PART II

The Conceptual Framework of National Income Statistics

NATURE AND SIGNIFICANCE OF NATIONAL INCOME STATISTICS

Purpose of national income statistics

In the past two decades, particularly the latter, national income statistics have undergone a basic transformation. This is manifest in the considerably broadened scope of the field.

The traditional purpose of national income research is to provide information on the outcome of economic activity through comprehensive measures of the size, composition, and use of national output. In the more recent period, the measurement of national output has continued to be the basic aim. But, with the growing realization that they can furnish a statistical picture of the economic structure and process, national income statistics have been used also to an increasing extent to facilitate an understanding of the factors which determine the outcome of economic activity. Much more fully and systematically than in the past, national income statistics have been designed with the dual objective of measuring the national output and placing it against the background of the transactions which underlie its production and distribution.

The national income statistics for the United States contained in this report are constructed according to this broader plan. They are therefore a comprehensive single source of integrated information on the Nation's economic life.

Uses of national income statistics

Because they reduce the voluminous detail of economic activity to intelligible proportions, national income statistics have become widely used as the factual background for economic analysis and the preparation of economic programs. They provide the basic statistical framework required for the study of long-term economic trends and of business fluctuations, and for the formulation of business and government economic policies. Needless to say, the statistics do not throw light on all aspects of the economy, and often must be supplemented by other bodies of economic information.

Two broad, practical uses of national income data may be cited. These data are needed, in the first place, when the automatic working of the market mechanism cannot be fully relied upon and steps must be taken to modify its functioning. The mitigation of business cycles in times of peace and the current planning for national defense are important instances in which an understanding of the economic mechanism, such as is facilitated by the use of national income statistics, is the prerequisite to intelligent action designed to improve its operation.

Secondly, even when active influencing of economic events is not the aim, it is desirable to have some knowledge of these events so that the best possible adjustments to them can be made. For example, the businessman wants to gauge the probable market for his output so as to obtain a more rational basis for determining his policies; and the tax administrator must estimate what governmental revenues are likely to be so that intelligent decisions can be made about matters relating to the expenditure and revenue policies of the various levels of government.

Whether for the purpose of exerting active influence on economic events or for passive adaptation to them, national income statistics are the most important single tool for orientation in the economic world. They do not, of course, furnish direct answers to the economic problems involving their use, but they do provide the relevant, and often indispensable, statistical background for arriving at intelligent solutions. This statistical background consists of a quantitative description of the structure of the economy over a period of years. The framework of this description is a national economic accounting system which summarizes the transactions linking the economic units whose interplay determines the functioning of the economy.

Economic accounting system

The production and distribution of the Nation's output necessitate countless transactions of buying and selling, hiring labor, investing capital, renting property, paying taxes, and other operations inherent in the functioning of the economic system. The records of these transactions kept by the business, consumer, and governmental units participating in them obviously are highly relevant for obtaining a statistical view of the economy because they reflect the most concrete manifestations of the Nation's economic life. However, these innumerable records must be summarized into a limited number of significant categories if a comprehensible and useful description of the economic process is to emerge. This is the basic task of the national economic accounting system.

The plan of the accounting system underlying the United States estimates is based upon a division of the economy into four major sectors—business, consumers, government, and foreign. The economic behavior and motivation of these four sectors is quite different; to distinguish among them appears necessary for an understanding of the economy in terms of the interactions of its constituent parts.

In the construction of the economic accounting system, a national income and product account is first established. This account provides measures of total national output, which is the sum of the outputs produced by the four sectors of the economy.

Next, accounts are set up for the sectors. In addition to showing the portions of national output originating in each of them, they are designed to depict the economic structure in terms of the interrelated transactions of the four major economic groups.

Specifically, four current accounts are shown, one each for business, consumers, government, and the rest of the world. These trace the transactions determining the current income of each of the sectors, and what part of that income is used up and what part is devoted to saving. The sector account for business is in essence a consolidated profit and loss account for the business system as a whole. For the other sectors, the accounts represent current receipt and expenditure accounts, in conformity with the nonprofit-making character of their transactions.
Most of the current transactions that appear in the account of one sector are matched by corresponding entries in another. However, this is not so with respect to the items of saving or investment. With these, the corresponding entry is found in the capital or gross saving and investment account, which shows on a consolidated basis the saving and investment for the economy as a whole. This is the sixth account in the national economic accounting system.

**Main advantage of accounting approach**

The principal advantage of formulating and presenting national income statistics as a system of accounts has been intimated in the preceding discussion. Such a system yields a set of interrelated tables which are a tremendous aid in revealing the structure of the economy and thereby contribute toward a better understanding of its functioning. Two aspects of the analytical value of the accounting system may be considered.

It throws into clear relief the nature of accounting relations that must always hold true among the component transactions summarized. The sense in which saving and investment are necessarily equal is a prime example of such a relationship. The establishment of an economic accounting system displaying this and other accounting relationships has been an aid to simplicity and clarity in economic discussions.

Also, light has been thrown on the relative magnitudes of the component flows of the economic process, and the study of the functional relationships among them has been facilitated. In contrast to the accounting relationships, which are a matter of definition and must always hold, these functional relationships are regularities that hold by and large as a matter of economic experience, but which can and have given rise to technological, institutional, and psychological changes. Measurement and study of these relationships—such as those between consumption and disposable income and between wages and profits—are essential for an understanding of the working of the economy. However, because they cannot be counted upon to hold without fail, these relationships must be the object of continuing investigation.

**Technical uses of economic accounting system**

The establishment of a system of national economic accounts has benefited also the producers of national income data. It has aided their work in both its theoretical and statistical phases.

With respect to the former, it must first be recognized that national economic accounting has been of some aid in improving the definition of national output. It is true that no genuinely new criteria for solving definitional problems have been provided, and also that many definitions of national output are compatible with the principles on which the system is based. Yet, it has helped the discussion in several ways.

A great deal of the discussion of definitions was obscured by the failure to distinguish clearly between the income and product measurements of output and by the lack of a clear grasp of the relation between them. The development of national income statistics in an economic accounting framework has made for clarity. Some of the larger issues involved in the definition of output were brought into better focus, and a powerful tool was provided for the consistent treatment of financial intermediaries, nonprofit institutions, imputed income and product, and similar problem areas in the formulation of national income concepts.

Economic accounting has contributed to problems of definition also by depriving them of some of their importance. In substantial part, these problems revolve around the question of whether or not certain items—such as government interest, business taxes, transfer payments, and subsidies—should be included in the aggregate measures of national output. Prior to the establishment of the system of accounts, the decision to omit such items from total output meant that their record, insofar as national income statistics were concerned, was lost. Since the items are germane to economic investigations in which national income data are used, there often was reluctance to exclude them, even though this may have been indicated from the standpoint of measuring output. With the presentation of national income statistics in the form of a complete statistical picture, the record of transactions excluded from the principal aggregates is no longer lost. The problem of defining output can be faced squarely on its own merit.

Moreover, to the extent that fully satisfactory solutions to definitional problems cannot be found, the economic accounting system has made it easier to live with them. Many of the controversial items (irrespective of whether defined as part of the output aggregates) are shown separately in the account tables, and alternative measures of output can be constructed depending on particular needs and preferences.

In two general ways, the accounting approach is an aid to the statistical aspect of national income work. To begin with, it is of considerable help in defining the task of statistical data collection. Once the particular accounting framework providing the most useful summary of the economic structure has been decided upon, a comprehensive list of requirements for economic statistics emerges rather automatically. A list obtained in this way provides a useful guide for planning the collection of primary statistical data so as to yield the information most relevant to economic analysis.

The use of the accounting approach also facilitates the estimation of the various national income aggregates and their components from the available statistical material. It does this by making clear that many items of information can be obtained from the records of either the buyer or the seller, and hence affords flexibility in adapting estimating methods to available information.

In addition, this approach enables one to check every account for internal consistency by comparing the debit and credit totals as well as the relations among the various debit and credit entries. It also enables one to derive as residuals components of the national economic accounts which cannot be estimated directly from available data.

**Improvements of the accounting system**

In the derivation of the definitions and classifications used in the national economic accounting system, an attempt is made to set forth the distinctions that are most meaningful from the standpoint of economic analysis, taking account of the limitations imposed by the nature of the accounting data available for the four major economic groups. Fortunately, there is a great deal of parallelism between the requirements of economic analysis and those of the accounting systems used by business and other economic units. Over wide areas no conflict arises from the fact that economic questions have to be answered by reference to measures constructed from such accounting data. On the contrary, a major advantage of the system of national economic accounts is that it summarizes the actual transactions of economic units as reflected in their own accounting records.
However, some of the most difficult problems of national income estimation arise when the definitions underlying these records do not yield the type of information demanded by economic analysis. National income work is continually concerned with the modification of the basic accounting data in order to improve their economic significance. Often these data can be adjusted to meet the requirements of economic analysis, but when the transition cannot be accomplished supplementary information must be introduced to complete the picture.

Comprehensive national economic accounting is a recent development the potentialities of which have not yet been fully realized. The set of accounts presented in this report should not be regarded as the definitive system. Apart from possible improvements in the formal design of the accounts, several elaborations of the present system would be desirable.

For instance, only four major economic groups are distinguished, whereas, in view of their heterogeneity, further breakdowns would be useful for many types of analysis. Also, saving and investment accounts for each of the four major sectors would constitute an important supplement to the consolidated account for the economy as a whole. The construction of balance sheet accounts, showing the structure of the assets and liabilities of the various sectors, likewise would expand the scope and usefulness of the national economic accounting system.

It is to be emphasized, however, that further expansion of the national accounts must be made with due regard to the flow of statistical information (which would constitute a generally limiting factor) and to the danger of an over-elaboration that might add unduly to their complexity and not proportionately to their value.

Coordinate in importance to further work on the conceptual framework, articulation, and coverage of the economic accounting system is the improvement of its statistical reliability. For the entries in the national economic accounts represent estimates which are subject to error. The problem of statistical reliability is discussed in Part III of this report.

The detailed statistics

In the preceding discussion the main emphasis was on the summary aspects of the economic accounting system underlying United States national income statistics. However, sight should not be lost of the wealth of statistical information that now exists to elaborate and supplement various aspects of this accounting system. For in many uses of the data it is specifically this information which is of primary interest and value.

