liabilities and to their valuation.

Secondly, a choice must be made among the various theoretical possibilities of valuing assets and liabilities. This choice is much more difficult than in the case of national income and product. The reason is that most of national income and product reflects actual transactions which are entereed into the accounts at the values unequivocally established at the time the transactions occur. There are, of course, exceptions such as imputations and some questions of valuation such as the choice between factor cost and market price, both problems that have been discussed in chapter V. The proportion of transactions for which these problems are important is however much smaller in the national income and product account than in the national balance sheet or the national wealth statement. Obviously in any 1 year only a small fraction of the total stock of assets changes hands permitting a market value to be unequivocally established. Moreover, certain types of assets, particularly large governmental and private structures, virtually never change hands for a measurable monetary consideration. Hence, the value of the stock of tangible and intangible assets cannot in principle be based on actual transactions occurring close to the point in time for which the balance sheet is drawn up. Valuations in the national balance sheet must of necessity be based on other data.

Of the various possible bases of valuation, original cost to the owner, either undepreciated or depreciated—the latter the prevailing usage in business accounting—cannot be used when the figures are intended for certain important types of economic analysis. As a rule, assets are acquired at different times and prices change over time. Mere summation of original cost values found in the balance sheets of different units would often result in an arithmetic aggregate without economic meaning. Similarly, for reasons mentioned above, it is not possible to value all items in the balance sheets of the different units at market value. This cannot be done even if one is willing to apply the valuation of items actually changing hands by analogy to the total stock for those types of assets and liabilities for which an active

market exists, such as is the case for single-family homes, automobiles, and farmland among tangible assets and for corporate and Government securities among intangibles, because virtually no market prices are available for very important classes of assets such as nonresidential private structures, producer durables, in-process inventories, and many assets owned by the Government.

Statisticians will, therefore, be forced to combine different bases of valuation for different types of assets and liabilities, and to use "constructed" values rather than market values for some types of assets. The most important case calling for such constructed values are reproducible tangible assets. These can be valued, if valuation at current prices is desired in order to combine the figures with current values of nonreproducible tangible and intangible assets, by depreciating original cost to the first purchaser within the Nation and then adjusting for price changes between the date expenditures were incurred and the date for which the balance sheet is drawn up—a procedure which admittedly is not entirely satisfactory for all purposes. The same procedure can be used too obtain values for the stock of reproducible tangible assets in constant (base period) prices. In that case, the original cost of the assets is translated from current to constant prices by the use of appropriate price indexes. This is the so-called perpetual inventory method.[93]

National (or sector) balance sheets or wealth statements can then be built up by combining: (*a*) The price adjusted depreciated original cost of reproducible tangible assets with (*b*) the market value of certain types of intangible assets for which an active market exists, and (*c*) the par or face value of other types of intangible assets and of liabilities, particularly for short-term claims.

This is probably the best that can be done to obtain reasonably consistent estimates for national (sector) balance sheets and wealth statements either in current or base-period prices. The latter, parallel to deflated national-product estimates, are essential for economic analysis, where often the influence of price changes must be eliminated in order to bring out economically relevant movements and relationships.

3. STATUS OF WORK

Up to 1922, a national wealth estimate was prepared in increasing detail as a part of the decennial census. After abandonment of official national wealth estimates 2 attempts were made to continue the figures, 1 extending them on an annual basis with some modifications through 1933,[94] and the other providing estimates of the main components of national wealth, also on the annual basis through 1936.[95]

Between the late 1930's and 1950, no estimates of national wealth emanated from either official or unofficial sources. A new set of estimates, based primarily on the perpetual inventory method, which has been available since that date, now covers the period of 1896 to 1949 on an annual basis, distinguishing about 2 dozen different components

[93] For a description and discussion of this method, see Studies in Income and Wealth, vol. XIV, pp. 7 ff., and R. W. Goldsmith, A Study of Saving, vol. III, table W–7.

[94] A Study of the Physical Assets Sometimes Called Wealth of the United States, 1922–33, Bureau of Economic Research, University of Notre Dame, Ind.

[95] National Industrial Conference Board, Studies in Enterprise and Social Progress, pt. III, 1939.

of national wealth. Estimates are presented on the basis of current prices as well as of base period (1929) prices.[96] This set of estimates is now being revised from the period 1946 on and extended through 1956. It is expected to become available in the near future in the form of an "occasional paper" of the National Bureau of Economic Research.[97]

While the number of national wealth statements that have been prepared officially or privately in foreign countries in the past is extremely numerous—though most of them antedate World War I—there is at present no country that regularly publishes such a statement. A few countries, notably the Netherlands, have at some time during the postwar period issued estimates of national wealth as part of their work on the national accounts, but these statements are available only for one or at most a few dates. The committee has, however, been informed that some countries, particularly the Scandinavian countries, are considering the addition of national wealth statements to their system of national accounts and have done a considerable amount of preparatory work.

In a few countries there are private or semiofficial estimates of national wealth, or at least reproducible wealth, usually on an annual basis. This is the case, for instance, in Great Britain [98] and in Canada.

The International Association for Research in Income Wealth is devoting one of the sessions of its 1957 meeting to the subject of national wealth. It is expected that the papers being prepared in connection with this meeting will include estimates of national wealth, usually along the perpetual inventory method, for about a dozen countries including Canada, the Netherlands, Norway, Western Germany, India, Australia, and Japan. Most of these estimates, however, are expected to refer to only one or a few years during the postwar period.

There never has been an official estimate of the national balance sheet of the United States. Apart from a pioneer attempt referring to the years 1929 and 1936, unofficial estimates are limited to the set published in A Study of Saving, volume III. This set provides rough balance sheets for the years 1900, 1912, 1922, 1929, 1939, 1945, and 1949. It shows figures for 11 sectors and distinguishes 9 types of tangible and 21 of intangible assets and 14 types of liabilities and net worth and is expressed throughout in current values. An extension of these estimates to 1952 and 1955 is in preparation as part of the National Bureau's Postwar Capital Market Study. Preliminary figures for 1955 have just been published and are reproduced in appendix G.

The only official or semiofficial, national balance sheet for a foreign country that has come to attention is a rough estimate for the Netherlands for 1939 and a few postwar years.[99]

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[96] The latest and most detailed published version of these estimates will be found in R. W. Goldsmith, A Study of Saving in the United States, vol. III, pt. I, Princeton University Press, 1956.

[97] For some preliminary results compare 37th Annual Report of the National Bureau of Economic Research, pp. 34–36.

[98] Net Investment in Fixed Assets in the United Kingdom, 1938–53, by Phillip Redfern. Journal of the Royal Statistical Society, vol. 118, pt. 2, 1955.

[99] See J. B. D. Derksen, A System of National Book-Keeping, 1946; Centraal Bureau voor de Statistiek, Statistische en Econometrische Onderzoekingen, IV, 1 (1954).

4. CONNECTION WITH OTHER SEGMENTS OF NATIONAL ACCOUNTS

(*a*) *With national income and product accounts*

There is a close connection in business accounting between the income account and the balance sheet by virtue of the fact that saving (undistributed profit), defined as the difference between current income and current expenditure, is equal to the change in earned net worth, and that accumulated saving, capital contributed and realized capital gains and losses are equal to total net worth. This relationship is valid only when, as is generally the case in business accounting, there are no revaluations and no account is taken of unrealized capital gains and losses.

Similarly, in the national balance sheet, national saving is equal to the increase in national net worth, and national accumulated saving is equal to total national net worth at the balance sheet date so long as realized and unrealized capital gains and losses are excluded; i. e., if the balance sheet is drawn up in terms of national original cost. Thus, national net worth in original cost is equal to national saving summed over time.

The same relationships hold—and this is relevant in connection with the treatment of capital consumption allowances discussed in chapter VII, section 1 a—if realized and unrealized capital gains or losses are taken into account. In that case such revaluations must, however, be regarded as constituting part of current income and hence of saving. This calculation, of course, can be carried out only in current monetary values and is not directly available for translation into constant prices, hence the question of shifting from original to replacement cost depreciation does not arise. Under this approach, the following relations obtain:

Change in current value of assets minus change in current value of liabilities equals—

Change in current value of net worth.

Change in earned surplus plus net revaluation.

Gross income minus original cost depreciation minus dividend payments plus capital contributed plus net revaluation.

Estimates along these lines, while of substantial interest for studying changes in the distribution of wealth, are probably too unfamiliar and have to rest in part on too speculative calculations to be recommended as part of the official national accounts.

(*b*) *With moneyflow accounts*

The moneyflow estimates of both Professor Copeland and of the Federal Reserve Board include partial national and sector balance sheets as they carry information on the amount of claims of different type held by each sector and on the amounts of liabilities owned by them. The moneyflow studies thus lack on the asset side figures for the stock of tangible assets and for holdings of corporate stock, and on the other side data on corporate stock issued and net worth for complete sectoral or national balance sheets.

(*c*) *With input-output statements*

The input-output statements for the United States that have been published, i. e., that of Professor Leontief for the years 1919, 1929,

and 1939 and that of Bureau of Labor Statistics for the year 1947,[1] have no specific connection with balance sheets or wealth statements. In all these cases, the square matrixes that constitute the core of the input-output studies, are limited to flows between sectors during one year and make no distinction between current flows and flows on capital account. Hence, while the matrixes indicate the amounts of goods and services that are supplied in the given period by each of the different sectors distinguished to produce each dollar or unit output in every sector, they give no indication of the stocks of durable goods and inventories, or of the amounts of fixed assets acquired during the period, that are associated with each dollar, or unit, of output.

Attempts have recently been made to include in the input-output matrixes the requirements for capital goods and inventories per monetary or physical unit of output of the different sectors.[2] It is too early to say whether these attempts, which involve the introduction of something like capital-output ratios into them, will be successful and will become a regular feature of future matrixes. If this should be the case, a fairly close relation, of course, would be established between input-output studies and balance sheets and wealth statements, and it might be expected that the more detailed work on capital stock and capital expenditures of individual industries that would have to accompany this working out of input-output matrixes would produce information available for a finer industrial breakdown of the estimates of tangible assets in the national balance sheets and wealth statements.

5. RECOMMENDATIONS

At the present time, the main gaps in the information available for national balance sheet estimates may be summarized as follows, assuming that what is desired is a reasonably detailed and reliable statement for the same sectors which are being considered separately for the national income and product accounts.

(*a*) Absence of census-type figures for the value of all residential real estate, or at least for single family homes, that can be used as a check against the perpetual inventory figures. At present such figures are provided by the census of housing only for owner-occupied homes and the figures are available for no later date than 1950.

(*b*) Lack of any benchmark for the current value of nonresidential real estate. A study now underway at the Bureau of the Census, which tries to divide assessed valuations by type of property and attempts to establish from independent data typical relationships between market and assessed values will constitute a first step in this direction.

(*c*) Absence of information on the distribution of ownership of nonresidential real estate among the different sectors, particularly as between corporations, unincorporated business and nonprofit institutions. While such data are not required for a national balance sheet or wealth statement they are essential for sectoral balance sheets.

(*d*) Insufficient information on actual lives of structures and of producer durables. The absence of these data makes the perpetual in-

[1] These documents have been discussed in some detail in ch. XIII.

[2] See, e. g., R. N. Grosse, The Structure of Capital in Studies in the Structure of the American Economy, Theoretical and Empirical Explorations in Input-Output Analysis, edited by W. Leontief, Oxford University Press, 1953.

ventory estimates which are derived from the cumulation of depreciated original capital expenditures on the basis of assumed lives, usually taken from bulletin F of the Internal Revenue Service, last revised more than a decade ago, rather precarious.

(*e*) Lack of comprehensive estimates of the current market value of known or presumed subsoil assets and of forest land.

(*f*) Absence of a benchmark for the value of Government structures and, less serious, producer durables and equipment owned by the Government. An important step to remedy this deficiency is now being taken by the Committee on Government Operations, but the day when comprehensive and consistent valuations of all assets of the Federal Government will be available still seems to be several years off.[3]

(*g*) Estimate of market value of foreign investments. At the present time only book values are available in the case of direct investments and they necessarily often differ considerably from current valuations.

(*h*) Absence of any consistent and comprehensive information on the value of tangible assets of State and local governments.

(*i*) Lack of a comprehensive and consistent balance sheet for unincorporated business enterprises. At the present time practically the only available data are limited to the tabulations of balance sheets of partnerships submitted with their tax returns which is now being undertaken on a biannual basis by the Internal Revenue Service. The scarcity of reliable information on the different items of assets and liabilities of unincorporated business is probably the most important single factor preventing a considerable improvement in the quality of our national balance sheet.

As practically every item in the rough national wealth statement and balance sheet that is now available is susceptible to improvement and most of the important gaps in information have just been listed, there is not much point in making specific recommendations. What is possibly appropriate is an expression of the committee's views regarding work in this field over the next few years.

The committee feels that as part of a long-range program of improvement and expansion of our system of national accounts the development of comprehensive and consistent national and sectoral balance sheets on a regular periodic (if possible annual) basis should be taken in hand as soon as feasible.

The committee, however, recognizes that there are still so many unresolved conceptual problems in this field and that the estimates are in many cases necessarily still so rough that the next step should not be the immediate attempt by a Government agency to develop balance sheets or even national wealth statements. It seems to the committee that this is the field for a thorough study, exploratory and experimental in part, possibly by one of our private research institutions. Such a study would probably require an intensive effort over several years. It might be expected to result in, first, the development of superior methods of estimation and in improved actual estimates for many types of assets and liabilities; and, secondly, in a concrete plan for the collection of data in fields where only a Government agency is likely to secure the necessary information. After such a preparatory study the time will probably have arrived for one of the statis-

[3] See discussion in ch. VII, sec. 3.

tical agencies of the Federal Government to take over the preparation of periodic national and sectoral balance sheets as a regular feature, integrated, of course, with other parts of the national accounts.

