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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.<sup>17</sup>

#### *(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

<sup>17</sup> 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 in 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 generally 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.<sup>18</sup>

#### 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

<sup>18</sup> 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.

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;<sup>19</sup> 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.<sup>20</sup> 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.<sup>21</sup> 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.

<sup>19</sup> For discussion of the capital accounts for Government and consumers, see p. 144.

<sup>20</sup> 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).

<sup>21</sup> 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.<sup>22</sup> 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,<sup>23</sup> and more recently in the United Nations system of national income and product accounts.<sup>24</sup> 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.<sup>25</sup>

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<sup>26</sup> 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

<sup>22</sup> 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).

<sup>23</sup> 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).

<sup>24</sup> A System of National Accounts and Supporting Tables, United Nations, 1953.

<sup>25</sup> For discussion of the capital accounts for Government and consumers, see p. 144.

<sup>26</sup> 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-----	<u>364.8</u>
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-----	<u>381.2</u>
1.11	Minus imports (4.5)-----	16.4
	Gross national product-----	<u>364.8</u>

## 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.....		-18.4						\$18.4		
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.

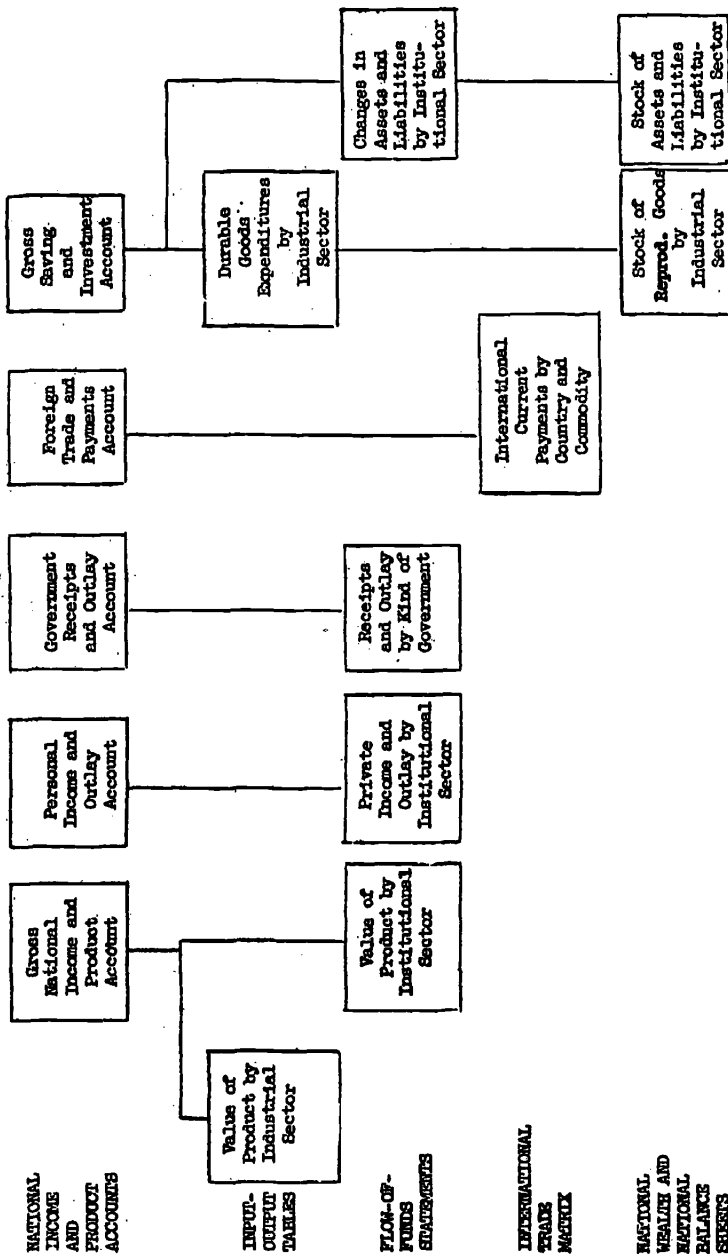
*(b) The relation of the other forms of national economic accounting to the national income and product accounts*

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 tell 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.<sup>27</sup> 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,

<sup>27</sup> 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  $mn(n-1) + 4(n-1)$ , 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*.<sup>28</sup>—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*.<sup>28</sup>—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.

<sup>28</sup> For discussion of the capital accounts for government and consumers, see p. 144.

(8) *Changes in assets and liabilities table by institutional sector.*<sup>28</sup>—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.<sup>29</sup> 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.*<sup>30</sup>—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.....	-----

<sup>28</sup> See footnote 28 on p. 152.

<sup>29</sup> Cf. discussion of flow-of-funds statement in ch. XIII.

<sup>30</sup> 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 <sup>1</sup>	-----	-----
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 manufacturing	-----	-----
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	-----	-----

<sup>1</sup> 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.....	-----
<b>Total receipts.....</b>	<b>-----</b>

## 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.....	-----
<b>Total changes in assets.....</b>	<b>-----</b>
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.....	-----
<b>Total changes in liabilities and surplus.....</b>	<b>-----</b>

## 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.....	-----
<b>Total assets.....</b>	<b>-----</b>
9. Notes and accounts payable.....	-----
10. Mortgages.....	-----
11. Bonds.....	-----
12. Other liabilities.....	-----
13. Current income retained.....	-----
14. Realized capital gains.....	-----
15. Unrealized capital gains.....	-----
<b>Total liabilities and surplus.....</b>	<b>-----</b>

## (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 that 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.

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 <sup>31</sup>

## 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

<sup>31</sup> 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.