Attention may be drawn first to the many statistical tables in Part V of this report, of which the six national account tables briefly described above are but highly condensed summaries. These detailed tables present further information on the breakdowns of the income flow by type of income and legal form of organization and of the product flow by type of product. Also given are breakdowns of national income and its constituent distributive shares by industry of origin.

Secondly, the conversion of gross national product and its components into constant dollars, which is presented in Part IV, represents an important addition to the current dollar series in terms of which the complete accounting system is stated. Prior to its completion and release in early 1951, this physical volume measure of national production was perhaps the top requirement for further elaboration and supplementation of the system of accounts.

Thirdly, the annual estimates of State income payments, not included in this report, present considerable information on the income flows of the various States and may be regarded as the elaboration in a regional dimension of the depiction of the economic structure. Of a similar nature, as also involving further articulation of the consumer sector, are the estimates of the size distribution of income now in preparation in the National Income Division.

Plan of the following discussion

In the following pages of this Part of the report, the conceptual framework of the United States national income statistics is explained in greater detail. Since the measurement of output totals is the prime objective of national income statistics and, moreover, is largely independent of the full-fledged economic accounting system depicting the economic structure, the derivation of these totals is first explained, in a summary manner. Next, the structure of the complete accounting system is developed. In the course of this discussion, the more detailed aspects of the definitions of the output totals are also covered. A final section provides, for convenient summarization, a series of definitions to which the national income and product aggregates and their components conform.

SUMMARY CONSTRUCTION OF NATIONAL OUTPUT MEASURES

In this section the basic notions underlying national income and product are stated; the derivation of these measures in terms of their conceptual content is explained; and the adequacy of definition of the resulting aggregates is examined.

Basic Notions Underlying National Output Measurement

Economic production

In the definition of a measure of national output, the first task is to delimit economic production from the pursuit of other activities that resemble it in that they involve the use of human effort and other resources and are useful. For instance, the production of radio sets has its counterpart in the hobbies of the radio amateur; commercial shaves are akin to self-administered ones, and the educational services of teachers often are supplemented by those of parents. In spite of resemblances, a distinction must be drawn between economic production and non-economic pursuits. For a measure of national output must, broadly speaking, be confined to the former; it cannot, in any systematic way, take account of activities outside the economic sphere.

In the present report, the basic criterion used for distinguishing an activity as economic production is whether it is reflected in the sales and purchase transactions of the market economy. The exclusion of illegal transactions is a tradition-based convention which is an exception to this general rule.

Product and income flows

A fundamental distinction relevant to the measurement of economic production so delimited is suggested by observation of the operations of a typical business firm. On the one hand, such a firm produces and sells a flow of product values. On the other hand, it pays out (or retains) incomes that accrue in the course of its operations. This double aspect of the activities of the single business firm suggests that the measurement of national output can be approached in a two-fold manner, either by summing product values or...
The VALUE of the
GROSS NATIONAL PRODUCT IN 1950 AT $283 Billion

COVERS

\{ $21 \text{ Billion of Capital Consumption Allowances and } $24 \text{ Billion of Indirect Business Taxes} \}

WHICH ARE THE MAIN ITEMS DEDUCTED TO ARRIVE AT THE

NATIONAL INCOME OF $239 Billion

\{ Retained Corporate Earnings, Corporate Income Taxes and Contributions for Social Insurance Totaling $34 Billion. \}

MINUS

PLUS (+)

Transfer Payments and Government Interest of $20 Billion

EQUALS THE

PERSONAL INCOME OF $225 Billion
by summing income flows. It will be seen that the measure of national output in terms of product flows which is obtained by pursuing this approach is the gross national product and that the corresponding measure in terms of income flows is the national income.

**Final and intermediate products**

In the measurement of national output via product flows, a further distinction, between “final" and "intermediate" products, must be made. A nonduplicative total is desired, one that is confined to the value of the final, or end, products of the economy and excludes all others, labelled intermediate. To use a simple example, if the production process during a year involves the production of wheat, its milling into flour, and the baking of bread which is sold to consumers, then the value of national output should equal the full value of the bread and should not count also the separate values of the wheat and flour which have been used up in the course of producing it. This result is obtained by counting only the value of the bread, as the end product, and ignoring the other product values.

A distinction between final and intermediate products cannot be drawn on the basis of the technical characteristics of the output involved. In the above example, for instance, flour is an intermediate product. If, however, the flour is sold not to bakers, but directly to housewives for home baking, it becomes the final product of the economy, even though in a technical sense it is not fully fabricated.

However, an effective criterion for distinguishing between final and intermediate products can be established by reference to business practices followed in the production of goods and services. There emerges a working definition of final product as a purchase that is not resold, and of intermediate product as one that is resold. A more technical, but sometimes more convenient, phrasing of the same idea is that a final product is a purchase that is not charged to current cost whereas an intermediate product is one that is so charged. The phrase “during the accounting period” is sometimes appended to these formulations so as to make them more exact.

**Imputations**

In the measures of national output shown in this report, the foregoing criteria are the basic tools for distinguishing economic production from non-economic pursuits and the part of economic production which is final from that which is intermediate. However, modifications in the definitions are made in certain instances to enhance the significance of the measurements.

The most important of these modifications concern the inclusion in national output of the so-called “imputations,” or items of production and income “in kind.” For instance, food furnished to employees would not become part of the national output if the initial definition were rigidly followed. It would be an intermediate product, since it is an element of the current cost charges of the employer furnishing the food. However, it seems desirable to count it as part of national production, if only to secure uniformity of treatment with respect to employees who buy food out of the correspondingly higher money wages given them. Other imputations that are made in measuring national output are for the value of food produced and consumed on farms, the rental value of owner-occupied houses, and for nonmonetary income and product flows arising in connection with financial intermediaries.

**Charges against final product**

In this report, the product measure of national output is derived by adding the values of final products and omitting intermediate products, as in the bread and flour example. It is termed the gross national product. However, the same total could be obtained also by adding in the first instance the total product (final and intermediate) of each producing unit and then deducting for each the intermediate product it bought from other units. For the economy as a whole, purchases and sales of intermediate products would cancel, and what would remain would be the value of final products.

The total value of final products can thus be broken down into elements consisting of the total product of each producing unit less its purchases of intermediate products. However, for each producing unit the difference between the value of its product and its intermediate purchases consists of the incomes that accrue in the course of production (wages and salaries, interest, profits, etc.) plus certain “non-income” charges against the value of its production, the most important of which are taxes (such as property, excise, and sales taxes) and depreciation charges for the wear and tear and obsolescence of fixed capital.

Thus, since (1) the value of the final product of the economy equals the sum of the total product of each producing entity less its purchases of intermediate products, and (2) for each producing entity, product less intermediate purchases equals income plus non-income charges against the value of production, it follows that (3) for the economy as a whole the total value of final product equals the sum of incomes accruing in production plus non-income charges against the value of production.

**Factor incomes and other charges**

A measure of national output in terms of total charges against the value of gross national product, and therefore numerically equivalent to it, can thus be obtained. However, this is not the income flow measure generally used. The common measure, national income, is derived by emphasizing the distinction, which has already been emerging, between two types of charges against the value of final product: factor costs and other costs.

Briefly, the sum of employee compensation, interest, and business incomes is considered to represent the remuneration of factors of production. In national income terminology, their aggregate measures the total factor cost incurred in producing the output of the Nation. By contrast, no factor incomes correspond to the other charges against gross national product. Indirect business taxes do not form the cost or income of any factor in production. Depreciation and kindred charges reflect allowances for the consumption of fixed capital, and not its net income or return. Thus, a further total is distinguished—the national income—which represents the sum of factor incomes or factor costs. This is the income measure of national output most widely used.

Two other magnitudes can be derived by recombing the components so far discussed. Net national product may be obtained as gross national product less depreciation and kindred allowances for the consumption of fixed capital. A corresponding measure of total charges against net national product may also be obtained by deducting these allowances from total charges against gross national product. These two aggregates are in a theoretical sense more clearly defined than the corresponding measures of gross national output, since some duplication is involved by the inclusion in the latter of the production of fixed capital which serves merely for replacement purposes. However, as a practical
matter, a meaningful measure of net capital formation, and hence of net national product, cannot be calculated since depreciation charges are not available on a basis of valuation comparable to that of the gross production of fixed capital.

**Personal and disposable income**

Another aggregate, **personal income**, measures the actual current income receipts of persons from all sources. It differs from the national income in that it excludes certain types of income which accrue in production but are not received by persons (for instance, the undistributed part of corporate profits) and, on the other hand, includes certain types of income which do not arise in current productive activity but constitute personal receipts (such as relief and unemployment benefits). Hence personal income, unlike the national product and national income aggregates, is not a measure of national production. Since the bulk of personal income is derived from production, however, it can in ordinary circumstances be used as an indicator of productive activity and has, in fact, gained prominence in this use as the only comprehensive income or product total available on a monthly basis. Personal income net of taxes—**disposable personal income**—is another useful aggregate, being the closest over-all statistical approximation to consumer purchasing power derived from current incomes.

**National Income and Product Account**

The foregoing basic notions underlying national output measurement are incorporated in the National Income and Product Account shown in table I, which presents for 1939 the several alternative measures of United States output.

The right side of this account shows the gross national product as the sum of final product flows. The summary listing includes personal consumption expenditures, gross private domestic investment (consisting of new construction, purchases of producers' durable equipment, and the change in business inventories), net foreign investment (reflecting, in general, net purchases from abroad), and government purchases of goods and services. These components represent purchases of the four major sectors into which the economy has been divided and conform to the operational definition of final products as purchases not resold during the accounting period. However, certain modifications in this definition, especially with respect to imputed income and product, have been made in deriving the national income and national product measures.

On the left side of the account are listed the charges against the value of gross national product. In principle, the sum of these charges should numerically equal the value of gross national product. However, because of statistical estimating errors, the nature of which is discussed in Part III, this is not actually the case. To secure balance, an item termed “statistical discrepancy” is entered on the left side of the account.

Total charges are broken down into factor costs and other charges. The former, consisting of employee compensation, net interest, and the various types of business incomes, corporate and noncorporate, are added to obtain the national income. The other charges against the value of gross national product are arranged so as to permit a further subtotal of charges against net national product.