Work on this broader and more intensive project, however, should not interfere with the development by the National Income Division of their rough estimates of the value of some components of the stock of durable reproducible assets, particularly those components that are necessary for introducing depreciation allowances into the national accounts (e. g., Government structures and consumer durables) or providing alternative depreciation allowances on a replacement cost basis (private structures and producer durables).

Chapter XV. The Challenge of Electronic Accounting

The committee has not made more than a cursory inquiry into the potentialities that electronic accounting holds for the national accounts as for many other fields of economic statistics. This neglect does not mean that in the committee's view the introduction on a large scale of electronic accounting in business and government, which may be expected to take place over the next 5 to 10 years, though it may take decades to be developed fully, does not have very important implications for national accounting. Quite on the contrary, the challenges and the promise of electronic accounting for the national accounts are so great that only a group of experts concentrating their attention on this field can, the committee believes, do justice to the problem.

The committee, however, feels justified in making two observations. First, once electronic accounting is adopted by a substantial proportion of large business and governmental organizations—and by means of service contracts possibly also by medium-sized business enterprises—it will become possible to obtain certain types of economic information crucial for the national accounts, as well as for other purposes, with a speed and in detail difficult to visualize under present methods. This applies, in the national accounting field, primarily to data on purchases, sales, inventories, payrolls, capital expenditures, and liquid assets. The speedup of the data, reducing the lag of their availability behind the close of the accounting period to not more than a few days, will be of particular importance for national accounts for quarters and shorter periods. The availability of additional detail in the form of classifications of transactions by commodity and by type and location of buyer and seller, will also be very important in improving the annual national accounts and in developing regional accounts.

Secondly, many of the potentialities of electronic accounting for the national accounts will be realized only if thought is given soon to how best to take advantage of the new data-processing equipment. This involves matters such as the inclusion in the electronic accounting system of items of special interest for the national accounts and uniformity in coding (or at least arrangements under which codes used by

different systems of electronic accounting or by different enterprises can be translated into each other).[4]

The internal recordkeeping of business and government organizations with few exceptions—such as the census statistics—will always remain the main justification for the introduction and development of electronic accounting systems. What is needed is so to arrange matters that the statistics for the national accounts and other statistical programs are furnished as far as possible as a byproduct of these normal bookkeeping processes. For this reason the committee hopes and urges that an intensive study of the impact of electronic accounting on the national accounts and of the fitting of national accounting data into the developing electronic accounting systems will be started as soon as possible. This should be a cooperative undertaking of imaginative economists, statisticians, accountants, management experts, and electronic engineers. The problem of standardization of equipment, procedures, and codes will probably be high on the agenda of such a group study.

[4] One example will illustrate what is meant. There is a fair chance that within a few years a substantial proportion of all large banks will handle their checks by electronic accounting. This will involve assigning a code number to each account, the number probably to be imprinted in magnetic ink on all checks so that it can be read automatically into the tapes which form the basis of the electronic accounting system. If banks can be induced to add a one digit code to the account number thus classifying depositors into broad groups—corresponding to sectors in the national accounting system such as households, farmers, corporations, and unincorporated business enterprises, nonprofit institutions, government, and foreigners—it will be possible to produce very promptly, at very moderate additional cost to the banks, detailed monthly or even weekly statistics of balances, debits, and credits which will be of great value not only for the national accounts but for many other fields of monetary and economic analysis and policy.

APPENDIXES

APPENDIX A

Illustrative Tables for System of National Accounts

(Ch. V)

The actual data in tables A–1 through A–5 are the National Income Division's estimates for 1953.

As indicated in chapter V of the report the exact arrangement of the tables, particularly the number and content of columns and rows, is tentative and is not to be regarded as a specific recommendation by the committee.

Table A–1.—*Gross national income and product account for the United States, 1953*

[In billions]

1. Payments by producing units to individuals	$277.5
(*a*) Compensation of employees	209.1
(1) Enterprise employees	177.7
(2) Government employees	31.4
(*b*) Interest	13.5
(*c*) Dividends	9.4
(*d*) Entrepreneurial income	44.6
(1) Farm income	12.2
(2) Rental income	10.6
(3) Professional income	21.8
(4) Other income of unincorporated enterprises	
(*a*) Stated value	26.4
(*b*) Inventory and depreciation valuation adjustment [1]	−4.6
(*e*) Business transfer payments	1.0
2. Income retained by producing units	39.5
(*a*) Capital consumption	36.8
(1) Depreciation	27.2
(*a*) Private enterprises	27.2
(*b*) Public enterprises	.0
(2) Depreciation valuation adjustment [1]	9.6
(*b*) Retained earnings	2.7
(1) Undistributed profits [2]	8.9
(2) Inventory and depreciation valuation adjustment [1]	−6.2
3. Tax and income payments by producing to Government	54.4
(*a*) Corporate profits tax	21.1
(*b*) Property taxes	9.1
(*c*) Commodity and transaction taxes	16.9
(*d*) Licenses, fees, and other business taxes	4.1
(*e*) Interest and dividends received by Government	2.4
(*f*) Current surplus of Government enterprises	.8
4. Minus subsidies and Government interest	7.6
(*a*) Subsidies	.2
(*b*) Government interest	7.4
5. Statistical discrepancy	1.0
Gross national income	364.9

[1] Adjustment for capital gain or loss on valuation of inventories and/or depreciation.
[2] Total corporate profits before tax (sum of 1 (*c*), 2 (*b*), and 3 (*a*)), 39.4.

TABLE A–1.—*Gross national income and product account for the United States, 1953*—Continued

[In billions]

6. Consumers' expenditures on goods and services	$229.6
(*a*) Food	77.2
(*b*) Clothing	24.6
(*c*) Other	127.8
7. Government expenditures on goods and services	77.2
(*a*) Services	31.4
(*b*) Goods	45.8
8. Gross expenditures on producers' durable goods	51.6
(*a*) Private enterprises	49.9
(1) Construction	25.5
(2) Equipment	24.4
(*b*) Public enterprises	1.7
(1) Federal	.2
(2) State and local	1.5
9. Net change in producing units' inventories	1.5
10. Exports	21.3
(*a*) Merchandise	16.5
(*b*) Shipping, tourism, etc	2.9
(*c*) Labor and property income	1.9
	421.2
11. Minus imports	16.4
(*a*) Merchandise	11.0
(*b*) Shipping, tourism, etc	5.0
(*c*) Labor and property income	.5
Gross national product	364.9

TABLE A–2.—*Personal income and outlay account for the United States, 1953*

[In billions]

1. Consumers' expenditures on goods and services	$229.6
(*a*) Food	77.2
(*b*) Clothing	24.6
(*c*) Other	127.8
2. Tax payments by individuals	44.6
(*a*) Income taxes	32.5
(*b*) Total social insurance contributions	8.7
(*c*) Fees, fines, personal property, and other taxes	3.4
3. Transfer payments by individuals to abroad	.5
4. Personal saving	15.6
Personal outlay and saving	290.3
5. Payments by producing units to individuals	277.5
(*a*) Compensation of employees	209.1
(1) Enterprise employees	177.7
(2) Government employees	31.4
(*b*) Interest	13.5
(*c*) Dividends	9.4
(*d*) Entrepreneurial income	44.6
(1) Farm income	12.2
(2) Rental income	10.6
(3) Professional income (4) Other income of unincorporated enterprises	21.8
(*a*) Stated value	26.4
(*b*) Inventory and depreciation valuation adjustment[1]	−4.6
(*e*) Business transfer payments	1.0
6. Transfer payments by Government to individuals	12.8
7. Transfer payments from abroad to individuals	0
Personal income	290.3

[1] Adjustment for capital gain or loss on valuation of inventories and/or depreciation.

TABLE A–3.—*Government receipts and outlay account for the United States, 1953*

[In billions]

1. Government expenditures on goods and services	$77.2
(*a*) Services	31.4
(*b*) Goods	45.8
2. Subsidies and Government interest	7.6
(*a*) Subsidies	.2
(*b*) Government interest	7.4
3. Transfer payments by Government to individuals	12.8
4. Transfer payments by Government to abroad	6.3
5. Government surplus	—4.8
Government outlay and surplus	99.1
6. Tax and income payments by producing units to Government	54.4
(*a*) Corporate profits tax	21.1
(*b*) Property taxes	9.1
(*c*) Commodity and transactions taxes	16.9
(*d*) Licenses, fees, and other business taxes	4.1
(*e*) Interest and dividends received by Government	2.4
(*f*) Current surplus of Government enterprises	.8
7. Tax payments by individuals	44.6
(*a*) Income taxes	32.5
(*b*) Total social insurance contributions	8.7
(*c*) Fees, fines, personal property, and other taxes	3.4
8. Transfer payments to Government from abroad	.1
Government receipts	99.1

TABLE A–4.—*Foreign trade and payments account for the United States, 1953*

[In billions]

1. Exports	$21.3
(*a*) Merchandise	16.5
(*b*) Shipping, tourism, etc	2.9
(*c*) Labor and property income	1.9
2. Transfer payments to individuals from abroad	0
3. Transfer payments to Government from abroad	.1
4. Net borrowing from abroad	1.9
Receipts from abroad	23.2
5. Imports	16.4
(*a*) Merchandise	11.0
(*b*) Shipping, tourism, etc	5.0
(*c*) Labor and property income	.5
6. Transfer payments from individuals to abroad	.5
7. Transfer payments from Government to abroad	6.3
Payments to abroad	23.2

TABLE A–5.—*Gross saving and investment account for the United States, 1953*

[In billions]

1. Gross expenditures on producers' durables	$51.6
(*a*) Private enterprises	49.9
(1) Construction	25.5
(2) Equipment	24.4
(*b*) Public enterprises	1.7
(1) Federal	.2
(2) State and local	1.5
2. Net change in producing units' inventories	1.5
Gross domestic investment	53.1
3. Personal saving	15.6

TABLE A–5.—*Gross saving and investment account for the United States, 1953*—Continued

[In billions]

4. Income retained by producing units	$39.5
(*a*) Capital consumption	36.8
(1) Depreciation	27.2
(*a*) Private enterprises	27.2
(*b*) Public enterprises	0
(2) Depreciation revaluation adjustment [1]	9.6
(*b*) Retained earnings	2.7
(1) Undistributed profits	8.9
(2) Inventory and depreciation valuation adjustments [1]	−6.2
5. Government surplus	−4.8
6. Net borrowing from abroad	1.9
7. Statistical discrepancy	1.0
Gross saving	53.1

[1] Adjustment for capital gain or loss on valuation of inventories and/or depreciation.

TABLE A–6.—*Value of product by industrial sectors*

Payments to \ Receipts from	A. Total, all producing units	1. Agriculture	2. Mining	3. Contract construction	4. Manufacturing	5. Wholesale and retail trade	6. Finance, real estate, and insurance	7. Transportation	8. Communications and public utilities	9. Services	10. Government	11. Foreign countries	B. Private consumers	C. Governments	D. Producers' durable goods	E. Inventories	F. Exports	Total value of product	Total availabilities (B–F for industries *a–k*)
I. Purchases from producing units																			
(*a*) Agriculture																			
(*b*) Mining																			
(*c*) Contract construction																			
(*d*) Manufacturing																			
(*e*) Wholesale and retail trade																			
(*f*) Finance, insurance, real estate																			
(*g*) Transportation																			
(*h*) Communications and public utilities																			
(*i*) Services																			
(*j*) Government																			
(*k*) Foreign countries																			
II. Payments by producing units to individuals																			
(*a*) Compensation of employees																			
(*b*) Interest																			
(*c*) Dividends																			
(*d*) Entrepreneurial income																			
(*e*) Business transfer payments																			
III. Income retained by producing units																			
(*a*) Capital consumption																			
(*b*) Retained earnings																			
IV. Payments by producing units to Government																			
(*a*) Corporate profits tax																			
(*b*) Property taxes																			
(*c*) Commodity and transportation taxes																			
(*d*) Licenses, fees, and other																			
(*e*) Interest and dividends																			
(*f*) Current surplus of Government enterprises																			
V. Imports																			
VI. Adjustments																			
(*a*) Subsidies																			
(*b*) Government interest																			
VII. Statistical discrepancy																			
Total value of product																			
Total availabilities (II–VII for industries 1–11)																			
Gross national income and income originating by industry (II–IV and VI–VII for industries 1–11)																			

TABLE A–7.—*Value of product by institutional sectors*

Payments to \ Receipts from	A. Total, all producing units	1. Corporations	2. Nonfarm noncorporate enterprises	3. Farm enterprises	4. Federal Government	5. State and local government	6. Government enterprises	7. Banking	8. Insurance	9. Other investors	10. Nonprofit institutions	11. Foreign countries	B. Private consumers	C. Governments	D. Producers' durable goods	E. Inventories	F. Exports	Total value of product	Total availabilities (B–F for row 1)
I. Purchases, from producing units																			
II. Payments by producing units to individuals																			
(*a*) Compensation of employees																			
(*b*) Interest																			
(*c*) Dividends																			
(*d*) Entrepreneurial income																			
(*e*) Business transfer payments																			
III. Income retained by producing units																			
(*a*) Capital consumption																			
(*b*) Retained earnings																			
IV. Payments by producing units to Government																			
(*a*) Corporate profits tax																			
(*b*) Property taxes																			
(*c*) Commodity and transportation taxes																			
(*d*) Licenses, fees, and other																			
(*e*) Interest and dividends																			
(*f*) Current surplus of Government enterprises																			
V. Imports																			
VI. Adjustments																			
(*a*) Subsidies																			
(*b*) Government interest																			
VII. Statistical discrepancy																			
Total value of product																			
Total availabilities (II–VII for industries 1–11)																			
Gross national income and income originating by industry (II–V and VI–VII for industries 1–11)																			