**Coverage of National Income and Product Account**

The economy covered by this account, and hence by the various income and product aggregates, is the continental United States. Thus it does not coincide with the customs area of the Nation since territories and possessions are excluded. Also, it is important to note, the account measures the income and product attributable to factors of production supplied by residents of the country, rather than the income and product of factors physically located in the country.

Not only individuals who contribute their labor and property to the productive process, but nonprofit institutions

---

Table I—National Income and Product Account, 1939

<table>
<thead>
<tr>
<th>Item</th>
<th>[Millions of dollars]</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Compensation of employees:</td>
</tr>
<tr>
<td>2</td>
<td>Wages and salaries</td>
</tr>
<tr>
<td>3</td>
<td>Supplements</td>
</tr>
<tr>
<td>4</td>
<td>Income of unincorporated enterprises and inventory valuation adjustment</td>
</tr>
<tr>
<td>5</td>
<td>Rental income of persons</td>
</tr>
<tr>
<td>6</td>
<td>Corporate profits and inventory valuation adjustment:</td>
</tr>
<tr>
<td>7</td>
<td>Corporate profits before tax:</td>
</tr>
<tr>
<td>8</td>
<td>Corporate profits after tax:</td>
</tr>
<tr>
<td>9</td>
<td>Dividends</td>
</tr>
<tr>
<td>10</td>
<td>Undistributed profits</td>
</tr>
<tr>
<td>11</td>
<td>Inventory valuation adjustment</td>
</tr>
<tr>
<td>12</td>
<td>National income</td>
</tr>
<tr>
<td>13</td>
<td>Indirect business tax and non-tax liability</td>
</tr>
<tr>
<td>14</td>
<td>Business transfer payments</td>
</tr>
<tr>
<td>15</td>
<td>Statistical discrepancy</td>
</tr>
<tr>
<td>16</td>
<td>Less: Subsidies minus current surplus of government enterprises</td>
</tr>
<tr>
<td>17</td>
<td>Charges against net national product</td>
</tr>
<tr>
<td>18</td>
<td>Capital consumption allowances</td>
</tr>
<tr>
<td>19</td>
<td>CHARGES AGAINST GROSS NATIONAL PRODUCT...</td>
</tr>
</tbody>
</table>
and governmental bodies supplying capital resources are viewed as residents supplying factors of production. Corporate enterprises, as such, are not considered residents in this connection since corporate income is viewed as accruing ultimately to the holders of their securities.

Anatomy of the Output Totals

The foregoing discussion has attempted to give a general notion of the major concepts underlying the measurement of national output and of the nature and relation of the major alternative output measures. However, it has passed over much that is essential to a precise understanding of the output concepts.

National income and national product are comprehensive measures of total national output. They include not only business production, but also production contributed by the nonbusiness sectors of the economy—households and institutions, government, and the rest of the world. Measurement of output in each of these sectors is subject to special problems of its own. The principles underlying the measurement of production in the various sectors are next explained. The sector measurements based on these principles are then added to obtain the national income and product totals shown in Table I. 

 Measurement of business output

The bulk of national output originates in the business system, and the framework adopted for the measurement of business output sets a pattern for the whole. In deriving national output as the summation of the outputs originating in the several sectors of the economy, it is therefore convenient to start with the business sector.

The Consolidated Business Income and Product Account, presented in Table II, shows the portion of national output originating in the business system. Business output is measured in terms of the concepts underlying the major income and product aggregates covered in Table I and discussed in connection with it.

The right (or credit) side of the account shows the market value of the consolidated production of the business system. On the left side of the account appear the charges against this production. The two column totals are equal in principle, for reasons which have been stated in broad terms.

The nature of the equality can be understood in an alternative, and perhaps more precise manner, if it is realized that the business income and product account is similar to a profit and loss account for the business system. On the left side of the account appear the charges against this production. The two column totals are equal in principle, for reasons which have been stated in broad terms.

The two sides of such an account must always balance because profits are derived as the residual of sales and costs. However, for statistical reasons equality is not achieved in practice, and in the estimates embodied in Table II the "statistical discrepancy" is entered on the debit side as a reconciliation item.

<table>
<thead>
<tr>
<th>Table II.—Consolidated Business Income and Product Account, 1939</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>[Millions of dollars]</strong></td>
</tr>
<tr>
<td>1 Compensations of employees:</td>
</tr>
<tr>
<td>2 Wages and salaries:</td>
</tr>
<tr>
<td>3 Disbursements:</td>
</tr>
<tr>
<td>4 Excess of accrued over disbursements:</td>
</tr>
<tr>
<td>5 Supplements:</td>
</tr>
<tr>
<td>6 Employer contributions for social insurance:</td>
</tr>
<tr>
<td>7 Other labor income:</td>
</tr>
<tr>
<td>8 Income of unincorporated enterprises and inventory valuation adjustment:</td>
</tr>
<tr>
<td>9 Rental income of persons:</td>
</tr>
<tr>
<td>10 Corporate profits and inventory valuation adjustment:</td>
</tr>
<tr>
<td>11 Corporate profits before tax:</td>
</tr>
<tr>
<td>12 Corporate profits before tax:</td>
</tr>
<tr>
<td>13 Corporate profits before tax:</td>
</tr>
<tr>
<td>14 Dividends:</td>
</tr>
<tr>
<td>15 Undistributed profits:</td>
</tr>
<tr>
<td>16 Inventory valuation adjustment:</td>
</tr>
<tr>
<td>17 Net interest:</td>
</tr>
<tr>
<td>18 Income originating:</td>
</tr>
<tr>
<td>19 Indirect business tax and nontax liability:</td>
</tr>
<tr>
<td>20 Business transfer payments:</td>
</tr>
<tr>
<td>21 Statistical discrepancy:</td>
</tr>
<tr>
<td>22 Less: Subsidies minus current surplus of government enterprises:</td>
</tr>
<tr>
<td>23 Charges against net product:</td>
</tr>
<tr>
<td>24 Capital consumption allowances:</td>
</tr>
<tr>
<td>25 CHARGES AGAINST BUSINESS GROSS PRODUCT:</td>
</tr>
<tr>
<td>26 Consolidated net sales:</td>
</tr>
<tr>
<td>27 To persons:</td>
</tr>
<tr>
<td>28 To government:</td>
</tr>
<tr>
<td>29 To abroad:</td>
</tr>
<tr>
<td>30 To business on capital account:</td>
</tr>
<tr>
<td>31 Change in inventories:</td>
</tr>
</tbody>
</table>

The nature of the equality can be understood in an alternative, and perhaps more precise manner, if it is realized that the business income and product account is similar to a profit and loss account for the business system. On the left side of the account appear the charges against this production. The two column totals are equal in principle, for reasons which have been stated in broad terms.

The two sides of such an account must always balance because profits are derived as the residual of sales and costs. However, for statistical reasons equality is not achieved in practice, and in the estimates embodied in Table II the "statistical discrepancy" is entered on the debit side as a reconciliation item.
In addition to consolidation, certain other operations have been performed to transform the column totals of the profit and loss account into a measure of business output. Capital gains and losses have been eliminated as not reflecting the value of current production. Inventory change has been entered on the right side of the account to convert sales into a measure of production, and subsidies have been transferred to the left side as not being part of the market value of the products shown on the right side. Further, certain items have been netted, also with the aim of obtaining column totals that measure the contribution of the domestic business system to national output.

In the first place, imports, which in a consolidated statement of domestic business would appear on the left side of the account, have been transferred to the right side and netted against exports (under consolidated net sales to abroad). Imports must be deducted from the credit side since they reflect foreign production included in the value of the column totals prior to the deduction. The fact that, in table II, they are netted against the export item is merely a matter of convenience.

The second netting which is made in table II is in connection with property income flows. In a consolidated account not further adjusted, receipts of interest and dividends from other sectors would appear on the credit side and would be reflected correspondingly in the total of the charges entered on the debit side. Since receipts of interest and dividends from other sectors do not represent output of the business system, it is necessary to remove them from the credit side of the account and to net them against elements of factor income in order to make the sum of factor incomes on the debit side of the account reflect the factor cost of business output. In practice, interest received is netted against interest paid under the heading “net interest,” and dividends received are netted against dividends paid under the heading “dividends.” In these instances also, the particular matching adopted is essentially a matter of convenience.

The components of business production listed on the credit side of table II conform to the definition of final product specified in connection with table I. It may also be noted that the entries are very similar. Differences arise because table II is confined to business output, whereas table I provides a summary of national output which covers the nonbusiness sectors as well. Similar comments apply to the charges against the value of business product listed on the debit side of the account. Factor income charges differ from those in table I in magnitude only, because table I includes nonbusiness items. Nonfactor cost charges are identical, in magnitude as well as with respect to classification, because, as will be seen, these charges are confined to the business system.

**Treatment of taxes and subsidies**

Some of the most important decisions that must be made in defining business output have to do with the classification of charges against the value of business product between factor-cost and nonfactor-cost charges, and involve in particular the treatment of taxes and subsidies.

According to the definitions used in this report, employment taxes under the Social Security and related programs are included in the compensation of employees (the employers' share as a supplement to wages and salaries and the employees' share as a part of them). This is done on the ground that these taxes are an element of the cost of hiring labor and accordingly should be included in a measure of total factor costs. A supplementary argument is that social insurance contributions reflect a benefit received by the employee in the wage bargain which should be taken into account in calculating total employee compensation. It may be noted that alternative classifications of employment taxes underlie many other national income estimates and cannot be ruled out as erroneous.

Secondly, a distinction is made in this report between corporate profits taxes, which are considered as part of factor cost—corporate profits are measured before deduction of these taxes—and other (indirect) business taxes, which are considered nonfactor charges—business incomes are calculated net of them. This distinction is based upon the following reasoning.

Since national income is designed to measure output in terms of the costs or incomes of the factors of production, it should change only if either the volume of factor services or their unit remuneration changes, and not because of a mere change in tax rates. If it is assumed that corporation profits taxes are not shifted and indirect business taxes are generally not shifted forward, inclusion of corporate income taxes in national income and exclusion of indirect business taxes from it are clearly indicated, since on these assumptions mere changes in tax rates will not cause changes in an income total so defined.

The classification of business taxes in this report is dictated by the belief that the above assumptions about tax shifting are the most realistic summary ones that can be made. It may be noted, however, that the entire subject of tax shifting and incidence is a rather controversial one, and that definitive and final conclusions are not available. Moreover, the operational definition of indirect taxes is drawn in a rather summary fashion. All taxes that are chargeable as business expense (other than employment taxes) are classified as indirect business taxes. Thus certain taxes—business property taxes, for instance—are included in this group even though a detailed study of their proper treatment from the standpoint of tax shifting and incidence might call for a different classification.

The classification of taxes in the national income represents an instance in which an accounting distinction—whether a tax is chargeable to expense or not—is adopted as a basis for classification and yields, broadly speaking, satisfactory results. In instances in which it fails to do so and can be superseded by a superior distinction—as in the case of employment taxes—modifications are made. However, where the disadvantages of the accounting distinction are less apparent and less easily remediable because of conceptual or statistical difficulties, it is maintained.

Subsidies, which are a type of business receipt, appear on the debit side of the account (with a negative sign) because they are not part of the market value of business output; the subsidized products are included at their market values under business sales. As a matter of long-standing convention, subsidies are regarded as payments necessary to elicit factor services. Accordingly, they are included in the sum of factor incomes (by considering them as a gross receipt in the calculation of business profits) and are deducted in reconciling the factor income originating in the business system with the market value of business output.

**Other aspects of business output**

The measurement of business output has, in addition to the treatment of taxes and subsidies, many other aspects which must be discussed—such as the precise delimitation of the business sector; the classification of income shares and nonfactor charges; the measurement of capital formation and consumption, including inventory change; the imputations for wages and salaries in kind, food produced and consumed on farms, and the rental value of owner-occupy.
pied dwellings; the imputations made in the case of financial institutions; and the special methods adopted in measuring the transactions of these institutions and of other organizations such as government enterprises.

Decisions that are made in these areas affect the definition of national output and hence are relevant to the present discussion. However, these decisions are regarded as less crucial to the definition of national output than those concerning taxes and subsidies that have been reviewed; also, the treatment of some of them is rather complex. Therefore, their discussion is postponed until later (to the detailed presentation of the business sector) so as not to interrupt unduly the derivation of the national output or to blur its outline by excessive detail.

**Measurement of nonbusiness output**

Production included in the measures of national output is not confined to the business system, but occurs also in each of the nonbusiness sectors of the economy: households and institutions, government, and the rest of the world. In the household sector, account is taken of certain services—such as domestic service—which, although of a market character, are better thought of as involving direct factor services rather than business production. In the government sector, the services provided by the government to the community are accounted for. In the rest-of-the-world sector, the production accruing to United States residents by virtue of their net claims on foreigners is measured.

For each of these sectors, the measurement of output differs basically from that employed for the business sector. The two-fold measurement of output in terms of product flows and factor costs is not available for the nonbusiness sectors of the economy, and factor cost must be used for both aspects of the value added by them to total output. A single measure must be used in these instances to depict both income and product originating because there is no sales transaction involving the output produced as distinguished from the purchase of the ingredient factors of production and supplies and materials. It may be noted parenthetically that the factor cost measurement of output in the nonbusiness sectors also conforms to the definition of final output underlying national income accounting: the factor services purchased, in terms of which output is measured, are not resold.

**Households and institutions**

Exhibit 1 presents the measurement of output originating in the personal or consumer sector of the economy. Its measurement is in terms of the direct factor services bought by households and institutions, consisting of employee compensation and payments of interest. The latter represent payments by households to nonpersonal lenders and payments by institutions. As in the case of business production, discussion of more detailed points is postponed.

**Exhibit 1.—Income and Product Originating in Households and Institutions, 1939**

<table>
<thead>
<tr>
<th>Employees</th>
<th>Compensation of employees</th>
<th>Wages and salaries</th>
<th>2,130</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newspapers paid</td>
<td>Supplemental paid</td>
<td>Employer contributions for social insurance</td>
<td>11</td>
</tr>
<tr>
<td>Interest paid</td>
<td>Other labor income</td>
<td></td>
<td>17</td>
</tr>
<tr>
<td>Income originating and net and gross product</td>
<td></td>
<td></td>
<td>2,079</td>
</tr>
</tbody>
</table>

**Government**

The value added by government to total output is shown in exhibit 2. As in the case of households and institutions, it is measured by the value of factor services purchased, except that in this instance only payments for labor are considered payments for factor services. Interest paid by government is not counted.

**Exhibit 2.—Income and Product Originating in Government, 1939**

<table>
<thead>
<tr>
<th>Government</th>
<th>Compensation of employees</th>
<th>Wages and salaries</th>
<th>7,343</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newspapers paid</td>
<td>Supplemental paid</td>
<td>Employer contributions for social insurance</td>
<td>199</td>
</tr>
<tr>
<td>Interest paid</td>
<td>Other labor income</td>
<td></td>
<td>87</td>
</tr>
<tr>
<td>Income originating and net and gross product</td>
<td></td>
<td></td>
<td>7,029</td>
</tr>
</tbody>
</table>

The accounting for government production in general and government interest in particular, is and probably will remain, a controversial point in national output measurement. Basically, this seems due to the fact that government activities are substantial and quite different in economic character from other types of production. Accordingly, they are difficult to put on a common denominator with other types of production in a summation designed to obtain a comprehensive measure of national output.

The exclusion of government interest paid from factor incomes stems, as a practical matter, from the fact that the bulk of government debt was created to finance wars and current expenditures. In no common sense use of the term can interest payments on such debt be taken to represent currently produced goods and services or the current use of economic resources. For example, it seems sensible that a comparison of the prewar and postwar volumes of production should not be distorted by the continuing interest on the national debt that arose during the war. The treatment of government interest is given further consideration in the discussion of the government sector below.

**Rest of the world**

Finally, account must be taken of United States production arising in the rest-of-the-world sector. As stated in connection with the National Income and Product Account, the output of the United States economy is defined as that accruing to factors of production supplied by residents of the United States, as distinguished from the alternative of defining national output in terms of the physical location of the factors of production.

Hence, to obtain a measure conforming to the definitions used in this report, there must be deducted from the components derived so far a measure of the output produced in the United States but accruing to foreign residents, and there must be added a measure of the value of output not produced in the United States but accruing to United States residents. The deduction and addition are accomplished, on a net basis, by the separate measurement of United States output originating in the rest of the world, equal to the net international inflow of factor incomes, as shown in exhibit 3.

**Exhibit 3.—Income and Product Originating in the Rest of the World, 1939**

<table>
<thead>
<tr>
<th>Product</th>
<th>Wages and salaries</th>
<th>Interest (net)</th>
<th>Dividends (net)</th>
<th>Branch profits (net)</th>
<th>Income originating and net and gross product</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wages and salaries</td>
<td>2</td>
<td>127</td>
<td>135</td>
<td>47</td>
<td>313</td>
</tr>
<tr>
<td>Income originating and net and gross product</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
1951 NATIONAL INCOME SUPPLEMENT

Table Ia.—National Income and Product Account, by Sector of Origin, 1939

<table>
<thead>
<tr>
<th>Income originating in</th>
<th>(Millions of dollars)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Households and institutions (exhibit 1, item 7)</td>
<td>2,979</td>
</tr>
<tr>
<td>Government (exhibit 2, item 6)</td>
<td>7,629</td>
</tr>
<tr>
<td>Rest of the world (exhibit 3, item 5)</td>
<td>313</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>10,921</strong></td>
</tr>
</tbody>
</table>

| Income originating in business (table II, item 18) | 61,611 |

**National income (table I, item 14)**

| Other charges against net national product (table II, items 19, 20, 21, and 22) | 10,706 |
| Charges against net national product (table I, item 19) | 83,238 |
| Capital consumption allowances (table II, item 24) | 8,101 |
| **CHARGES AGAINST GROSS NATIONAL PRODUCT (table I, item 21)** | **91,339** |

<table>
<thead>
<tr>
<th>Gross product originating in</th>
<th>(Millions of dollars)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Households and institutions (exhibit 1, item 7)</td>
<td>2,979</td>
</tr>
<tr>
<td>Government (exhibit 2, item 6)</td>
<td>7,629</td>
</tr>
<tr>
<td>Rest of the world (exhibit 3, item 5)</td>
<td>313</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>10,921</strong></td>
</tr>
</tbody>
</table>

| Gross product originating in business (table II, item 32) | 80,418 |

**GROSS NATIONAL PRODUCT (table I, item 26)**

91,339

National income and product, by sector of origin

In table Ia the contributions of each of the four major sectors are summed to yield the totals of national output as shown in table I, in a breakdown, however, which displays more clearly their conceptual building blocks. The items in table Ia are cross-referenced to tables I and II and exhibits 1–3 so as to permit a precise tracing of how national output is derived from the component output series of the four sectors.

Little need be said about table Ia since it represents only a summary of the preceding discussion. However, certain of the major points may be repeated for emphasis.

In table Ia, the measures of national output given in table I are derived by summing the values added to total output by each of the four major sectors of origin. For the nonbusiness sectors—households and institutions, government, and the rest of the world—contribution to total output is measured identically in the product and factor income measures, since a distinction between the two is not possible. For the business sector, however, the product measure differs from the factor income measure. The difference represents nonfactor charges against the value of business production, which are entered in table Ia and reconcile the value of national income with that of the gross national product.

Anatomy of Product and Income Components

A tolerably precise derivation of the measures of total output presented in table I has been obtained in table Ia. However, it will be noted that the components of output as given in the second table differ from the conventional classifications shown in table I. Those of table I are drawn up, on the credit side of the account, in terms of the purchases of product by the four sectors of the economy; and, on the debit side, they do not separate the costs incurred in production by each of the sectors. By contrast, the classifications in both sides of table Ia refer to sector of production.

As the next step in explaining the content of national income and national product, each of the components as given in table I is derived from the measurements underlying table Ia. Product and income items are taken up in turn.

Gross national product

Personal consumption expenditures

The personal consumption expenditures shown in table I are derived as in exhibit 4. The bulk of them consists of purchases from the business system. Direct purchases of factor services by households and institutions account for another part. These two are entered as the first and second items in exhibit 4, with references to the previous tabulations in which they have been included. It will be apparent, upon reflection, that the sum of these two items falls short of a complete enumeration of consumer expenditures by the amount of direct purchases from abroad (mainly tourist expenditures). This item, which has not so far appeared in the derivation of national output, is entered as the third item in the exhibit.