TABLE A–8.—*Personal income account by institutional sectors*

	Nonprofit institutions	Farm families	Entrepreneurial nonfarm families	Other	Total
RECEIPTS					
1. Payments by producing units to individuals					
(*a*) Compensation of employees					
(*b*) Interest and dividends					
(*c*) Entrepreneurial income					
(*d*) Business transfer payments					
2. Transfer payments by Government					
3. Transfer payments from abroad					
4. Transfer payments from private consumption sectors					
Total receipts					
OUTLAYS					
1. Consumers' expenditures on goods and services					
(*a*) Food					
(*b*) Clothing					
(*c*) Other					
2. Taxpayments by individuals					
(*a*) Income taxes					
(*b*) Total social insurance contributions					
(*c*) Fees, personal property taxes, etc					
3. Transfer payments to abroad					
4. Transfer payments to private consumption sectors					
5. Personal saving or surplus					
Total outlay and saving					

TABLE A–9.—*Government receipts and outlays*

	Federal [1]	State [1]	Local [1]	Total [1]
RECEIPTS				
1. Tax and income payments by producing units				
(*a*) Corporate profits tax				
(*b*) Property taxes				
(*c*) Commodity and transactions taxes				
(*d*) Licenses, fees, etc				
(*e*) Interest and dividends				
(*f*) Current surplus of Government enterprises				
2. Tax payments by individuals				
(*a*) Income taxes				
(*b*) Total social insurance contributions				
(*c*) Fees, personal property taxes, etc				
3. Transfer payments from abroad				
4. Intragovernmental transfer payments				
Total receipts				
OUTLAYS				
1. Government expenditures on goods and services				
(*a*) Goods				
(*b*) Services				
2. Subsidies and Government interest				
(*a*) Subsidies				
(*b*) Government interest				
3. Transfer payments to individuals				
4. Transfer payments to abroad				
5. Intragovernmental transfer payments				
6. Government surplus				
Total outlays and surplus				

[1] To be subdivided into: (*a*) General government; (*b*) Government trust, pension, etc., funds.

TABLE A–10.—*International current payments by country and commodity*

Item \ Country	Argentina	Australia	. . .	Venezuela	Yugoslavia	Total
Exports of merchandise:						
0 Food						
1 Beverages and tobacco						
2 Crude materials, inedible, except fuels						
3 Mineral fuels, lubricants, and related materials						
4 Animal and vegetable oils and fats						
5 Chemicals						
6 Manufactured goods classified chiefly by material						
7 Machinery and transport equipment						
8 Miscellaneous manufactured articles						
9 Miscellaneous transactions and commodities, n. e. s						
Shipping and tourism receipts						
Property income received						
Transfer payments to individuals						
Transfer payments to Government						
Net borrowing from abroad						
Total receipts from abroad						
Imports of merchandise:						
0 Food						
1 Beverages and tobacco						
2 Crude materials, inedible, except fuels						
3 Mineral fuels, lubricants, and related materials						
4 Animal and vegetable oils and fats						
5 Chemicals						
6 Manufactured goods classified chiefly by material						
7 Machinery and transport equipment						
8 Miscellaneous manufactured articles						
9 Miscellaneous transactions and commodities, n. e. s						
Shipping and tourism payments						
Property income paid						
Transfer payments from individuals						
Transfer payments from Government						
Total payments to abroad						

TABLE A–11.—*Saving and investment by industrial sector*

Object of expenditure / Purchasing sector	A. Total, all producing units	1. Agriculture	2. Mining	3. Contract construction	4. Manufacturing	5. Wholesale and retail trade	6. Finance, insurance, and real estate	7. Transportation	8. Communications and public utilities	9. Services	10. Government	11. Foreign countries	B. Private consumers	C. Governments	Total
Total equipment:															
Furniture and fixtures															
Cutlery and hand tools															
Fabricated metal products															
Engines and turbines															
Agricultural machinery															
Construction machinery															
Mining and oilfield machinery															
Metalworking machinery															
Office and store machinery															
Service industry and household machines															
Electrical machinery															
Trucks, buses, and trailers															
Passenger cars															
Aircraft															
Ships and boats															
Railroad equipment															
Instruments															
Total construction															
Residential buildings															
Industrial buildings															
Public utility construction															
Farm construction															
Highways															
Military facilities															
Sewer and water construction															
Conservation and development															
Change in inventories:															
Existing assets															
Purchases															
Sales (deduct)															
Total investment															
Saving and net borrowing															
Realized capital gains															
Income retained															
Depreciation															
Inventory and depreciation valuation and adjustment [1]															
Undistributed profits															
Net borrowing (residual)															
Total saving and net borrowing															

[1] Adjustment for capital gain and loss on valuation of inventories and for depreciation.

TABLE A–12.—*Stock of reproducible goods by industrial sector*

Object \ Owning sector	A. Total, all producing units	1. Agriculture	2. Mining	3. Contract construction	4. Manufacturing	5. Wholesale and retail trade	6. Finance, insurance, and real estate	7. Transportation	8. Communications and public utilities	9. Services	10. Government	11. Foreign countries	B. Private consumers	C. Governments	Total
Total equipment: [1]															
Furniture and fixtures															
Fabricated metal products															
Engines and turbines															
Agricultural machinery															
Construction machinery															
Mining and oil-field machinery															
Metalworking machinery															
Office and store machines															
Service industry and household machines															
Electrical machinery															
Trucks, buses, and trailers															
Passenger cars															
Aircraft															
Ships and boats															
Railroad equipment															
Instruments															
Total structures															
Residential buildings															
Industrial buildings															
Public utility construction															
Farm construction															
Military facilities															
Highways															
Sewer and water construction															
Conservation and development															
Inventories															
Total reproducible goods															
Accumulated income retained and borrowing:															
Income retained															
Realized capital gains															
Borrowing															
Valuation adjustment for unrealized capital gains															
Total accumulated income retained and borrowing															

[1] Valued at market prices. Difference between market price and historical cost equals unrealized capital gains.

TABLE A–13.—*Changes in assets and liabilities by institutional sector*

Item \ Sector	A. Total, all producing units	1. Corporations	2. Nonfarm noncorporate enterprises	3. Farm enterprises	4. Federal Government	5. State and local government	6. Government enterprises	7. Banking	8. Insurance	9. Other investors	10. Nonprofit institutions	11. Foreign countries	B. Other consumers	Total
Assets:														
Gold														
Currency and deposits														
Loans														
Mortgages [1]														
Other														
Securities [1]														
Federal														
State and local														
Corporate														
Other														
New equipment														
New construction														
Net purchases of existing assets														
Equipment [1]														
Structures [1]														
Land [1]														
Other assets [1]														
Total assets														
Liabilities and equities:														
Currency and deposits														
Notes and accounts payable														
Mortgages [1]														
Bonds [1]														
Other liabilities														
Corporate stock [1] [2]														
Income retained														
Depreciation														
Inventory and depreciation valuation adjustment [3]														
Undistributed profits and saving														
Capital gain														
Total liabilities and equity														

[1] These items should be on a gross basis, showing separately acquisitions and dispositions (incurrence and repayment of debt for liabilities).
[2] Refers to actual receipts from sale (or cost of repurchase) of issuer's own stock.
[3] Adjustment for capital gain or loss on valuation of inventories and/or depreciation.

TABLE A–14.—*Assets and liabilities by institutional sector*

Item \ Sector	A. Total, all producing units	1. Corporations	2. Nonfarm noncorporate enterprises	3. Farm enterprises	4. Federal Government	5. State and local government	6. Government enterprises	7. Banking	8. Insurance	9. Other investors	10. Nonprofit institutions	11. Foreign countries	B. Other consumers	Total
Assets:														
Gold														
Currency and deposits														
Loans														
Mortgages [1]														
Other														
Securities [1]														
Federal														
State and local														
Corporate														
Other														
Equipment [1]														
Structures [1]														
Land [1]														
Other assets [1]														
Total assets														
Liabilities and equities:														
Currency and deposits														
Notes and accounts payable														
Mortgages [1]														
Bonds [1]														
Other liabilities														
Corporate stock [1]														
Earned income retained														
Realized capital gains														
Unrealized capital gains on revaluation of assets and liabilities														
Total liabilities and equity														

[1] These items should be shown at market value. However, original cost and the valuation adjustment should also be shown, and in the case of equipment and structures both depreciation and the depreciation valuation adjustment should be indicated.

APPENDIX B

ILLUSTRATIVE QUARTERLY INCOME AND PRODUCT TABLES (CH. VIII)

As indicated in chapter VIII of the report, the exact arrangement of the tables is tentative and is not to be regarded as a specific recommendation by the committee.

TABLE B–1.—*Gross national product or expenditure* [1]

Gross national product
Personal-consumption expenditures:
- Durable goods:
  - Autos and parts
  - Furniture and household equipment
- Nonendurable goods:
  - Clothing and shoes
  - Food and alcoholic beverages
  - Gasoline and oil
- Services:
  - Household operation
  - Housing
  - Transportation

[1] Total includes items not shown separately.

TABLE B–1.—*Gross national product or expenditure*—Continued

Gross private domestic investment:
- New construction:
  - Residential nonfarm
  - Industrial (including warehouse, office, utility)
  - Farm, commercial, nonprofit, other
- Producers' durable equipment:
  - Commodity producing and packaging
  - Autos and trucks
  - Other transportation and construction equipment
  - Power generating, transmission, and communication
  - Farm, commercial, other
- Change in business inventory:
  - Farm
  - Nonfarm

Government purchases of goods and services:
- Federal, total
- National security, total:
  - Construction
  - Equipment
  - Services
- Civilian, total:
  - Construction
  - Equipment
  - Services
- Less government sales
- State and local, total:
  - Construction
  - Equipment
  - Services

Net foreign balance on current account:
- Merchandise trade:
  - Exports
  - Imports
- Services and property income:
  - Receipts
  - Payments

TABLE B–2.—*Income and product relations*

Gross national product

Less:
- Capital-consumption allowances
- Indirect business taxes
- Business transfer payments
- Surplus of government enterprises
- Statistical discrepancy

Plus: Subsidies

Equals: National income

Less:
- Corporate profits and inventory and depreciation valuation adjustment
- Contributions for social insurance:
  - Employer
  - Employee
- Excess of wage accruals over disbursements

Plus:
- Government transfer payments
- Net interest paid by Government
- Dividends
- Business transfer payments

TABLE B–2.—*Income and product relations*—Continued

Equals: Personal income
Composition of personal income:
- Wage and salary disbursements, total (net of social-security contribution):
  - Commodity-producing industries
  - Distributive industries
  - Service industries
  - Government
- Other labor income
- Proprietors and rental income (net of social-security contribution and inventory valuation adjustment):
  - Business and professional
  - Farm
  - Rental income of persons
- Personal interest income and dividends
- Transfer payments

TABLE B–3.—*Allocation of available funds*

Disposition of personal income
Total personal income
Less:
- Personal tax and nontax payments:
  - Federal
  - State and local

Equals: Disposable personal income
Less:
- Personal-consumption expenditures
- Net transfers to abroad

Equals: Personal saving
Disposition of corporate funds
Corporate profits and inventory and depreciation valuation adjustment
Less: Inventory and depreciation valuation adjustment
Equals: Corporate profits before tax
Less: Corporate profits tax liability
Equals: Corporate profits after tax
Less:
- Changes in book value of corporate inventories
- Dividends

Equals: Net corporate saving
Plus: Corporate capital-consumption allowances
Equals: Gross corporate saving
Federal Government transactions on income and product account
Receipts:
- Individual income tax
- Corporate income tax
- Excise taxes
- Other receipts

Less expenditures:
- Purchases of goods and services
- Subsidies and net interest
- Net capital transfers to Government enterprises
- Transfer payments to individuals
- Net transfers to abroad

Equals: Government surplus or deficit

APPENDIX C

Replies to Questionnaires

Table C–1.—*Tabulation of replies to general questionnaire (Q2)*

Number of replies, 61.[1] For each group of 4 columns, the difference between the sum of the entries and 61 is the number who responded with a comment or question.

No.	Question	(1) Past need				(2) Future desirability				(3) Frequency (timing)			
		N	O	F	No answer	N	O	F	No answer	A	Q	A and Q	No answer
1 (a)	Inventory consumer durables	7	25	17	12	4	27	22	8	21	8	20	12
(b)	Allocated between construction and business expense	9	25	15	12	5	27	18	10	20	4	20	17
(c)	Imputations	8	24	8	21	5	24	10	22	20	6	8	26
2 (a)	Producer durables by type of commodity	8	23	16	13	7	28	15	10	16	7	16	20
(b)	Producer durables by purchasing industry	11	20	16	14	11	25	15	10	12	5	20	23
(c)	Change in inventory by industry	10	12	11	28	10	10	12	29	3	3	16	38
(d) i	Depreciation estimates replacement cost	11	18	15	17	8	21	17	15	22	5	8	26
ii	Depreciation estimates declining balance	11	12	4	34	8	14	6	33	16	3	7	34
3 (a)	Reconciliation Government account with conventional and cash budget	6	21	22	12	4	27	22	8	20	4	9	28
(b)	Government purchases on current and capital account	5	27	19	10	3	30	21	7	28	7	13	12
(c)	Government current expenditures, by type	8	1	11	41	8	1	11	41	5	1	5	50
4 (a)	Separate households	4	20	22	15	2	21	24	14	26	6	14	15
(b)	Separate income and expenditure for other groups	8	4	3	46	5	6	4	46	5	1	4	51
5 (a)	Personal savings, quarterly estimate by balance-sheet method	8	19	19	14	5	23	19	13	----	----	----	----
(b)	Separate information for transactors in personal saving	9	11	17	23	6	11	19	24	9	8	9	34
6	Monthly gross national product and components	15	8	17	20	15	6	23	17	----	----	----	----
7 (a)	Gross national product and principal components, quarterly in constant dollars.	6	17	23	15	6	16	27	11	----	----	----	----
(b)	Personal income in constant dollars	5	17	19	20	5	16	22	17	3	12	17	28
(c)	Components of personal consumption in constant dollars	7	11	16	27	8	12	17	23	11	5	11	34
(d)	National income by industry of origin in constant dollars	18	12	10	20	17	13	12	18	11	5	6	38
8 (a)	Federal Reserve bank money-flow accounts, quarterly	17	13	13	18	12	16	16	17	----	----	----	----
(b)	Regular estimates of input-output	18	14	6	23	15	17	10	18	14	2	3	40
(c)	Regular estimates of balance sheet	12	22	9	17	10	24	13	13	22	3	4	30
(d)	Regular reconciliation of systems	11	18	10	21	9	19	13	18	17	2	4	36
9	Unadjusted quarterly estimates	14	16	14	17	13	16	14	18	----	----	----	----

[1] See exhibit C–1.