Gross private domestic investment

Gross private domestic investment as shown in table I is derived simply by combining consolidated net sales to business on capital account and the change in inventories, each as taken from the business account (table II). The derivation is given in exhibit 5.
Government purchases of goods and services

The derivation of government purchases of goods and services is indicated in exhibit 6. The procedure is similar to that employed for consumer expenditures. In addition to purchases from business and purchases of direct factor services, which are entered as the first and second items in exhibit 6, government makes purchases from abroad, which have not appeared so far in the accounting for national output. These purchases are entered as the third item in exhibit 6 to complete the enumeration of government purchases as shown in table I.

Net foreign investment

With two exceptions, all of the elements underlying the construction of gross national product by sector of origin in table I are have been used to derive components of gross national product as shown in table I. These two exceptions are “consolidated net business sales to abroad” and “gross product originating in the rest of the world.” On the other hand, in the derivation of personal consumption expenditures and government purchases two items were added which have not appeared as components of gross national product by sector of origin. These are “net purchases of households and institutions from abroad” and “net purchases of government from abroad.” Hence, adding the first two of these two items to the components derived in exhibits 4, 5, and 6 and then subtracting the second two items will yield the correct total of gross national product.

But the difference between these additions and subtractions is numerically equal to “net foreign investment,” the remaining component of gross national product in table I which has not yet been derived. This is so because the four items combined equal the net receipts of the United States from abroad, from factor incomes as well as from the sale of goods and services. These net receipts represent the balance of payments on current account, and their financing implies a change in the net international asset position of the United States, which is net foreign investment.2 The derivation of net foreign investment is shown in exhibit 7.

Supplements to wages and salaries

Supplements to wages and salaries are obtained in a similar manner, as shown in exhibit 9.

Income of unincorporated enterprises and inventory valuation adjustment, and rental income of persons

These two items are taken directly from table II.

Corporate profits tax liability

This item is taken directly from table II.

Dividends

The calculation for dividends is shown in exhibit 10.

Undistributed corporate profits

Undistributed corporate profits are obtained in exhibit 11.

Corporate inventory valuation adjustment

This item is taken from table II.

Net interest

The calculation necessary to derive net interest, as shown in table I, is given in exhibit 12.

---

2 In the definitions adopted in this report, international cash gifts, which are also current account items, are included with goods and services.
Of the **GROSS NATIONAL PRODUCT** totaling **$283 billion** in 1950 . . .

$194 billion, or about two-thirds, was bought by consumers . . .

$47 billion, or about one-sixth, went into domestic investment ($49 billion) and foreign investment (minus $2 billion) . . .

while the remaining $42 billion was taken by Government.

Of the **PURCHASES BY CONSUMERS** . . .

Nondurable Goods accounted for $102 billion . . .

Durable Goods for $29 billion . . .

and services for $62 billion.

**DOMESTIC INVESTMENT** Included . . .

$22 billion in new construction . . .

$22 billion in producers' durable equipment . . .

and $4 billion in business inventories.

**GOVERNMENT PURCHASES** of Goods and Services Comprised . . .

$23 billion by the Federal Government . . .

and $20 billion by State and Local Governments.
Nonfactor cost charges
All the components of national income, as listed in table I, have now been derived by allocating the entire national income as constructed in table Ia. The nonfactor charges against the value of gross national product shown in table I are all taken directly from table II.

The Output Measures Examined
The measures of national output have now been derived with sufficient precision to make possible their evaluation in terms of the basic concepts that underlie them—of the national product as an aggregate of final product values and the national income as an aggregate of factor costs.3

The concept of final product
As noted earlier, measures of national output must be defined essentially in terms of the market economy. They cannot encompass the broad range of nonmarket activities that may bear some resemblance to economic production. In this report the market economy is taken as the area over which sales and purchase transactions occur. Once this criterion has been adopted, there remains the necessity of distinguishing between final and intermediate production within the market economy.

The operational definition of final product underlying the present national product measures rests on the obvious fact that purchases not resold do not become elements in the value of other goods and services, and that hence there is a presumption that they should be counted in a comprehensive enumeration of the value of the final output of the Nation's economy. It also takes cognizance of the corollary fact that purchases which are resold are used up in further production and included in the value of other goods and services, and hence may be presumed to be intermediate products which should not be counted separately in an unduplicated measure of production.

The practical consequence of this general definition is to enumerate capital formation and purchases by consumers and general government, and to exclude from final production the raw materials used up by business in the course of further production.

Capital formation is clearly a part of final product to the extent that it consists of items that are not used up but are added to wealth. (Only the inclusion in gross national product of capital formation for replacement purposes must be noted as a limitation in this connection.) The inclusion of consumer and government purchases and the exclusion of business current-account purchases also are broadly reasonable.

Since the expenditures of individual consumers and nonprofit institutions serving individuals are incurred largely to meet the needs of individuals, they consist in the main of goods and services that determine what is commonly regarded as the standard of living. Government purchases consist essentially of goods and services provided on behalf of the community as a whole, which has been found better to secure collectively rather than individually. They should likewise be included in a measure of the total goods and services provided to satisfy the needs of the members of the community. In contrast, the bulk of business purchases of goods and services consists of items that are raw materials in the production process, rather than items that directly satisfy human needs. Their separate count is accordingly not necessary in enumerating the flow of final goods and services.


It is believed that this is a realistic description of the general nature of consumer, government, and business purchases and that the criteria employed in United States national income statistics for distinguishing between final and intermediate products are accordingly useful for segregating the major types of goods and services provided to satisfy the needs of individuals.

It is evident, however, that, because of different institutional arrangements, certain anomalies may result from the restriction of the national output measure to the market economy and from strict application of the purchase-not-for resale convention. Thus, the dividing line between the final products enumerated and similar nonmarket benefits excluded may not be appropriate. For instance, literal implementation of the operational definition of final product would count the services rendered by rental housing but would exclude those of owner-occupied housing. Moreover, within the market economy the distinction between final and intermediate product would sometimes be unsuitable. Food purchased by employees, for example, would be classified in national income and product whereas food furnished to them by their employers would not.

Peculiarities of this type can be dealt with to some extent by appropriate modification of the definitions, but the potentialities of this approach are limited. This is obvious with respect to the extension of output measures beyond the market economy, but it also holds true of modifications in the basic convention for distinguishing between final and intermediate production.

In the first place, it is not feasible from a purely physical standpoint to examine every purchase by consumers, government, and business so as to determine which were simply means of facilitating production, and hence intermediate, and which served an end use, and hence were final products. As a practical matter, one must generally deal with types of buyers and categories of goods and services.

But more important, one must place basic reliance on a broad convention because in most cases in point there is no alternative. No precise line can be drawn between final and intermediate products from mere observation of the nature of the products or the uses to which they are put. It would be easy, for example, if all consumer purchases were for goods like Sunday clothes and holiday dinners, which are obvious elements of the good life, and if all business purchases were raw materials for further processing, which are obvious intermediate goods. Between these two extremes, however, there is a wide range of purchases for which neither the motivation nor the use is so clear-cut and which must be placed in one category or the other by somewhat arbitrary rules.

For this reason any measure of total production must be somewhat conventional. For instance, it must overlook the fact that the expenditures of individuals in their business capacity are influenced by their standards as consumers, and that expenditures of consumers are influenced by their activities as producers. It must overlook also the fact that the conditions under which work is performed have an important bearing on the welfare of individuals. These conditions are affected by business expenditures on goods and services that are classified as intermediate just because there is no satisfactory way to take account of their benefits in a quantitative measure of final output.

Adjustment by imputation
In the present estimates, adjustments have been made to take account of institutional peculiarities to the extent
of imputing factor returns in the form of income in kind and entering corresponding imputed items in personal consumption expenditures. Even in this direction, it is obvious that sizable and unequivocal types of factor income in kind which have come to be recognized through tradition as elements of real income are not necessarily the result of decisions that are associated with factor incomes, on the ground that broadcasting services do not accrue to a distinct factor of production, seen in the consuming public owning receiving sets at large. However, it would seem preferable not to stress this point unduly and to recognize the essentially arbitrary and tradition-based nature of the decisions that must be made in this area.

Quasi-intermediate products

The process of reclassification of intermediate products could be extended in the opposite direction by deducting from factor income, and hence shifting from consumption expenditures to business costs, business-type expenses incurred by individuals. As an example, “miners’ expenditures for explosives, lamps, and smithing” (listed as a consumption expenditure in table 36, Part V) are certainly the sort of cost ordinarily borne by business rather than by the wage earner, and are unlike the vast bulk of consumption goods. It is a peculiarity of the coal mining industry that these materials customarily are paid for by the miner rather than purchased by the enterprise and charged to current cost.

No attempt has been made to adjust the pattern of consumer transactions along this line because there is no tradition of adjustment that provides an adequate standard of what is appropriate. In any event, it would appear that the magnitude of such adjustments would be very limited, unless the concept of “production expense” were stretched far into the broad region of mixed motivations in which no useful and commonly accepted exclusions from final product can be made.

Similar considerations apply to government purchases as well as to consumer purchases. It is possible to think of cases in which the treatment of government purchases as final product would not necessarily be the best procedure. For example, if certain government purchases reflected clear-cut aid to business it might be preferable to view them as “subsidies in kind” and, in accord with the handling of subsidies, to eliminate them from government purchases and the national product. Such a treatment should be recognized, would be somewhat artificial and statistically difficult, and would obscure the national economic accounts in their capacity as records of actual transactions, thus rendering them less meaningful for many purposes. Also, the feasibility of its application to government services used jointly by business and individuals, like the maintenance of highways, is highly questionable.

If government services consisted of the running of public recreation grounds on the one hand and of the provision of free raw materials to business on the other, a classification of the latter as subsidies in kind might be useful and important. This is not, however, the actual character of government operations. Clear-cut types of direct subsidies in kind that are of any quantitative importance have not come to attention. Even if account is taken of the more consequential cases of government services involving the use of a public service jointly by individuals and by business, the problem remains quantitatively small. It looms large only if the concrete notion of aid to business is stretched to cover the broad range of government services to the public which actually reflect a complexity of causes and purposes and cannot appropriately be classified under any such narrow head.

Neither government expenditures nor consumer expenditures, it is to be emphasized again, are susceptible in logic or statistical practice to any detailed, selective functional classification to add up those particular items which may be considered “final.” However, when any sort of concrete, workable criterion of intermediate product is applied, it becomes evident that the present scheme of summary classification does not lead to significant distortion.