Note.—N—Not at all; O—Occasionally; F—Frequently; A—Annually; Q—Quarterly.

TABLE C–1.—*Tabulation of replies to general questionnaire* (Q2)—Continued

	Yes		No		No answer
	Unqualified	With comment	Unqualified	With comment	
14. Do you have substantial need for national income and product figures back of 1929 that tie in with those available for the period beginning 1929?	18	12	20	1	10
15. Are the descriptions of the sources and methods of estimation of the national income accounts (particularly those in pt. III of National Income, 1954 edition) sufficiently concrete and detailed for your purposes with respect to:					
Annual estimates	37	2	3	1	17
Quarterly estimates	34	5	1	2	19
16. Are the discussions of concepts (particularly in pt. II of National Income, 1954 edition) satisfactory?	29	3	4	2	23

TABLE C–2.—*Tabulation replies to regional questionnaire (Q3)*

Number of replies 26.[1] For each group of 4 columns, the difference between the sum of the entries and 26 is the number who responded with a comment or question.

No.	Question	(1) Past need				(2) Future desirability			
		N	O	F	No answer	N	O	F	No answer
1	Estimate of total disposable income by State	3	8	14	0	1	9	14	1
2	Partial or total breakdown of State personal income by size of income	6	13	5	1	5	13	6	1
3	Estimate of gross State expenditure	7	7	12	0	3	10	12	1
4	Estimate State personal income—constant prices	9	11	4	1	4	14	6	1
5	Quarterly estimate State personal income	9	7	7	3	6	7	10	3
6	Regional input-output matrixes	11	10	3	2	6	15	2	3
7	Estimate personal income for counties	2	9	13	2	2	7	15	2
8	Estimate personal income for metropolitan areas	1	8	14	2	1	8	14	2
9	Breakdown income paid by establishments producing for national or international markets	8	12	4	2	7	11	5	3

[1] See exhibit C

NOTE.—N—Not at all; O—Occasionally; F—Frequently; A—Annually; Q—Quarterly.

EXHIBIT C–1.—*Respondents to general questionnaire (Q2)*

Name and organization

William I. Abraham, Statistical Office, United Nations
Thomas R. Atkinson, Federal Reserve Bank of Atlanta
Solomon Barkin, Textile Workers Union of America
Harold Barger, National Bureau of Economic Research
Ralph H. Bergmann, United Rubber, Cork, Linoleum and Plastic Workers of America
Abram Bergson, Harvard University
William A. Berridge, Metropolitan Life Insurance Co.
S. K. Botsford, Standard Oil Company of Indiana
Dean Bowman, Crown Zellerbach Co.
Charles T. Broderick, The Lehman Corp.
Otis Brubaker, United Steelworkers of America
Edward Budd, Yale University
Jacob Cohen, Bowling Green State University
Miles L. Colean, consultant
William Cooper, Carnegie Institute of Technology
Morris Copeland, Cornell University
Andrew Court, General Motors Corp.
Daniel Creamer, Interdepartmental Committee on Low Incomes
Leonard Crum, University of California
John C. Dawson, Brookings Institution
George Garvy, Federal Reserve Bank of New York
Woodrow L. Ginsburg, United Automobile, Aircraft, and Agricultural Implement Workers of America
Nathan Goldfinger, AFL–CIO
Everett Hagen, Massachusetts Institute of Technology
George P. Hitchings, Ford Motor Co.
Edgar M. Hoover, Harvard University
Arno Johnson, J. Walter Thompson Co.
Francis C. Jones, Green Giant Co.
Lester S. Kellogg, Deere & Co.
Edmund R. King, Eastman Kodak Co.
Irving B. Kravis, Wharton School of Finance and Commerce
David Lasser, Electrical, Radio, and Machine Workers International Union
Wassily Leontief, Harvard University
John P. Lewis, University of Indiana
Wesley Lindow, Irving Trust Co.

EXHIBIT C–1.—*Respondents to general questionnaire (Q2)*—Continued

Name and organization

John Lintner, Harvard University
Ta-Chung Liu, International Monetary Fund
A. G. Matamoros, Armstrong Cork Co.
Stacy May, International Basic Economy Corp.
Wayne L. McMillen, Guaranty Trust Company of New York
Morris Mendelson, National Bureau of Economic Research
James Morgan, University of Michigan
Ragnar D. Naess, Naess & Thomas
Robert R. Nathan, Robert R. Nathan Associates
Hans P. Neisser, New School for Social Research
Harry Oshima, Stanford University
Margaret G. Reid, University of Chicago
Harold M. Ridlon, United States Steel Corp.
Arthur Rosenbaum, Sears, Roebuck & Co.
Murray Shields, MacKay-Shields Associates
Walter R. Stark, Loomis, Sayles & Co.
William W. Tongue, Jewel Tea Co., Inc.
Arthur R. Upgren, Dartmouth College
Merrill A. Watson, National Shoe Manufacturers Association
Hans A. Widenmann, Carl M. Loeb, Rhoades & Co.
John D. Wilson, Chase Manhattan Bank
Ashley C. Wright, Standard Oil Company of New Jersey
Wilson Wright, Procter & Gamble Co.
Julius Wyler, New School for Social Research
(2 not identified.)

EXHIBIT C–2.—*Respondents to first questionnaire (Q1)*

Name and organization

William F. Butler, Chase Manhattan Bank
Morris Cohen, National Industrial Conference Board
Louise M. Curley, Scudder, Stevens & Clark
Edward F. Denison, Committee on Economic Development
Douglas Greenwald, McGraw-Hill Publishing Co.
Joseph B. Hubbard, United Service Corp.
Robert E. Lewis, First National City Bank of New York
Tjalling C. Koopmans, Yale University
Todd May, Fortune
Gordon W. McKinley, Prudential Life Insurance Co.
Philip M. Ritz, Conference on Economic Progress
David S. Roswell, Case, Pomery & Company, Inc.
Eric Schiff, Machinery and Allied Products Institute
William Shaw, E. I. du Pont de Nemours & Co.

EXHIBIT C–3.—*Respondents to regional questionnaire (Q3)*

Name and organization

Wesley C. Ballaine, University of Oregon
Karl R. Bopp, Federal Reserve Bank of Philadelphia
Lyndon O. Brown, Dancer-Fitzgerald-Sample, Inc.
Reavis Cox, University of Pennsylvania
Addison T. Cutler, Federal Reserve Bank of Cleveland
Richard W. Graves, Indiana University
Frank A. Hanna, Duke University
Gloria Hile, Board of Governors of Federal Reserve System
Werner Hochwald, Washington University
Gordon A. Hughes, Scott Paper Co.
George B. Hurff, University of Florida
Walter Isard, University of Pennsylvania
Frank L. Kidner, University of California
Thomas G. MacGowan, Firestone Tire & Rubber Co.
Edwin Mansfield, Carnegie Institute of Technology
Gordon W. McKinley, Prudential Life Insurance Co.
Henry B. Moore, University of Alabama

EXHIBIT C–3.—*Respondents to regional questoinnaire (Q3)*—Continued

Name and organization

Franklin L. Parsons, Federal Reserve Bank of Minneapolis
Harvey Perloff, Resources for the Future, Inc.
Earl L. Rauber, Federal Reserve Bank of Atlanta
Vergil D. Reed, J. Walter Thompson Co.
Morgan H. Rice, Federal Reserve Bank of Dallas
H. M. Ridlon, United States Steel Corp.
Thomas I. Storrs, Federal Reserve Bank of Richmond
Clarence W. Tow, Federal Reserve Bank of Kansas City
Oliver P. Wheeler, Federal Reserve Bank of San Francisco

EXHIBIT C–4.—*General questionnaire (Q2), National Accounts Review Committee*

QUESTIONNAIRE

Name and organization (optional)_____.

The following are among the changes in or extensions of the national accounts which have been recommended most frequently.

In column (1) please indicate by the appropriate symbol whether in previous work you have felt a need for the indicated information:

Not at all—N
Occasionally—O
Frequently—F

In column (2) please indicate by the appropriate symbol whether you would use this information in the future:

Not at all—N
Occasionally—O
Frequently—F

If you would use the information, please indicate in column (3) by the appropriate symbol whether annual or quarterly estimates or both would be substantially more useful.

Annual—A
Quarterly—Q
Annual and quarterly—A, Q

If you have no opinion on a suggested change, please leave all columns blank.

	Past need	*Future desirability*	*Frequency (timing)*
	(1)	(2)	(3)
1. Personal consumption expenditures:			
a. Add information on inventories of consumer durables.			
b. An improved allocation between consumers and business of expenditures for certain goods, e. g., autos.			
c. Add information on imputations included in the estimates so that they can be eliminated by users if so desired. (Please list the specific items desired, if any.)			
2. Gross private domestic investment:			
a. Add a classification of producers' durable equipment by type of commodity.			
b. Add a classification of producers' durable equipment by purchasing industry.			
c. Add subdivision of change in inventories by industry. (Please specify.)			
d. Add depreciation estimates:			
i. On replacement cost basis.			
ii. On declining balance basis.			

Questionnaire—Continued

	Past need (1)	*Future desirability* (2)	*Frequency (timing)* (5)
3. Government:			
a. Present reconciliation of NID consolidated Government receipts and expenditures account for Federal Government with the conventional and cash budgets.			
b. Add classification of Government purchases of goods and services into current and capital expenditures.			
c. Add classification of Government current expenditure by type of expenditure for the following types of expenditures:			
4. Personal income and expenditure account:			
a. Show information for households separately from other transactors.			
b. Show separate information for the following other groups of transactors:			
5. Personal saving:			
a. Add quarterly estimates on a balance-sheet basis (as in table 6 of National Income).			
b. Show separate information for transactors presently included in personal-saving total. (Please specify transactors for which information is desired.)			
6. Estimate GNP and principal components on a monthly basis.			
7. Constant-dollar series:			
a. Estimate GNP and principal components on a quarterly basis in constant dollars.			
b. Estimate personal income in constant dollars.			
c. Estimate components of personal consumption expenditures in constant dollars. (Please specify.)			
d. Estimate national income by industry of origin in constant dollars.			
8. Related national accounting systems:			
a. Present Federal Reserve money flow accounts on a quarterly basis.			
b. Make regular estimates of input-output system.			
c. Make regular estimates of a national balance sheet (including both tangibles and intangibles).			
d. Present regular reconciliation of the systems.			
9. Quarterly estimates:			
Published estimates in entirely unadjusted form in addition to present seasonally adjusted estimates.			

10. What changes or additions, if any, would you favor in the following distributions of income?
    a. By industry of origin
    b. By region
    c. By size of family income
11. What other changes, if any, would you favor in the national income or related accounts?
12. List, in order of priority from your point of view, the three most urgent improvements in the national income and product estimates that can be promptly made.
    a.
    b.
    c.
13. List, in order of priority, the three most important longer range improvements in the national accounts.
    a.
    b.
    c.

Questionnaire—Continued

14. Do you have substantial need for national income and product figures back of 1929 that tie in with those available for the period beginning 1929?
15. Are the descriptions of the sources and methods of estimation of the national income accounts (particularly those in part III of National Income, 1954 edition) sufficiently concrete and detailed for your purposes with respect to—
    Annual estimates _____
    Quarterly estimates _____
    If not, what further detail would you want?
16. Are the discussions of concepts (particularly in part II of National Income, 1954 edition) satisfactory?
    If not, what changes do you suggest?
17. What are the principal purposes for which you use (a) annual (b) quarterly national income and product data?

EXHIBIT C–5.—*Regional questionnaire (Q3), National Accounts Review Committee*

QUESTIONNAIRE

Name and organization (optional)_____

The following are among the changes in or extensions of the regional income estimates which have been recommended most frequently.

In column (1) please indicate by the appropriate symbol whether in previous work you have felt a need for the indicated information:

Not at all—N
Occasionally—O
Frequently—F

In column (2) please indicate by the appropriate symbol whether you would use this information in the future:

Not at all—N
Occasionally—O
Frequently—F

Please add any further remarks you may have on these items on the back of the page or on separate pages. If you have no opinion on a suggested change, please leave both columns blank.

	Past need (1)	*Future desirability* (2)
1. An estimate of total disposable income for each State.		
2. A partial or total break of State personal income by size of income.		
3. Estimates of "gross State expenditure" (aggregate and some broad components) analogous to the GNP concept at the national level.		
4. Estimates of State personal income in constant prices.		
5. Quarterly estimates of State personal income.		
6. Regional input-output matrixes.		
7. Estimates of personal income for counties.		
8. Estimates of personal income for metropolitan areas.		
9. Breakdown of income paid out by establishments producing for national or international markets and those producing for local markets (including trade and service establishments).		

10. What other changes, if any, would you favor in the regional income estimates?
11. What are the principal statistical deficiencies of the present estimates?
12. What can be done to correct these deficiencies?
13. List, in order of priority from your point of view, the three most urgent improvements in the regional income estimates.
    a.
    b.
    c.
14. What are the principal purposes for which you use regional income data?

APPENDIX D

A Comparison of National Accounting Structures in Selected Countries

(Tables prepared December 1956 by William R. Leonard, Director, Statistical Office, United Nations, in response to questions from the committee)

A COMPARISON OF NATIONAL ACCOUNTING STRUCTURES

Table D-1. Nature of Sectors and Accounts

Country \ Sector	Households including private non-profit institutions (1)	Enterprises: Unincorporated enterprises (2)	Enterprises: Private corporations (3)	Enterprises: Public corporations (4)	Enterprises: Government enterprises (5)	General government: Central (6)	General government: Local (7)	Economy as a whole: Domestic product account (8)	Economy as a whole: National income account (9)	Saving and investment account (10)	External transactions account (11)
United States	B	AB				B		X		X	X
Australia	B	AB				B	B	X		X	X
Canada	B	AB				B	B	X		X	X
New Zealand	B					B	B	X		X	-
United Kingdom	BC		B	A B C		B C	B C	X		X	X
Denmark	B					B		X	X	X	X
Norway	B	B				B C	B C	X	-	X	X
Sweden	AB^1C^1	AB^1C^1				$A B^1 C^1$	$A B^1 C^1$	-	-	X	X
France	ABC	B	B			B	B	-	-	-	X
Netherlands	$B_1B_2C^1D$	AB_1B_2CD				$AB_1B_2C^1D$		-	-	X	X
Japan	B					B		X	-	X	X

Notes

General. The letters A, B, C indicate respectively production, income appropriation and capital account. The use of the letter X in columns (8) (9) (10) and (11) indicates that such accounts are an integral part of the accounting structure.

Australia. Within the combined production and appropriation account for enterprises a distinction is made between trading enterprises and financial enterprises.

United Kingdom. Within the appropriation account for general government, national insurance funds are distinguished.

Norway. Current and capital items are combined in one account for central and local government respectively. Social security agencies constitute one of the many subsectors of government distinguished.

Sweden. B^1 and C^1 here refer to "income distribution" and "consumption" account respectively.

France. In the capital account for enterprises "banques et assurances" are distinguished while in the capital account for "administrations" the sub-sector "trésor" is distinguished. In the income appropriation account for the sector "administrations" the following sub-sectors are distinguished in addition to "état" and "collectivités locales": securité social, établissements administratifs, administrations privées, administrations etrangères et internationales.

The balance of payments is divided into "operations courantes" and "operations financières" both sectored into "étranger", "F.O.M." and "Sarre".

Netherlands. The letters B_1, B_2C^1, and D refer respectively to primary redistribution of income account, secondary redistribution of income account, consumption account and "goods" account. The "goods" account indicates the origin and destination of the flow of goods and services within and between sectors.

*Accounts B_1 and B_2 are also provided for a supplementary sector "insurance funds" which includes private pension funds and life insurance funds as well as social security funds.

William R. Leonard
Director
Statistical Office
United Nations

A COMPARISON OF NATIONAL ACCOUNTING STRUCTURES (continued)

Table D-2. Replies to following questions

Questions / Country	1	2	3	4	5	6	7	8 (a)	8 (b)	8 (c)
Australia	No	No	All motor vehicles are treated as capital formation	Tax returns basis, original cost	No	No estimates published	Standard	No	No	No
Canada	No	No	Current expenditures	Tax returns basis, original cost	No	Product by final expenditure	Standard	No	No	No
New Zealand	Yes	Gross, separately	Current expenditures	Tax returns basis, original cost	No	No estimates published	Standard	No	No	Yes
United Kingdom	Yes	Gross, separately	Current expenditures	Replacement cost	No	Product by final expenditure and gross product by industry	Standard	No	No	No
Denmark	Yes	Gross and net, total	Current expenditures	Replacement cost	No	Product by final expenditure and gross product by industry	Standard	No	No	Yes
Norway	Yes	Gross and net, separately	Current expenditures	Replacement cost	Natural increase in forests considered as increase in stocks	Product by final expenditure and gross product by industry	Standard	No	No	Yes
Sweden	Yes	Gross and net, separately	Current expenditures	Replacement cost	Variation in timber cutting allowed for in computing increase in stocks	Product by final expenditure	Standard	No	No	No
France	No	No	Current expenditures	Replacement cost	No	Product by final expenditure	Family gardening activity included	No	Yes	Yes
Netherlands	No	Capital formation not distinguished from current expenditure	Current expenditures	Replacement cost	No	Product by final expenditure	Standard	Yes	Yes	Yes
Japan	Yes	Total only	Current expenditures	Book values as reported in corporate enterprise survey	No	Product by final expenditure and national income aggregate	Standard	No	No	No

Questions

1. Is investment shown for each sector separately?
2. Are separate estimates provided for gross and net capital formation of central and local government?
3. Are consumer durables (other than houses and land) treated as current expenditures or investment
4. What is the basis for the estimation of capital consumption allowances?
5. Do the accounts include allowances for depletion and discovery of natural resources?
6. Are tables published in constant prices?
7. Is the scope of non-market activity included in the estimates broader or narrower than standard practice?
8. Is there a systematic connexion between the national accounts and (a) a national wealth statement or balance sheet; (b) a money flow type statement; (c) an input-output type statement

Notes. The replies to question 4 indicate the main basis for the estimation of depreciation. Replacement cost estimates may be made for certain sectors and for certain components of capital consumption in those countries where another basis for estimation is generally employed.

New Zealand. The reply to 8 (c) is in the affirmative since the present system of accounts is being currently replaced by an articulated system of production accounts involving eighteen sectors.

Netherlands. 8 (a) and 8 (b). The development of the present system is continuing and in theory provides for the inclusion of detailed accounts of financial transactions and of sector balance sheets.

William R. Leonard
Director
Statistical Office
United Nations

APPENDIX E

The National Income Accounts: Future Directions of Research and Suggestions for Improving These Basic Data

Statement prepared December 1956 by George Jaszi, Chief, National Income Division, Office of Business Economics, U. S. Department of Commerce

Part I. Future Directions of National Income and Related Research

The following statements on the future directions of national income and related research (pt. I) and on data improvements (pt. II) have been prepared in response to the request of the National Accounts Review Committee.

Let me say at the outset that I welcome your forthcoming review of our work. It will be useful to formulate and to direct public attention to the major problems with which official national income work in the United States is faced.

One of these problems—a very practical one—I should like to flag now and discuss in some detail later. There is widespread agreement as to the basic importance of national income estimates, and an urgent demand for improving their accuracy and for extending their scope. Yet—if I may generalize—there has in the last decade been no significant addition to the quantity or quality of the primary statistical data that are the raw materials of national income estimates. Also, over the same period significant reductions have been made in the funds available to the Office of Business Economics and its National Income Division, which shape these raw materials into final form.

I. WRITTEN DESCRIPTIONS OF NATIONAL INCOME WORK

Needless to say, you will have the full cooperation of the National Income Division in your review. It may be helpful if I draw attention to the extensive material relating to our work that is available in written form; this material should facilitate your proceedings.

1. *Published material.*—As you know, the Survey of Current Business not only carries our regular estimates, but also analyzes these data as well as newly developed estimates not—or not yet—incorporated into our established series. In particular, I want to draw your attention to the special studies we prepare, such as that of corporate profits in the January 1956 issue of the Survey and that of manufacturing investment in the current November issue. These studies are part of our output, in addition to our regular monthly, quarterly, and annual series and the analyses that are based on them.

The definitional and statistical foundations of our work are described in detail in the National Income and other supplements to the Survey of Current Business. In addition, last year's sessions of the Conference on Research in Income and Wealth afforded me an opportunity to prepare a detailed paper in which I discuss the major conceptual problems of national income accounting as I see them, and the general lines along which future work might proceed. Also available is a document prepared by the Office of Business Economics

entitled "Program Statement for the Office of Business Economics, United States Department of Commerce" in which some of the same ground is covered.

You will note that my paper for the income conference was written in a personal rather than an official capacity. The same qualification attaches to the status of the following remarks. I have, of course, done my best to write responsibly, but my statement has not undergone official clearance.

2. *Supplementary information.*—Part II of this memorandum relating to major deficiencies and improvements in the data underlying our monthly, quarterly, and annual series should, together with the documents previously mentioned, provide a reasonably full description of the concepts and methods underlying the present national income statistics, and the vistas of progress we can discern.

You will note that our income-size distribution and State income estimates are not covered in the memorandum on data gaps and improvements. We shall be glad to furnish supplementary statements on these two topics if and when you take them up.

All we have published relating specifically to the methodology underlying our monthly and quarterly series are brief notes in the Business Statistics supplement to the Survey. But with only a few significant exceptions the sources we use for our less than annual series are those used for our preliminary annual estimates described fully in the National Income supplement. Apart from these exceptions, all that is missing is a detailed written account of the estimating procedures specific to monthly and quarterly, as distinguished from annual, estimation. I hope very much that you will be able to dispense with such a description. Given our present staff and workload, I would find it quite impossible to provide. But, needless to say, we are available to furnish whatever specific information relating to these methods you need.

You will note that I have not prepared a statement of the requirements for additional primary data that would stem from various possible extensions of our work. The memorandum submitted is confined to the statistical improvement of our existing series. This limitation suggested itself strongly because the field of possible extensions is large and our knowledge of the connected data requirements is naturally incomplete. However, when you are ready to consider extensions of our work we shall be glad to provide you with the information on associated data needs that is necessary to evaluate the projects. I might add that these needs will vary greatly from project to project.

We shall, of course, also be ready to furnish further detail relating to aspects of our work that are covered in the written material.

II. BROAD DIRECTIONS OF NATIONAL INCOME WORK

I shall turn next to the major problems which, in my opinion, national-income estimation in this country faces. I shall deal with the general direction of national-income work first, with specific areas of research second, and statistical problems last.

1. *Integrated set of national accounts.*—The scope of national income work has been broadened significantly in the past 25 years. Traditionally, the major aim of this work was to provide measures of

total national output and of its breakdowns. More recently, the aim has become that of providing a systematic account of national-economic activity. Inasmuch as the production of output is a central feature of economic activity, the two aims are obviously closely related.

If the broader view is taken, extensive bodies of other statistical information that under the narrow concept seem unrelated to the national-income estimates appear to be really part of them. The idea immediately suggests itself that national-income accounting should serve as a meeting ground for the coordination of the definitional framework of a broad range of economic statistics as well as of the underlying primary data sources and estimating methods. I consider this idea very valuable. In fact, I would go further to say that some version of it must be the goal of all who have an overall interest in economic statistics.

2. *The United States experience.*—Unfortunately, little progress has been made in the United States toward the implementation of this idea. Input-output and money-flow statistics were permitted to develop with little serious attempt to integrate them with national-income statistics. As a consequence, there is now no simple way of using them jointly with naitonal-income data. Even though our views may differ widely as to the relative merits of the three systems, I believe we can all agree that something has been lost.

Lest I be misunderstood, let me add that I am not unmindful of the difficulties involved in obtaining integration; all I submit is that a much better job than actually was done could have been done. The extent to which the systems have been integrated in some other countries provides, I believe, prima facie evidence in favor of my proposition.

Also let me emphasize that I do not mean to imply that all conflicts should necessarily have been resolved in favor of present national-income procedures. This is really an obvious point, but in view of the particular nature of my professional involvement it seems well for me to make it explicitly.

3. *Current problems.*—Turning to the present and immediate future I see two major areas of investigation in which this problem of coordination will loom large. They are the two areas in which further systematic development of the national-economic accounts is most urgently needed. The first is saving statistics. Intertwined as these are with income, expenditure, and investment, they are in principle part and parcel of the national-income accounts, and in practice they should be closely coordinated with them. I hope that the recent arrangement assigning to the Federal Reserve Board a role of leadership in this field will prove to be in harmony with the aim of fostering such coordination.

The second area is real product and productivity statistics. The National Income Division prepares the overall measure of real national product, but work on industry measures as well as on productivity is being undertaken largely by other agencies. It seems to me that this development also will raise major problems of integration.

4. *Organizational problems.*—If we subscribe to the goal of an integrated set of national economic accounts, we should examine earnestly how in practice we propose to make progress toward it. What type of organization is necessary for establishing an integrated program? What shall be the role of the various agencies in the sta-

tistical implementation of such a program? Specifically—a question in which I am very much interested personally—what shall be the place of the National Income Division in the overall scheme?

I do not think that we have as yet devised an organizational framework which will insure a systematic development of the national accounts. Interdepartmental committee work is helpful in promoting integration, but I doubt very much whether it provides an adequate solution. My skepticism stems essentially from the conviction that this type of organizational arrangement does not provide a sufficiently clear-cut center of responsibility and authority.

These organizational problems are difficult to resolve. Yet a workable solution of them is essential to further progress in national economic accounting work.

III. SPECIFIC AREAS OF WORK

The specific areas of research which, in my opinion, national income accountants should explore further, I have set forth in my paper for the 1955 income conference, already referred to, and in my detailed comments on the other conference papers.