Need for market-type measures of output

It is apparent that even if substantial departures from the present definition of final product were logically defensible and statistically feasible, they would not result in a measure of national product that could serve as a substitute for the present one. This measure is tied closely to the modern market-economy and is obtained, broadly speaking, by summing actual transactions of its major constituent economic groups. As such it is an important element of the economic accounting system designed to facilitate an understanding of the functioning of the economy in terms of the interaction of these groups.

For this purpose, the definition of the consumer and government purchases components of national product is generally appropriate, as is the exclusion of intermediate production according to the present definition of the term. Even if basic departures from these definitions could be justified on other grounds, the resulting measures of national output would probably not be useful in the study of business cycles, in problems of economic mobilization and fiscal policy, in market research, and in many other types of investigations in which national income statistics are increasingly employed.

The concept of factor cost

Underlying the definition of national income in terms of factor cost is the general idea that the output of the nation is the result of the services rendered by agents of production who cooperate in the production of that output. These agents of production are the labor and capi-
Of the NATIONAL INCOME amounting to $239 billion in 1950...

$153.3 billion was Compensation of Employees...

$44.0 billion was Proprietors' and Rental Income...

and $41.6 billion was Corporate Earnings* and Net Interest.

Of the COMPENSATION OF EMPLOYEES...

$145.8 billion was in the form of wages and salaries...

with $123.6 billion in private industries...

and $22.3 billion in Government...

while $7.5 billion was in the form of supplements to wages and salaries.

Of PROPRIETORS' AND RENTAL INCOME...

$22.3 billion represented nonfarm business and professional earnings...

$13.7 billion went to farmers...

and $8.0 billion was rental income of persons.

The REMAINDER included...

$36.2 billion of Corporate Earnings*...

and $5.4 billion of Net Interest.

*Corporate Earnings represent Corporate Profits (before taxes) and Inventory Valuation Adjustment.
tal, the entrepreneurial ability and natural resources which are used in the production process. It is the services of these agents or factors as valued in the market by their earnings for which a quantification is sought in the national income, to the extent permitted by the data available as statistical raw material.

It is hardly necessary to stress the importance in studies of resource allocation of such a measure of the services rendered by productive agents. To give only a few examples, one may wish to know the incomes of the various factors of production used in each industry in order to compare the relative importance of industries, or to marshal information about the relative amounts of factors of production that are available for allocation to various uses, or to compare the relative importance of labor and property factors in the outputs of various industries.

It must be recognized, of course, that the concept of factors of production is not given precisely in economic theory but must, to some extent, be formulated with reference to the problem at hand. Furthermore, the use of factor returns for some problems of the type indicated is limited by such facts as the temporary or permanent non-transferability of factors to other uses, and by monopoly and imperfect competition. In addition, property income is only tenuously related to the type of measure of the contribution of property and enterprise which might be desired for problems involving resource allocation. This is because it includes a residual share, profits, which fluctuates widely over the business cycle.

In spite of these limitations and difficulties, the idea of factor costs has always been of fundamental importance in economic analysis, and national income defined as an aggregate of factor earnings is the only general measure by which the idea can be quantified.

It is true that difficulties are encountered in the course of this quantification. The assumptions about tax incidence that are made in the classification of taxes as between factor income and nonfactor cost, the somewhat conventional rationale that leads to the calculation of national income gross of subsidies, and the common sense consideration on which the exclusion of government interest is based are all open to criticism.

Yet it would appear that for the items that are large and of strategic importance in the dynamism of the United States economy, the assumptions made are sufficiently realistic to provide useful economic measurements. For instance, in spite of the theoretical uncertainty which surrounds the incidence of corporate profits taxes, it appears in statistical investigation that corporate profits before taxes are more invariant to mere changes in tax rates than are profits after tax, and that the before-tax series must be used in studying the economic regularities reflected in the movement of the various income shares. Nor would any realistic study of national output be advanced by the inclusion in national income and product of interest paid by the government.

One important aspect of the factor-cost definition of national income should be understood. The constituent income shares of national income so defined cannot be construed as measures of benefits accruing to the recipient groups. For instance, the definition of the income shares gross of direct taxes levied on them is necessary in order to reflect the factor costs of current production, but would not be appropriate for measuring benefits received.

### Detailed Structure of the Accounts

As noted at the outset, an important recent development in national income research is the expansion of national income statistics from measures of the national output into an economic accounting system giving a statistical picture of the economy. The national output aggregates and their major components now having been derived in broad outline, and presented in the National Income and Product Account in Table I, the groundwork has been laid for an explanation of how a comprehensive national economic accounting system is constructed. Incident to this explanation, further light will be shed on the definition of national output and its various components.

The plan is to derive a set of accounts which will summarize the economic process in terms of the interrelated transactions of the four major economic groups into which the economy can be divided—business, persons (households and institutions), government, and the rest of the world. This will involve the construction of a current account for each of the constituent economic groups or sectors and of a consolidated saving and investment account for the economy as a whole.

**The Business Sector**

The business sector is defined broadly to include all organizations which produce goods and services for sale at a price intended at least to approximate costs of production. In the main, it covers all private enterprises organized for profit, both corporate and noncorporate, including farm operators, independent professional practitioners, and lessors of real property. Mutual financial institutions, cooperatives, and nonprofit organizations serving business are also included, as well as government enterprises. Owner-occupied houses and buildings used by nonprofit institutions serving individuals are considered to be business establishments selling their current services to their owners.

The business sector thus covers a wide variety of organizations, and for some purposes it would be desirable to distinguish further between corporations and unincorporated enterprises, financial institutions and nonfinancial business, and so forth. Also, it would be instructive to treat industries or industry groups as separate sectors in order to reveal the flow of intermediate output among them, and to show their complete sales, cost, and profit structures.

Such breakdowns of the business sector are not presented in this report, although important elements of them are contained in Part V. (See the tables on national income by legal form of organization and by industry of origin.) To regard the business system as an entity is sufficient for many purposes, and the statistical information for establishing further sectors within it either is unavailable or could be assembled and utilized only at the expense of disproportionate effort. However, a further development of national income statistics does lie along these lines and would serve to integrate them with other studies of the industrial structure, such as the interindustry relation studies now being conducted by various governmental and private agencies.

**The Business Account**

The receipts of the business system and their disposition have already been exhibited in Table II, in connection with the derivation of national income and product via the summation of sector incomes and products. This
Consolidated Business Income and Product Account serves as the current account for the business sector in the present economic accounting system. Several essential features of this account—its basic affinity to a consolidated profit and loss statement and the netting, transposition, and classification of items necessary to obtain significant measures of output originating in business—have already been explained. At this point further characteristics will be considered.

Classification of business transactions

The right side of the business account consists of the consolidated net sales of the business system, adjusted for the change in inventories in order to measure business output. Since this account covers all types of enterprises that are included in the business sector, the definition of “sales” is broad. For instance, fees for professional services and gross rental receipts are included, although they are not always thought of as sales in the daily meaning of the term.

Sales are subdivided according to the four major purchaser groups: consumers, government, business (on capital account) and foreign nations. To a large extent the content of the items is adequately conveyed by their designations. Aspects needing further explanation will be taken up later, particularly in the discussions of capital formation (which concerns sales to business on capital account and the change in inventories) and of imputations and the treatment of financial institutions (which affect the definition of business sales to persons).

Types of factor income

The left side of the business account lists the charges against the value of national product. These charges are classified into factor costs or incomes and nonfactor charges. The former are listed in five main categories—compensation of employees, income of unincorporated enterprises and inventory valuation adjustment, rental income of persons, corporate profits and inventory valuation adjustment, and net interest.

The compensation of employees consists mainly of wages and salaries but includes additional forms of compensation under the heading of supplements to wages and salaries. Wages and salaries include payments received in kind in addition to monetary remuneration. They are subdivided into “disbursements” and “excess of accruals over disbursements” to take account of differences during any period of time between amounts charged to cost and actual disbursements to individuals.

Supplements to wages and salaries consist of employers’ contributions for social insurance and of “other labor income.” The former item comprises employer taxes, or contributions, under Social Security and kindred publicly administered schemes. The corresponding employer contributions are included in wages and salaries. Other labor income includes employer contributions to private pension funds, compensation for injuries, and certain minor items which are charged against the value of business production and can conveniently be classified as factor charges under the heading of supplements to wages and salaries.

Income of unincorporated enterprises and inventory valuation adjustment, rental income of persons, and corporate profits and inventory valuation adjustment cover the business incomes of the private enterprises that are counted as part of the business sector of the economy. Within the noncorporate part of the business sector a distinction is drawn between unincorporated enterprise and rental income. The former covers the earnings of sole proprietorships and partnerships (including farm and nonfarm businesses as well as independent professional practitioners) and of producers’ cooperatives; the latter consists of the net rentals of individual landlords who are not primarily engaged in the real estate business. The earnings of professional real estate operators are classified under income of unincorporated enterprises. Both the income of unincorporated enterprises and rental income include, in addition to monetary earnings, important items of income in kind.

The definition of monetary business earnings is in general accordance with Federal income tax regulations. Significant modifications are made, however, in the treatment of capital gains and losses, depletion charges, and receipts of property income.

Business incomes in the national income and product accounts are stated exclusive of capital gains and losses, because these do not represent a return for the current use of economic resources. The “inventory valuation adjustment” is designed to eliminate from corporate profits and the income of unincorporated enterprises an element which is very similar to capital gain or loss. The adjustment is often large and uncertain statistically, and there is a great deal of interest in the corporate profit figure prior to the adjustment. Hence the accounts are set up to give the unadjusted figures and the adjustment separately, with the two adding up to the proper total for purposes of national income measurement. By contrast, ordinary capital gains and losses are eliminated outright.

With respect to depletion charges, no deduction is made for them in computing business net income. The value of new discoveries of natural resources is not counted as part of capital formation or of profits, and consequently deduction of a capital consumption charge for impairment of the stock of natural resources would be inappropriate.

Finally, all corporate receipts of dividends are netted out of corporate profits (and dividends) to avoid double counting and to arrive at income originating in the business system; and interest and dividends received by the owners of unincorporated enterprises are considered to be received by them in their personal capacity, rather than treated as an element of business income, except in a few financial industries in which the earning of property incomes is an integral part of business operations.

In table II corporate profits before tax are broken down further to show tax liability, dividends, and undistributed profits. A similar breakdown is not presented for unincorporated business and rental incomes. With few exceptions, there are no taxes levied specifically against these types of income (business incomes are merged with other types of income in determining individuals’ income tax liability). Moreover, in the noncorporate area a realistic distinction between distributed and undistributed business income is difficult to establish in principle and to measure statistically.

Net interest measures the excess of interest payments of the business system over its receipts. In addition to monetary interest flows, it covers imputed interest arising in connection with the operations of financial intermediaries.

Nonfactor charges listed in table II consist of indirect business tax and nontax liability, business transfer payments, the statistical discrepancy, subsidies minus the current surplus of government enterprises, and capital consumption allowances.
The classification of indirect business tax and nontax liability as a nonfactor charge already has been discussed in summarizing the derivation of national output.

**Business transfer payments**

Business transfer payments represent transfers from business to persons which are charged against business product but for which no return in the form of factor services is received. Major items included are corporate gifts to nonprofit institutions and allowances for consumer bad debts. The nature of the latter item can be understood as follows. Sales to consumers, on the credit side of the account, are stated at full market value and are not (except in the case of professional fees) adjusted by an allowance for consumer defaults. However, the incomes of sellers and lenders, on the debit side, have been calculated net of these defaults. Hence, an accounting discrepancy between the two sides arises which can best be resolved by regarding the value of consumer bad debts as reflecting goods and services transferred from business to consumers with no quid pro quo.

Subsidies are listed as (negative) nonfactor charges against the value of business output. They are not considered part of the value of product, but are included as receipts in calculating profits. The current surplus of government enterprises is an item akin to business profits earned in the course of making the sales listed on the credit side of the account. Hence it must be included on the debit side to ensure balance. However, for reasons to be noted later, it is classified as a nonfactor rather than a factor charge.

The foregoing nonfactor charges reconcile the income originating in business with the market value of business net product. To arrive at the total designated in table II as charges against business gross product, capital consumption allowances must be added.

**Capital consumption allowances**

Capital consumption allowances consist of depreciation proper, capital outlays charged to current expense, and accidental damage to fixed capital. The first of these items measures the wear and tear and obsolescence of fixed capital and (with the exception of agricultural depreciation, which is on a replacement cost basis) is based on accounting practices used for tax purposes—largely straight-line amortization of original cost to the current owner.

Capital outlays charged to current expense are an entry in lieu of depreciation proper for items of durable capital listed on the credit side of the account (on the basis of the three-year durability definition there adopted) but charged to current cost in common business practice. It is apparent that the value of these items must be entered on the debit side also in order to preserve the balance of the accounts. In a stationary economy capital outlays charged to current expense would, for business as a whole, approximate the charges for depreciation which would have been made for these items had they been capitalized instead of expensed. In a situation in which net capital formation occurs, the entry will overstate actual depreciation; when capital formation falls below replacement needs, it will fall short of an adequate capital consumption allowance for the types of equipment involved.

Accidental damage to fixed business capital measures the value of such capital destroyed by accidents. The accounting necessity for an entry of this type stems from the fact that business profits are net of such losses on the debit side while no corresponding entry appears on the credit side. Its classification as a species of capital consumption allowance is based on the practical fact that, for the business system as a whole, the magnitude of the item is steady and can be regarded as akin to regular depreciation. If there were large fluctuations in these losses, a strong argument could be made for treating them like other capital losses—that is, calculating profits and total income without deduction for them. This treatment would prevent fluctuations in national income due to the accidental destruction of fixed business property.

As has been noted, depletion charges are not deducted in calculating profits, since the value of the corresponding discoveries of natural resources is not an element of capital formation or profits. Similarly, these charges are not included with capital consumption allowances.

**Interpretation of income share breakdown**

The breakdown of the income shares given in table II reflects to a large extent the actual institutional, legal, and financial arrangements in force at any particular time and determine the form in which income accrues to individuals. An additional, broader grouping sometimes found helpful consists of employee compensation and net interest, which are contractual incomes, and of other incomes, all of which are residual shares.

The recording of earnings in the forms in which they accrue means, for example, that shifts in the legal form of organization as between corporations and unincorporated enterprises, or changes in the relative importance of internal and external business financing, will be reflected in the several income shares. In many economic investigations which deal with the concrete arrangements of economic society, a breakdown of this type will be appropriate. However, it will present handicaps in analyses in which it is desired to abstract from such arrangements.

The attempt to use the income share breakdown to study the ultimate factors which cooperate in production is a case in point. It deserves special mention because it is directly suggested by the definition of total income originating as the sum of factor incomes or factor costs. In the light of this general definition, one is tempted to go further—to make identifications of particular income shares with the various factors of production envisaged in economic theory.

Along these lines, it is possible to say that employee compensation consists of labor income, that unincorporated enterprise and rental incomes are mixed returns to labor and other productive factors, and that corporate profits and net interest are components which do not contain a labor return element, in any ordinary sense of the term. However, in view of difficulties attaching to the factor of production classification and in view of the lack of statistical information, one cannot go much further in the way of identifying factors with the income shares, and it is important to have in mind the limitations of the data for this general type of use.

With respect to a segregation of the returns to the factor of production "labor," it should be noted that employee compensation is heterogeneous in character. It includes the wages of the charwoman as well as the bonuses of the corporation executive. Moreover, it is not the only income share in which returns to labor are reflected. In the income of unincorporated enterprises and the rental income of persons the labor of the owner is an important element, although it cannot be quantified and segregated.
In connection with the classification of income shares other than employee compensation, it should be noted that no identification can be made between the rental income of persons and the rent concepts of economic theory. Rental income is confined to the net rentals of individual property holders (including imputed rentals on owner-occupied nonfarm homes) whose main occupation is not the renting of property. Rental income of professional real estate operators is classified under the income of unincorporated enterprises; gross rental receipts of corporations are merged with their other business receipts and transmuted into corporate profits; both the imputed net rental value of farm homes and agricultural net rents received by farmer landlords are included in the income of unincorporated farm enterprises; and the return on user-owned business real estate becomes a component either of the income of unincorporated enterprises or of corporate profits.

The dividing lines between profits and net interest also call for comment. First, net interest represents the payments less the receipts of the business system. An increase in corporate interest receipts from other sectors (most importantly from government) is therefore reflected in a decrease of net interest and an offsetting increase in profits, and vice versa, even though no change in the profit and interest flows that are an integral part of business operations has occurred.

Also, the breakdown of property income between interest and profits is affected by the manner in which interest flows are channelled through the economic system. For instance, if money is lent by corporate or other professional lenders the interest paid on it is counted in business receipts and reflected in profits. But if individual lenders are involved, the interest appears as such in the business account.

Finally, of course, the breakdown between profits and interest is influenced by the choice between external and internal financing. For all these reasons, it is more appropriate for some types of economic analysis to combine the interest and profit shares than to consider them in isolation.

**Fixed investment**

Fixed investment by business (business purchases on capital account) includes new construction and durable equipment acquired by private business enterprises. New residential construction purchased by owner-occupants (as well as by business proper for rental purposes) is included because home-ownership is treated as a business in the national income accounts. Acquisitions of fixed capital by nonprofit institutions serving individuals also are included.

Fixed capital formation is defined, in the United States statistics, as including all newly produced durables (goods with an average life exceeding three years) acquired by their ultimate business users. Thus fixed capital formation is stated gross of capital consumption, and includes plant and equipment bought for replacement purposes.

From a theoretical standpoint, a net concept would be preferable. For the definition of gross capital formation must needs be somewhat arbitrary. The size of the category will depend on the particular definition of durability adopted—the shorter the average life used in defining durability, the larger the apparent volume of gross capital formation. In addition, the considerations dictating elimination of intermediate production to achieve output measures without duplication also call for the statement of fixed capital formation on a net basis, since, broadly viewed, capital outlays for replacement purposes are really a species of intermediate product.

Measurement of fixed capital formation on a gross basis has been advocated as being more appropriate for certain types of analysis concerned mainly with the short-term availability of resources. If fixed capital need not be replaced in the short run, the total value of production available for alternative uses is measured better, it is contended, by the gross than by the net totals.

While this argument has some merit, there is no reason to believe that gross fixed capital formation as measured in the business account is appropriate for the purpose. It would give an exaggerated view of production available for alternative purposes in the short run if it included essential replacements that could not be postponed without interfering with the operations of the productive apparatus. On the other hand, it would fail to reveal the true short-run production potential if there were ways of utilizing the fixed capital more intensively than normal or of postponing maintenance and repair, as distinguished from replacement. In short, the use envisaged calls for estimation of the capital stock that is consumable in the short run, including the stock of business inventories as well as consumer and government held tangible assets; it cannot be served adequately by a fixed capital formation series defined on the gross basis used in the national income and product accounts.

Measurement of fixed capital formation gross of replacement may be preferable for certain purposes in business cycle and market analysis. Replacement demand is an important factor in aggregate demand and it is useful to have an explicit record including it. However, in this as in the preceding case, the present definition of gross capital formation is imperfectly adapted to the purpose envisaged. For instance, it excludes maintenance and repair outlays although these too have a significant bearing on cyclical fluctuations in demand.

In any event, in designing an unduplicative measure of national production these and related considerations must remain subsidiary. Defining fixed capital formation gross of capital consumption allowances must rather be justified on the ground that a meaningful net measure is not possible given the present state of theoretical and statistical knowledge.

The problem of what is meant by “keeping capital intact” is a most controversial one in economic theory, basically because in a dynamic economy the nature of capital equipment changes and the notion of replacing worn out capital consequently loses its simplicity. But even apart from theoretical difficulties, the statistical problem of estimating capital consumption in a manner consistent with gross capital formation is quite formidable. The bulk of the capital consumption allowances recorded in table II is derived from financial accounting records and is on an original cost basis. While from the standpoint of accounting consistency these allowances are appropriate for inclusion on the debit side of the business account—business profits are calculated as a residual consistent with them—they do not measure capital consumption on the same price basis which underlies the values shown for fixed capital formation on the credit side, and hence cannot be used to obtain a meaningful measure of net capital formation.