1. *The area of agreement.*—My aim in the present statement is to make two brief remarks on the results of this conference. First, if you examine the record you will find that there was substantial agreement as to the basic desirability of most of the major proposals that were made for the improvement of the national income accounts. The points which tended to separate me from our critics were mostly practical considerations of statistical feasibility. The insufficient attention given to these considerations had in my opinion impaired the realism and cogency of some of the findings.

Let me single out some of the more significant issues on which, to my mind, there is substantial agreement.

First, as to the broad scope of the data, the value of the national income accounts would be greatly enhanced by the introduction of information relating to changes in financial assets and liabilities.

Second, further work needs to be done on capital formation, capital consumption, and saving.

Third, a classification of the various services provided by Government is urgently required.

In each of these areas we are ready and eager to go forward, and we would expect substantial results with only a moderate increase in the size of our staff. However, with the resources available to us at present, which I shall review later, progress will necessarily be very slow. The job of maintaining our current output of statistics absorbs most of our energies.

Next, I should like to comment on two other issues on which similar agreement does not exist and further clarification is needed.

2. *The Government controversy.*—The first is the Government controversy. Our present procedure of including all Government purchases of goods and services in gross national product has been criticized on the ground that not all such purchases are final. According to a large body of opinion, some Government purchases should be excluded from gross national product as being akin to purchases of raw materials and semifinished goods. I believe that our present procedure is correct.

This subject has been discussed intensively in the literature prior to the 1955 income conference. The present statement is not the medium for sorting out once more the pros and cons of this complex argument, but I should like to indicate the course that I believe future action should take. As long as there is so much disagreement on the subject, I think it ought to be pursued further. Recent argument in favor of the exclusion of Government intermediate output has proceeded mostly on a purely theoretical level, and in such general terms that it has not led to a systematic listing of the Government services that are to be excluded as intermediate. In addition, proponents of exclusion differ widely from one another. Some stake out wide areas—for instance, the entire range of defense expenditures; others adduce only rather insignificant examples—seed distributed free to farmers by experimental agricultural stations, for instance. In view of this state of affairs, I think that at the present juncture the most significant contribution to the discussion would be for proponents of the idea to prepare for a set of years an actual empirical classification of Government services into final and intermediate.

I would go one step further and suggest that the National Bureau of Economic Research undertake the task. The guiding spirits of the bureau have been the most vocal in stating the general case for the elimination of Government intermediate product, and in calling for its statistical implementation as a matter of signal theoretical and practical interest. And, needless to say, the bureau is singularly well equipped with the professional competence needed to undertake the job.

I do not believe that the task is one for the National Income Division. In the first place, proponents rather than opponents of the proposal should work on it. This is the only procedure that holds the promise of a creative result, and the one that will give the proposal the fairest chance. Secondly, I would point to the controversial state of the subject matter. Given the limitation of resources available for official national income work, other projects that will pay off with much more certainty in significant contributions to economic analysis should have overriding priority, to my mind.

3. *Entrepreneurial saving.*—The second proposal on which I should like to comment is that the national income accounts be made to show the saving of unincorporated enterprise separately from other personal saving. I agree completely with the view that information on this subject is of great importance. But it is not clear in what form and manner it can be obtained. The aim of measurement can be, alternatively, the total saving of entrepreneurial families, or the saving which entrepreneurial families make in a business as distinguished from a personal capacity. I think it is very important to distinguish clearly between these two variants. As I have explained in my income conference paper, I am strongly inclined toward the former. The latter appears to me to be a somewhat artificial abstraction, because most entrepreneurs do not themselves distinguish clearly between their business and personal finances.

The practical implementation of the definition I favor raises data problems of even graver complexity than does the implementation of the alternative one. I think that any proposal for the segregation of entrepreneurial saving should make explicit reference to these problems. Otherwise, an unduly simple view of the project is suggested

to those who are not acquainted with the data problems. It should be recognized clearly that the segregation of the saving of entrepreneurial families is not something the National Income Division as it is constituted now can accomplish by itself. A basic statistical program reporting on the finances of entrepreneurial and other families is a sine qua non. Not even the blueprints of such a program have been worked out satisfactorily.

IV. IMPROVING THE RELIABILITY OF THE ESTIMATES

I have been shifting from a discussion of conceptual problems to one relating to statistical matters, and I should like to make a few remarks about the latter subject explicitly.

1. *Present statistical system.*—Collection of primary statistical data in this country is not designed specifically to meet the needs of national income measurement. We have no integrated reporting system that yields directly the various entries in the national accounts. Instead, these entries must be derived from a multitude of primary sources—census and sample surveys, administrative statistics such as social security, tax, and budget data, and many other public and private records.

The information provided in these sources falls short of the requirements of national-income accounting definitionally and in coverage. Consequently, the actual entries in the national accounts must be derived from the primary data by estimating methods that are often lengthy, indirect, and complex, and that call for the exercise of a wide latitude of judgment when basic data are lacking or conflicting.

In the present organizational framework, the specific function of the National Income Division is this processing of primary data. Only to a very minor extent are we engaged in their collection.

Impressed by the obvious disadvantages of the present procedure, it has occurred to some that a new start is called for. What is boldly envisaged is a single unified reporting system-of-census-type enumerations and sample surveys which would provide directly the magnitudes required for the national accounts. I believe that such a system will remain a dream for the foreseeable future. It is not practical because it would involve a staggering volume of outlays if it were designed to yield results as satisfactory as or better than those we now obtain.

To my mind, further progress on the statistical front will be made by improving rather than replacing the sources and methods that now exist. If this is the outlook, the question arises whether further improvement is to be gained by strengthening the primary data or the estimating processes that rest on them.

2. *Data collection.*—I think the broad proposition that must be established first is that major improvements in the reliability of national-income statistics depend on the improvement of the primary data sources. The memorandum I have prepared for your committee outlines the major areas in which more and better information is needed.

3. *Estimating methods.*—But once this broad proposition has been made, it should be immediately qualified. An addition to the present strength of the National Income Division is also required. In terms of the total improvement of national-income estimates such personnel increases would yield results less striking than would a program aimed

at strengthening the basic data. But the funds needed for building up the Division are comparatively so trifling that viewed as a rate of return on investment the improvement which such action would bring about might be as impressive as that resulting from improved data collection.

Let me review the position of the National Income Division in a little more detail. On a net basis, the Division now turns out a larger volume of monthly, quarterly, and annual statistics than it has ever done in the past, and it does so on a schedule that has been accelerated considerably over the years. Also, according to my judgment, the quality of the estimates has been maintained or improved. This situation obtains in spite of a cut in staff amounting to between 15 and 20 percent over the past few years. What is the explanation?

In the first place, the National Income Division has an extremely devoted staff that performs far beyond the call of duty. But there are limits on the extent to which one can call for such gratuitous contributions. Secondly, to an increasing extent we have had to postpone repair and maintenance work on our series. So far the results of this second factor have not been perceptible, I believe. We all know that repair and maintenance are postponable to some extent. But this type of retrenchment cannot be continued indefinitely. Cumulatively, it is apt to lead to serious breakdowns. Next, we have not had the resources to experiment sufficiently with alternative estimating procedures for various components of the national accounts; nor have we been in a position to institute certain improvements in our methods of which we are aware. Finally, we have not been able to engage upon broad developmental work.

You may admit that this last circumstance is regrettable per se, but question its relevance to the improvement of our existing estimates. Actually there is an important and close link. The exploration of new areas tends to throw light on the situation in old ones. For instance, it was the cross-checks inherent in the novel interindustry studies that first suggested convincingly a downward bias in the conventional construction statistics. Similarly I would hope, for instance, that the establishment of a set of saving-investment accounts for the various sectors of the economy via direct estimates of changes in assets and liabilities would provide checks on the accuracy of our income and product estimates which would prove as useful as those now provided by the alternative calculation of national output in terms of income and of product flows.

If all these features of our recent work experience are taken into account, it will become obvious that an expansion in the staff of the National Income Division is called for; and that such an expansion would carry a clear return quite independent of that which would be yielded by an improvement in the primary data.

4. *The use of imperfect statistics.*—Having presented the case for the improvement of our estimates, I should like to close with some remarks addressed to a defense of imperfect statistics. I believe that it is of crucial importance not to create excessive expectations as to the extent to which national income estimates can be made more precise; and to make clear that used skillfully they can be extremely valuable even if they are subject to moderate errors.

The output of our economy is now flowing at an annual rate in excess of $400 billion. A $1 billion error is less than one-fourth

percent of this aggregate. I believe that even with a substantial improvement in the flow of primary data, frequent errors larger than this amount would still be inevitable. This holds true especially for our current monthly and quarterly statistics, for obvious reasons. A less obvious one perhaps deserves explicit mention. Even if our various data sources were individually vastly improved, it is very unlikely that they could be sufficiently synchronized with each other to eliminate differences in timing such as will throw the national accounts somewhat out of gear when economic conditions are changing.

Under these circumstances, it seems to me that a task of almost coordinate importance to that of improving the data is that of educating the public in how to make the best use of estimates that are subject to error. First, they should be taught not to attach significance to indicated changes that are within the margin of error of the estimates. More important, and more difficult to show, is that the inherent nature of national income statistics as approximations does not rob them of their great usefulness. Appropriately interpreted, these estimates throw a powerful light on the economic situation, in spite of the error which they contain.

I have elaborated this point in an article in the May 1956 Review of Economics and Statistics. Briefly, my position is that if the various series that compose the national income accounts are used as joint evidence to interpret the economic situation—with some awareness of the deficiencies to which the various series are subject—a substantially correct and highly informative picture usually emerges. This picture is not likely to be profoundly altered by the kind of subsequent revision of the series that is likely to occur.

Needless to say, there are exceptions to this general proposition, and no complacency with the current state of national income statistics is implied. Nevertheless, it is important to point out that errors in gross national product or its components which are quite upsetting when the series are used to measure the exact pulse beat of a particular activity are apt to cause much less disturbance if the series are used in a coherent analysis of major business developments.

Part II. Suggestions for Data Improvement

This part of the memorandum contains suggestions for filling the major data gaps in the existing annual and less than annual income and product series prepared by the National Income Division, other than the regional and size distribution estimates. Discussion of a host of detailed problems is necessarily omitted, and new data requirements that might arise from changes in concepts or further extensions of national income work are not considered.

The major product and income series are taken up in turn. In general, under each heading benchmark estimates are discussed first and third extrapolations later. The descriptions of statistical methodology given in the 1954 National Income supplement are assumed as a background.

I. Personal Consumption—Commodities

1. *Integrated census program.*—The censuses of manufacturing and trade upon which the commodity-flow estimates rest should be taken

at regular intervals and if at all possible both should be taken at regular intervals and if at all possible both should be taken in the same years. There is no objection to partial substitutions of sample surveys for basic censuses, in the framework of an integrated plan.

2. *Distribution of manufacturers' sales.*—Information on manufacturers' sales distributed by class of customer, last collected in the 1939 census, is required to improve the allocation of manufactured commodities as between finished and intermediate products.

3. *Product detail.*—Allocation procedures would also be helped by more detailed product classifications based on specifications, packaging, or other characteristics which indicate whether products are used by households without further processing or become embodied in the output of other manufacturing establishments.

4. *Retail trade margins.*—Despite the wealth of data contained in the Federal income tax returns, trade margin information usable in our estimates is meager because the industry classification of the tax returns is not easily adapted to our estimates of detailed commodity groups. Wholesale trade margins in the breakdown in which we require them can be approximated reasonably well by combining detailed census data on operating expenses with tax return information on profits. But information on operating expenses has not been collected in recent retail trade censuses. Our data on retail trade margins are special tabulations prepared for us from time to time by the Census Bureau in cooperation with the Internal Revenue Service, and are admittedly deficient in quality. These data should be improved. The possibility of obtaining margin data by means of Census Bureau surveys might be reconsidered. This procedure could yield data for commodity classes rather than for kinds of business and would be better suited to our estimating procedure.

5. *Automobiles.*—There are some deficiencies in the price information relating to autmobiles. But the main problem is the allocation of automobile purchases between personal and business use. A fixed percentage is now used, derived from traffic surveys relating to mileage driven for various purposes in the 1930's. This procedure can be improved by the incorporation of the results of newer traffic surveys that are now becoming available, and will yield good approximations for the allocation of automobile operating expenses. But a truly satisfactory allocation of auto purchases is not possible without regular data on net purchases by various purchaser groups. These data might be secured in connection with the Office of Business Economics-Securities and Exchange Commission plant and equipment, and the Federal Reserve Board surveys of consumer finances. Inasmuch as the proportions of consumer and business use vary, this information is required not only for benchmark years but for making the current estimates as well.

6. *Business expense accounts.*—Some expenditures for consumer-type commodities (mainly purchased meals and beverages) are charged to business expense. A special allowance has to be made for these expenditures in reconciling the income and product flow estimates of the national output. Exploratory work should be undertaken to determine whether business expense account data (or sellers' records) could be made available in a form that would throw light on the magnitude of these expenditures.

7. *Retail trading stamps.*—Information is needed to permit proper adjustment for the use of retail trading stamps, which have become important since 1947. This matter is more important for the establishment of benchmark estimates than for their extrapolation, since inadequate adjustment results in errors in the level of the former, whereas errors in the extrapolation of the commodity detail tend to be offsetting in the aggregate.

8. *Retail sales extrapolation.*—The extrapolations of the commodity-flow benchmarks are based largely on retail sales data by line of trade; these data do not lend themselves to an accurate estimate of detailed commodity composition. The feasibility of collecting key commodity information in connection with the retail trade survey of the Census Bureau should be explored.

9. *Annual commodity flow estimates.*—The possibility of making annual estimates by an abbreviated commodity-flow method is being studied. These would serve as partial substitutes for the extrapolations based upon retail sales. These estimates would probably require somewhat greater commodity detail in the Annual Survey of Manufactures, and annual margin information comparable to that needed for the benchmark estimates.

10. *Reconciliation of estimates based upon censuses of manufactures and retail trade.*—A basic statistical problem in this area warrants further research: consumer commodity aggregates estimated by the commodity-flow method (involving a buildup from the manufacturing census) are much higher than estimates based directly on the retail trade census. (N. B.: The latter must not be confused with the estimates referred to in point I.8 in which retail sales data are used only as extrapolators.) Information should be developed to facilitate the analysis of this discrepancy. Provision in the retail trade census of commodity breakdowns as detailed and as comparable as possible with the commodity breakdowns of the manufacturing census would be a significant step in this direction, but other techniques should also be explored.

II. PERSONAL CONSUMPTION—SERVICES

1. *Comprehensive census program.*—Census enumerations in this area should be extended and regularized.

2. *Allocation problems.*—Allocation problems analogous to those mentioned in connection with commodities (see point I.6) arise in connection with services, and an attempt should be made to tackle them by similar techniques.

3. *Current sample surveys.*—The Census Bureau program for obtaining annual sample information on services should be resumed and extended, and consideration should be given to the possibility of collecting data on a less than annual basis.

III. PERSONAL CONSUMPTION—CONSTANT-DOLLAR ESTIMATES

1. *Item coverage.*—The National Income Division has compiled a list of items of personal consumption for which price information is at present lacking or inadequate.

2. *Geographic coverage.*—Many of the Bureau of Labor Statistics item indexes used are based on a subsample of only 14 cities in the Consumer Price Index. It would be desirable to obtain this information for the 46 cities used in the Consumer Price Index.

3. *Commodity specification.*—The Department of Agriculture price series used to deflate the rural portions of consumer purchases are not based on uniform product specifications and therefore fall short of the standards that are usually regarded as desirable in price index number design.

IV. NEW CONSTRUCTION

1. *A comprehensive new program.*—A program for a basic improvement of construction statistics is being formulated by the agencies compiling them, and consequently this matter is touched upon only briefly in this memorandum. Aside from strictly statistical matters of coverage, valuation, and timing, important semiconceptual problems affecting the consistency of the national income accounts will need to be dealt with. These include the distinctions among construction, equipment, and repair and maintenance expenditures, and the handling of so-called speculative profits, mainly in private residential nonfarm construction, which are omitted from the present data. It seems important that in any new plans that may be formulated the requirements of the national income accounts should be fully considered.

2. *Legal form breakdown of investment.*—To improve the estimates of personal saving derived from changes in personal assets and liabilities, an improved breakdown of investment by legal form of ownership is required. The information might be obtained partly from the construction estimates and partly by exploiting further the potentialities of the Commerce-Securities Exchange Commission plant and equipment survey (discussed hereafter). The requirement for a legal form breakdown of inventory holdings should be kept in mind in connection with the series used to extrapolate the inventory benchmark estimates (also discussed later).

3. *Constant-dollar estimates.*—The available price indexes for new construction refer to cost prices and are therefore inappropriate for the deflation of the current dollar estimates, which are generally in terms of selling prices. Moreover, even as cost indexes, the measures, prepared largely by private companies, seem outmoded, insofar as can be established from the rather incomplete descriptions that are available of their underlying methodologies. The initiation of an up-to-date program for measuring construction prices, which will tackle the difficult problems that arise in this area, strongly suggests itself.

V. PRODUCERS' DURABLE EQUIPMENT

1. *Integrated census program.*—The commodity flow method for estimating consumer commodities is also the principal one used for estimating producers' purchases of durable equipment. Accordingly, the requirement for an integrated census program noted above in connection with the former series holds also the latter.

2. *Allocation problems.*—The main allocation problem is to distinguish complete items that are included in gross capital formation from parts that are not. An expansion of the materials-consumed data of the census of manufactures to include all principal equipment-type items would be of substantial assistance in solving this problem.

Similar surveys for selected nonmanufacturing industries would also be needed.

3. *Government purchases.*—These purchases must be deducted in arriving at private capital formation. They present a substantial problem because they are a significant and variable proportion of the total. The necessary information might be obtained from the records of the purchasers or of the sellers. The data from Federal Government sources now available are deficient in coverage, timing, and classification (by type and as regards the distinction between complete items and parts). The State and local data assembled by the Census Bureau are deficient mainly as to classification. Alternatively, the information might be obtained from sellers' records by expanding the census of manufactures (and the annual surveys) to include a question relating to sales to government. There are difficulties involved in this approach but they should not be insuperable. Corresponding information from wholesale trade would also be needed.

4. *Information on wholesale margins.*—Given appropriate information on Government purchases the annual surveys of manufactures could be used to bring the census-based benchmark estimates closer up to date. In connection with this method, annual information on operating expenses of wholesalers of equipment items would be desirable in order to estimate wholesale margins. This information might be obtained in connection with the Census Bureau annual wholesale trade report if publication of that report were resumed.

5. *Other information.*—To bring up to date estimates based upon the census of manufactures and on the annual surveys of manufactures (or also as a substitute for the latter) two procedures should be considered: First, procurement of selected type-of-commodity and type-of-purchaser information in connection with the Office of Business Economics industry survey, so that the sales data in that survey can be used as extrapolators; and second, a strengthening of the Commerce-Securities Exchange Commission plant and equipment survey to yield separate data on equipment purchases. The present method of extrapolating the benchmarks involves in essence a residual estimate of equipment purchases by the combined use of the plant and equipment survey and the Business and Defense Services Administration construction data, and it is a makeshift mainly because of the definitional and statistical noncomparabilities between the two sources.

6. *Constant-dollar estimates.*—Additional price information for many categories of producers' durable equipment not covered in the BLS wholesale price index would improve the deflated figures.

VI. CAPITAL CONSUMPTION ALLOWANCES

1. *Depreciation charges.*—Improvement of these estimates would be along the lines suggested later in this memorandum, in connection with corporate profits and entrepreneurial income. The special internal-revenue service tabulations of sole proprietorship and partnership returns should carry the depreciation item regularly.

2. *Capital outlays charged to current expense.*—Information specified in connection with the allocation of producers' durable equipment (see point V. 2) would be used to improve our estimates of this item also.

3. *Accidental damage to fixed capital.*—Improvements are desirable both in the accuracy of the basic data and in their classification by type of property.

VII. CHANGE IN BUSINESS INVENTORIES—BOOK VALUES

1. *Speedup of Internal Revenue Service tabulations.*—Within the framework of the present methodology, a speedup of the Internal Revenue Service tabulations is the first requirement. (This statement is not intended to prejudice the suggestion that a switch to census-based benchmarks should be explored, mainly because the latter information is on an establishment rather than on a firm basis.) The proposed Internal Revenue Service tabulations of the business indicator series would go far toward meeting our requirements.

2. *Unincorporated enterprise.*—Tax return information on the inventory holdings of sole proprietorships has not been tabulated since 1945. Tabulation of this item should be resumed. Alternatively, census information relating to unincorporated enterprise inventories needs to be strengthened. (See earlier comments relating to the need of an integrated, regular census program in connection with the consumer commodity and producers' durable equipment estimates.)

3. *Retail inventories.*—As regards the extrapolating series, a strengthening of retail inventory statistics to take adequate account of small independent retailers is the main requirement.

4. *Inventories outside manufacturing and trade.*—The quarterly Securities Exchange Commission tabulations of current assets and current liabilities of United States corporations are now not in time for the current quarterly national product estimates. Accordingly, these estimates do not reflect inventory changes outside manufacturing and trade. Lack of coverage of the noncorporate area outside manufacturing and trade probably does not constitute a significant deficiency, as compared with the other shortcomings of the inventory figures.

5. *Inventories in transit.*—Inventories in transit tend to disappear from the accounts. The possible magnitude of the consequent distortion in the change of inventories figures should be investigated. Information on accounting methods, on the mail float of commercial documents, and on the volume of goods in transit is relevant.

VIII. CHANGE IN BUSINESS INVENTORIES—DEFLATION AND REVALUATION

1. *Inventory accounting methods.*—Better knowledge of the accounting methods actually employed by business is required. Our present procedures for revaluing the book data are based on rather broad assumptions as to the valuation methods these data reflect. We need more information as to the extent to which Fifo, Lifo, average cost, specific identification, and other methods are used by businesses. It would also be helpful to find out more about the application of the lower of cost or market rule. Information would be desirable also relating to the scope of the cost elements included in the valuation of inventories, e. g., the extent to which overhead costs are included. This information would aid in the construction of the more appropriate price indexes. The extent to which standard cost valuation is used in the reporting of inventories should also be investigated.

It would be premature to try to be precise at this time as to whether the foregoing type of information should be in the form of periodic surveys of accounting methods, or whether, and to what extent, it should be implemented by a regular reporting of book value data classified to distinguish the several underlying accounting methods.

2. *Commodity composition.*—Additional information on the commodity composition of inventories would be of great value in the deflation of the non-LIFO inventories, by making possible a more selective use of the available price-index information. It would also facilitate the requisite LIFO estimate since the method is characteristically used for only certain types of inventories in some industries.

3. *Price data.*—For inventory deflation purposes price data should be combined into group indexes which represent industry groupings rather than commodity groupings, and should be weighted by the commodity composition of inventories in each industry rather than by sales. In addition, the price indexes should be constructed so as to permit measurement of the prices of purchased inventories at the transaction stage at which they are acquired by the inventory holder. Also, the possibility of developing special indexes to measure the manufacturing costs reflected in the valuation of goods in process and finished product inventories should be explored. Finally, there are indications of seasonal variations in the commodity price data utilized in the deflation procedure; these should be examined and quantified, possibly by the Bureau of Labor Statistics.

IX. NET FOREIGN INVESTMENT

1. *Timing.*—The timing of foreign trade statistics should be adjusted on the basis of sample surveys from the time of loading or unloading or crossing of the border, to the time title to the goods changed.

2. *Valuation.*—Further study is required of the differences between the valuation of merchandise in the trade statistics and in actual payments. A past survey of imports should be repeated and extended to exports.

3. *Speedup in reporting.*—A speeding up in the compilation of merchandise trade data is desirable to provide information in time for the current quarterly product estimates.

4. *Constant-dollar estimates.*—The volume and unit-value estimates should be reviewed mainly because of large gaps in the commodity coverage and because the linking procedures used are not consistent with the fixed base period that underlies the deflation of gross national product in general. It might be worthwhile to initiate the systematic compilation of price data (or direct quantity data) relevant to the measurement of the real volume of nonmerchandise items.

X. FEDERAL GOVERNMENT PURCHASES AND TAXES

1. *Basic recasting of Government accounts.*—It is probably unrealistic envisage a basic recasting of Treasury and Budget Bureau data on Government expenditures and receipts which in coverage, classification, and timing would be a close approximation to the Federal Government sector as defined best for a system of national accounts. The following recommendations are more limited.

2. *Timing of Government checks.*—Government expenditures are reported both on a checks-issued and on a checks-paid basis. From the standpoint of national income accounting neither is strictly appropriate. In particular, it would be important to measure checks made out to business as of the date they are received by business. A study of the characteristics of the float of Government checks might permit the estimation of an adjustment factor. Such a study might also indicate whether items other than the float cause discrepancies between checks-issued and checks-paid reporting.

3. *Receivables and prepayments.*—The Treasury series include prepayments for goods and services scheduled for delivery in future accounting periods, payments for goods and services that have been delivered in past accounting periods, and do not reflect current deliveries for which Government payments have not yet been made. When Government expenditures are changing rapidly this may cause significant discrepancies with the business records on which the other entries in the national accounts are based. At present an adjustment is made utilizing Securities Exchange Commission-Federal Trade Commission data on changes in business receivables and prepayments from Government. However, the financial reports of the corporations filing with the two agencies do not follow uniform accounting procedures, so that adjustments to the data as reported must be made, and the data are not available in time for the current quarterly estimates. As an alternative to these data, the Department of Defense, whose transactions give rise to the major timing discrepancies under this heading, may be able to devise a means of procuring the required information.

4. *Renegotiation.*—More information is needed on the magnitude of the funds recovered by contract renegotiation, and some basis provided for their allocation to the periods to which the contracts involved pertain.

5. *Classification of expenditures.*—An improved classification of expenditures would also make it possible to improve the synchronization of our series. For instance, if Government wage and salary payments were distinguished in the expenditure records, we could make sure that the timing of these payments is the same as that of the corresponding entry in the income accounts, which is based on different source data. Similar comments apply to transfer payments and some other items.

6. *Federal taxes.*—Federal tax data, basically fairly adequate, have been subject to increased delays in reporting. The individual income-tax estimates could be improved by having a telegraphic report for the third month of each quarter similar to the report prepared in June for the fiscal year. A speedup in the reporting of excise taxes would help in the estimation of current indirect business taxes. In addition, the individual income-tax estimates could be improved by a reporting of their collections separately from the collection of old-age and survivors' insurance employment taxes (as was done prior to 1951).

XI. STATE AND LOCAL GOVERNMENT PURCHASES AND TAXES

1. *Timing of Census Bureau reports.*—Data based upon census and annual survey data of the Bureau of the Census are subject to varying lags. The report on local government receipts and expenditures is received in August, 1 month after the national income number of the

Survey goes to press. It would be helpful if segments of the report, notably the summaries on taxes and construction and operating expenditures, could be made available in time for the July deadline.

2. *Current quarterly expenditure information.*—Quarterly data comparable to those published in the Census Bureau reports on an annual basis are not available. The existing information for making the estimates is incomplete. We understand that a program of quarterly reporting is under consideration in the Census Bureau. Such a program should be encouraged. It may also be noted that quarterly data would facilitate a more accurate statement of the calendar year totals of local government units. At present the reported receipts and expenditures of these governmental units are treated as occurring in the calendar year in which their fiscal periods end.

3. *Receipts.*—For the benchmark estimates a reporting of nontax receipts and certain taxes in greater detail would provide a more satisfactory basis for allocating them between persons and business firms. Quarterly reporting of government receipts would also be desirable.

XII. CONSTANT-DOLLAR GOVERNMENT PURCHASES

Information on the product breakdown of purchases and on the prices applicable to these breakdowns is deficient. The information on product breakdowns should be improved and the development of price indexes applicable to government should be considered, at least in such critical areas as defense purchases where the construction of quantity and price index numbers is especially difficult.

XIII. WAGES AND SALARIES

1. *Individual industry estimates of wages and salaries.*—Our basic estimates of wages and salaries in most private industries come from reports of total payrolls covered by the unemployment insurance program. To the reported amounts we apply "small firm raising ratios," which raise the figures to include payrolls of firms too small to be included in the unemployment insurance program. It would be desirable to have up-to-date small firm raising ratios. Those we are using are based on an old-age and survivors' insurance study of the first quarter of 1951. We can also specify improvements in the data we obtain on payrolls of employees excluded from, or only partially covered by, social-security programs. This applies especially to domestic, nonprofit institutions, military, and State and local government payrolls.

2. *Control total for wages and salaries.*—We adjust the sum of the original industry estimates to a control total. Our present method of combining old-age and survivors' insurance and unemployment insurance data into a control total has been weakened since the two systems have become noncomparable as to taxable wage base and industry coverage. It is conceivable that a satisfactory control total might be obtained by adding up the employers' copies of income tax withholding slips. It is important that the National Income Division be consulted in the formulation of any plans for the tabulation of these data.

3. *Bureau of Labor Statistics extrapolators.*—The Bureau of Labor Statistics payroll data used to extrapolate the benchmark estimates

have been highly accurate in general, but ways of strengthening them further should be explored.

XIV. SUPPLEMENTS TO WAGES AND SALARIES

1. *Internal Revenue Service benchmarks.*—A speedup of Internal Revenue Service data would improve our benchmark estimates for employer contributions to private pension plans.

2. *Private pension and related plans.*—Data are needed on the large and growing area of employer contributions to private pension, health and welfare, group insurance, and supplementary unemployment benefit plans. Proper benchmark information is lacking for some components, and the data available for making current estimates are generally poor. In addition, there is some risk of duplication when, as is now the case, a wide variety of source information is used to derive an estimate for a closely related group of items. The possibility of a unified approach to the estimation of these items on the basis of information that might be obtained either from tax returns or from a special survey should be explored.

XV. INCOME OF UNINCORPORATED ENTERPRISE [1]

1. *Benchmark estimates.*—The Internal Revenue Service furnishes us periodically with detailed tabulations relating to sole proprietorships and partnerships. This flow of information should be regularized and should cover both forms of legal organization for identical years. Inasmuch as census material is used also in deriving the benchmark estimates, the requirement for a regular, integrated census program, voiced earlier in this memorandum in connection with the consumption and investment series, holds for the income of unincorporated enterprise also.

2. *Speedup of Internal Revenue Service data.*—Some form of speedup of the Internal Revenue Service data is essential. The program for a special tabulation of Business Indicator Series from the income tax returns, which is now being proposed, would meet our requirements. (If this program does not materialize, the possibility of mining further the old-age and survivors' insurance data on the incomes of self-employed should be explored.)

3. *Current information.*—Even given the speedup of the Internal Revenue Service data that is feasible, we would be short of current quarterly and annual information. A sample survey of unincorporated business should be seriously considered to fill this gap.

4. *Internal Revenue Service audit control program.*—The audit control program of the Internal Revenue Service should be extended to partnerships and periodic surveys of both forms of legal organization should be made. There is also some scope for making the information collected somewhat better adapted to the needs of national income measurement.

XVI. RENTAL INCOME OF PERSONS

1. *Special Internal Revenue Service tabulations of cash rents.*—The cash component of the series could be made substantially more reliable

[1] The estimates of the net income of farm proprietors which in the main are prepared by the Department of Agriculture are not considered in this memorandum. We may note that a speedup in the monthly series on cash marketings would permit a corresponding advance in the release date of our personal income series.

if certain special tabulations could be obtained from individual income-tax-return rent schedules. The figures for nonfarm cash net rents and net royalties are derived by indirect estimation of the corresponding gross receipts and expense deductions. Internal Revenue Service tabulation of such gross receipts classified by property type, and of receipts and expense items shown on complete rent schedules (i. e., schedules with both tax and depreciation entries) for each type, would provide a much better basis for estimating these series.

2. *Imputed rents.*—Gross imputed space rental value is now estimated from rental rate averages derived from the 1940 census and moved by reference to the Consumer Price Index rent index. The remoteness of the benchmark is particularly unfortunate in this case because since the early 1940's the rental market and, hence, the rent index have centered increasingly on multifamily housing, supply-demand conditions for which have clearly differed from those for owner-type dwellings. To correct the resultant weakness in the estimates, we need a new benchmark, such as might be derived now by inference from Bureau of Labor Statistics data on rented one-family units sampled in recent years for the Consumer Price Index, and later, from direct information on the rental value of owner-occupied units to be obtained in connection with the 1960 census. A subindex of the Consumer Price Index representing the nationwide movement of rental rates for one-family houses would also be needed to interpolate and extrapolate the benchmarks for the imputed rental estimates.

The data gaps in the current information on the housing inventory and on repair and maintenance outlays are also of considerable importance. Our knowledge of these items is materially strengthened, though far too seldom, by special surveys made in connection with the monthly report on the labor force sample. In addition, well-designed consumer expenditure surveys are helpful for deriving benchmarks also for various other expense items. Regular data on conversions and demolitions to complement the Bureau of Labor Statistics series on housing starts would be extremely valuable, not only for us but also for housing market analysis. (It may be noted that some of this information might be obtained in connection with the expansion in the research program of the Housing and Home Finance Agency that is now being formulated.)

3. *Other improvements.*—More frequent tabulation of the Internal Revenue Service proprietorship data, already mentioned in connection with the entrepreneurial income estimates, would improve the rental estimates also. Data to permit an allocation of property taxes among residential and other types of real property, which might be obtained in connection with the next census of State and local governments, would also be helpful.

XVII. CORPORATE PROFITS AND DIVIDENDS

1. *Speedup of Internal Revenue Service data.*—The earlier noted Business Indicator tabulations would meet our requirements.

2. *Audit control program.*—A systematic audit control program analogous to that for individual income-tax returns should be developed.

3. *Speedup of Securities Exchange Commission—Federal Trade Commission data for manufacturing.*—It would be desirable to obtain

a speedup of these data so that they are available for inclusion in the current quarterly estimates of the national income and product accounts.

4. *Extension of sample surveys to nonmanufacturing.*—Comprehensive current quarterly coverage of nonmanufacturing would be desirable, but trade and construction are probably the two industries on which information is most urgently needed.

5. *Firm versus establishment classification.*—Corporate profit estimates are classified industrially on the basis of the firm. This results in noncomparability with other income shares which are classified on an establishment basis. As a practical matter the distortion is seriously disturbing in the comparison of corporate payrolls and profits in a limited number of industries. Special tabulations now being prepared by the Census Bureau may provide a basis for making selective adjustments, or at least suggest what additional data necessary for this purpose might be made available.

XVIII. INTEREST

1. *Internal Revenue Service benchmarks and speedup.*—The most urgent needs from the standpoint of improving the interest estimates more frequent tabulations for sole proprietorships and partnerships and earlier availability of the Internal Revenue Service tabulations, particularly for corporations. It may be noted that the present plans for the Business Indicator series will not help us because interest items are not included.

2. *Other information.*—The figures on consumer interest could be made significantly more reliable if there were available a representative sample series on interest rates currently being paid. Similar information on residential mortgage interest rates is also needed. The Bureau of Labor Statistics has some interest in such series, in connection with the Consumer Price Index index.

APPENDIX F

PERSONNEL AND APPROPRIATIONS FOR WORK OF NATIONAL INCOME DIVISION, OFFICE OF BUSINESS ECONOMICS, UNITED STATES DEPARTMENT OF COMMERCE

TABLE F–1.—*Personnel and expenditures of National Income Division*

Fiscal year	Personnel				Salaries and expenses
	Average number	Year-end	Professional	Clerical	
1951	48.0	47	32	15	$241,440
1952	44.0	44	30	14	253,665
1953	42.8	45	31	14	243,050
1954	36.1	38	26	12	229,000
1955	34.0	40	27	13	211,425
1956	38.0	37	24	13	237,173
1957 [1]	39.0	35	22	13	242,835

[1] Personnel figures are estimated as of June 30, 1957.

APPENDIX G

PRELIMINARY NATIONAL BALANCE SHEET, 1955, BY RAYMOND W. GOLDSMITH

(Reproduced from 37th annual report of National Bureau of Economic Research, Inc.)

TABLE 2.—*Preliminary national balance sheet, 1955*

[Current value; billion of dollars]

	Nation (1)	Consumers [1] (2)	Farm business (3)	Nonfarm noncorporate business [2] (4)	Financial intermediaries [3] (5)	Other corporate business (6)	Federal Government [4] (7)	State and local governments (8)
Tangible assets: [5]								
Residential structures	343	280	17	15	1	25	1	4
Nonresidential structures	321	20	16	20	3	140	31	91
Land [6]	225	59	69	11	1	48	11	26
Producer durables	160	1	18	22	1	114	1	4
Consumer durables	144	144	(7)	(7)	(7)	(7)	(7)	(7)
Inventories	111	(7)	17	17	(8)	69	7	(8)
Monetary metals	26	1	(8)	(8)	(8)	(8)	24	(8)
Total	1,329	506	137	86	5	396	75	124
Intangible assets:								
Currency and deposits in other financial institutions	311	158	7	18	76	32	8	13
Life-insurance reserves [9]	80	80	(7)	(7)	(7)	(7)	(7)	(7)
Pension and retirement funds, private (noninsured)	15	15	(7)	(7)	(7)	(7)	(7)	(7)
Pension and retirement funds, Government [10]	58	58	(7)	(7)	(7)	(7)	(7)	(7)
Receivables from business	123	1	(8)	8	45	59	10	(7)
Receivables from households [11]	53	(7)	(7)	8	25	19	(7)	(7)
Mortgages	130	21	(7)	1	103	2	4	(7)
Securities, Federal	272	61	(7)	7	168	22	(7)	14
Securities, State and local	46	19	(7)	(12)	25	1	1	(7)
Securities, corporate bonds	69	16	(7)	(12)	54	(12)	(7)	(7)
Securities, corporate stock	405	321	(7)	1	28	56	(7)	(7)
Equity in col. 4 [13]	83	83	(7)	(7)	(7)	(7)	(7)	(7)
Miscellaneous assets	69	4	3	(12)	17	12	(14) 33	(12)
Total	1,713	836	10	42	540	203	56	27
Valuation difference [15]	32	(7)	(7)	(7)	(7)	32	(7)	(7)
Total assets	3,074	1,342	147	127	545	631	130	151
Liabilities:								
Currency and deposits	331	(7)	(7)	(7)	304	(7)	27	(7)
Life-insurance reserves	82	(7)	(7)	(7)	82	(7)	(7)	(7)
Pension and retirement funds [3]	73	(7)	(7)	(7)	73	(7)	(7)	(7)
Payables to banks	56	15	5	11	(8)	25	(7)	(7)
Other payables to business	87	29	2	2	2	49	2	(7)
Mortgages	130	82	9	23	(7)	17	(7)	(7)
Bonds and notes	397	(7)	(7)	(7)	2	70	279	4
Miscellaneous liabilities [16]	110	3	(12)	8	34	14 65	1	(12)
Total	1,265	128	16	44	498	226	309	46

See footnotes at end of table.

TABLE 2.—*Preliminary national balance sheet, 1955*—Continued

[Current value; billions of dollars]

	Nation (1)	Consumers (2)	Farm business (3)	Nonfarm noncorporate business [2] (4)	Financial intermediaries [3] (5)	Other corporate business (6)	Federal Government [4] (7)	State and local governments (8)
Equities:								
Unadjusted	1,777	1,214	132	83	48	373	−179	106
Valuation difference [15]	32	(7)	(7)	(7)	(7)	32	(7)	(7)
Total	1,809	1,214	132	83	48	405	−179	106
Total liabilities and equities	3,074	1,342	147	127	545	631	130	151

[1] Includes households (farm and nonfarm), nonprofit organizations, and personal trust funds.
[2] Includes all multifamily and commercial real estate owned by individuals.
[3] Includes Federal unemployment trust fund and Federal life insurance funds as well as pension and retirement funds (private and governmental).
[4] Consolidated basis. Includes Federal corporations and Treasury monetary funds. Military assets excluded.
[5] Excluding military assets.
[6] Includes subsoil assets and forests.
[7] Not applicable.
[8] Less than $500 million.
[9] Net of policy loans.
[10] Includes Federal unemployment trust fund and Federal life-insurance funds as well as Government pension and retirement funds.
[11] Includes loans on securities.
[12] Not estimated, but presumed to be small.
[13] Equity in farm business has been excluded to preserve comparability with the balance sheets in A Study of Saving (vol. III), where farm households were included in the farm sector.
[14] Includes accrued corporate income taxes ($18 billion).
[15] Valuation difference on "securities, corporate stock;" i. e. market value ("securities, corporate stock," col. 1) less book value ("equities, unadjusted," col. 6).
[16] Includes borrowing on securities and accrued items.

NOTE.—Figures will not always add to totals because of rounding.