The statistical information, on prices and on the age composition of the capital reflected in depreciation charges, that would be necessary to convert these accounting...
Charges into a price level comparable to that of gross capital formation is deficient. Useful approximations in this direction have been made (see the pioneering study of Solomon Fabricant: Capital Consumption and Adjustment, National Bureau of Economic Research, 1938). However, in the national income and product accounts no revaluation of the accounting charges is attempted, and consequently a measure of fixed net capital formation is not presented.

It will be noted that business profits, income originating in business, and national income all incorporate the same depreciation charges which are considered inadequate as measures of capital consumption for the purpose of arriving at fixed net capital formation, business net product, and net national product. Net measures of income had long been established before the problem of valuing depreciation charges was met in particularly acute form in connection with fixed capital formation, and their continued use reflects in part the accident of this historical sequence.

**Inventory change and the inventory valuation adjustment**

The measurement of inventory change in business accounting practice is subject to the same type of deficiency from the standpoint of national income and product as fixed capital depreciation. As a broad proposition, original cost instead of current replacement cost is used to value inventories consumed in the process of production, and hence a measure of net change based on business accounting records would be misleading for national income purposes.

In this instance, however, an adjustment is made in the national accounts to convert reported “book” value data to a current replacement cost valuation. The distortions that would result from failure to make such an adjustment would be more disturbing here. It is not possible to sidestep the issue by dealing with a gross concept, as in the case of fixed capital formation; also, short-term comparisons, for which national income data are frequently used, are particularly affected by the methods of inventory valuation.

Moreover, the conceptual and statistical difficulties that stand in the way of an adjustment, although formidable, are less overwhelming than in the case of depreciation. Use over a long period of years is not involved, as with fixed capital formation, and consequently the conceptual problem of defining replacement which stems from quality change and the emergence of new products looms less large. In addition, information on prices and age composition, for which national income data are frequently used, are particularly affected by the methods of inventory valuation.

The change in the book value of inventories represents additions to inventories minus inventories used up. Hence it reflects not only (1) the change in the physical volume of inventories valued at current prices, but also (2) the excess of the replacement cost of inventories used up in production over their book valuation.

The following discussion is concerned with the treatment of nonfarm inventories. The estimates of farm inventory change are computed directly from data on physical stocks and current prices. No problem of adjusting book value data is involved; that is, an “inventory valuation adjustment” is not necessary.

For similar reasons, business profits as initially calculated on the basis of business accounting methods in inventory valuation are, for purpose of inclusion in national income, adjusted to exclude inventory gain or loss. This is done in Table II by adding the “inventory valuation adjustment” to corporate and noncorporate business profits as estimated from “book” data reported by business. When negative, the inventory valuation adjustment measures the inventory gain, and when positive, the inventory loss, which arises from the fact that inventories used up in production are not valued at current replacement costs. Its affinity to capital gains and losses, which also are eliminated in calculating national income and product, is readily evident.

The statistical methodology for estimating the inventory components of national income and product is explained in Part III of this report. The following numerical examples may serve to set forth more precisely the accounting principles involved.

**FIFO method**

Suppose that a firm had beginning inventories of 1,000 units valued at $5 each, that it purchased during the accounting period 400 units valued at $3 each, and that it used up, in production and sale, 300 units of inventories. According to the first-in, first-out (FIFO) method of inventory valuation, which charges inventories to cost of sales in the order of their acquisition, inventories used up would be valued at $5 each, at a total of $1,500. The inventory change would be registered as minus $300, the difference between $1,200 of acquisition and the $1,500 used up.

The book value change of minus $300 is the algebraic sum of a physical volume change, in current prices, of $300 (100 units at $3 each) and an inventory loss of $600, which measures the difference between the book cost and the current replacement cost of inventories used up ($2 on 300 units). Since purchases of inventory goods are valued at current prices, the departure from current valuation in the measure of inventory change reflects entirely the manner of valuing inventories used up.

For national output measurement it would be misleading to register an inventory decline of $300 when the volume of inventories had actually increased. Accordingly, on the credit side of the business account, the change in business inventories is entered at plus $300, equal to the physical change of 100 valued at the current price of $3 each, in conformance with the valuation basis used for the other components of the product and income flow. Correspondingly, on the debit side an inventory valuation adjustment...
Inventories used up reflect past-period acquisitions valued at past-period prices, which in general differ from current prices. To illustrate this case numerically, it may be assumed that in the initial example 500 units rather than 300 units are used up, so that the physical volume of inventories decreases by 100 units. According to LIFO practice, the inventory change would be minus $500. This represents acquisitions of 400 units valued at $1,200, minus 400 units used up valued at $1,200 (corresponding to the acquisitions), and minus 100 units valued at $500, reflecting the cost price of the units included in the initial stock. According to the method adopted in this report, however, the inventory change would be valued at minus $300, measuring the physical volume change at current prices, and an inventory valuation adjustment of $200 would be necessary. This adjustment would account for the inventory loss which arises because the 100 units of inventories used up in excess of current acquisitions are valued at $5 each, $2 more than the current market price of $3.

The foregoing summary treatment of the problem of inventory valuation should not create the impression that the subject is a settled one. On the contrary, there is a great deal of discussion among accountants and national income technicians both as to the broad principles and detail involved.

It should also be mentioned that many simplifying assumptions have been introduced into the summary in order to bring out more clearly the basic nature of the problem. In their absence, some of the generalizations made would have to be qualified, although not changed in essence. In particular, the assumption underlying the numerical examples, as well as some of the statements in the text, that the prices of inventory goods change discontinuously between accounting periods but remain constant within them, has permitted the neglect of some complicating factors which, although significant, are definitely of secondary importance. This assumption should be noted specifically, because the fact of continuous price change during the year is quite important from the standpoint of the statistical calculations described in the section on Change in business inventories in Part III.

**Imputations**

As noted earlier, the measures of national output presented in this report cover not only output whose production and distribution give rise to explicit monetary transactions, but also certain types of income and product flows which do not take monetary form. It has also been pointed out that from a theoretical standpoint these imputations represent modifications of the operational concept of final output, and that they are made to correct for anomalies and other disturbing omissions that would otherwise result. The imputations made are the result of concrete considerations and of the traditions of national output measurement. They do not and cannot represent a logically clear-cut exhaustive list, but merely a pragmatic selection among a wide variety of possible imputations.

The general procedure for allowing for nonmonetary income and product flows in the national accounts is to imagine that the flows in question take monetary form and to reconstruct the accounts to reflect consistently these flows. The business account is affected by four imputations: wages and salaries paid in kind, the rental value of owner-occupied houses, food and fuel produced and consumed on farms, and nonmonetary income and product flows arising in connection with financial intermediaries. These will be discussed in turn.
Wages and salaries paid in kind

An imputation is made for wages and salaries paid in kind in the form of food and lodging in industries in which this type of arrangement is of quantitative importance and is regarded as involving a clear supplement to monetary wages and salaries. Imputed items are valued at cost to the employer. Needless to say, difficult and somewhat arbitrary decisions are involved in delimiting the area of this imputation and in establishing the proper valuation.

In effect, the imputation takes the form of assuming that the employer, instead of furnishing his employees with free food and lodging, pays them corresponding amounts of wages, and that the employees in turn use them to buy the items previously purchased by the employer. Wages and salaries (in income originating in business) and sales to persons (in business product) are thus raised by corresponding amounts. In terms of the more technical implication of the procedure, intermediate purchases by the employer are converted into factor costs (wages and salaries) and final purchases (consumer expenditures).

Rental value of owner-occupied homes

The imputation for the rental value of owner-occupied homes is made to provide comparable treatment between rented and owner-occupied housing. It assumes that home ownership is a business producing housing services which are sold to the home-owner in his capacity as tenant. These sales are estimated in terms of the sum for which the particular type of home could be rented, and the expenses of the home owners are deducted to obtain imputed net rent. The imputed gross total becomes a part of sales to persons, or consumer expenditures, and imputed net rent becomes a part of the rental income of persons.

It may be wondered how the balance of the accounts can be maintained if for imputed rents a gross item is entered on the credit side and a net item on the debit side. The inconsistency is only apparent. Adjustments corresponding to the expense items which constitute the difference between imputed gross and net rent are made simultaneously in several components of the gross income and product flow, and secure balance.

One of the expense items, depreciation on owner-occupied homes, is added to capital consumption allowances. In the absence of imputation, it would not enter the purview of the national accounts. Indirect business taxes are raised by the amount of property taxes included in the expenses of owner-occupants. Otherwise, these taxes would be classified as personal taxes (see the discussion of the personal account below). Mortgage interest serves to raise the "net interest" item in the business account. Without the imputation, it would be entered as interest paid by the personal sector. Finally, all other expenses, such as for supplies and materials necessary for the maintenance of owner-occupied homes, are classified as intermediate business purchases charged to current account. Without the imputation, they would be counted as final products, as elements of business sales to persons.

Food and fuel produced and consumed on farms

The imputation for food and fuel produced and consumed on farms closely follows the scheme of the rental imputation. In this instance the accounts are reconstructed to conform to a situation in which the farmer sells the food and fuel to himself. An imputation for the full value of the food and fuel (at prices received by farmers for this type of product) is made in business sales to persons, and an imputed net profit on the production of this food and fuel is included in the income of unincorporated farm enterprises. The apparent inconsistency of a gross imputation on the product side and a net imputation on the income side is resolved in a manner similar to that of the rental imputation.

Commercial banks and investment trusts

Imputed income and product flows arising in connection with financial intermediaries involve some of the most complex constructions of national income and product measurement. Several distinct types of procedures are involved, and will be discussed in turn.

The ordinary methods of measuring value added to total output in terms of income and product flows break down in the case of commercial banking. This is because an element of the income and product in this area does not take monetary form. An imputation is introduced to make it explicit and, as a consequence, a much more satisfactory picture of value added emerges.

The situation is illustrated in Exhibit 13 by means of an income and product account for a commercial bank, drawn up in conformity with the principles of the Consolidated Business Income and Product Account. Only a few transactions essential to the problem are covered, in order to simplify the presentation.

Exhibit 13.—Income and Product Account of a Commercial Bank, Monetary Transactions Only

<table>
<thead>
<tr>
<th></th>
<th>[Thousands of dollars]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wages paid</td>
<td>50</td>
</tr>
<tr>
<td>Net interest paid</td>
<td>-10</td>
</tr>
<tr>
<td>Less: current account purchases from other firms</td>
<td>25</td>
</tr>
<tr>
<td>Interest paid on deposits</td>
<td>0</td>
</tr>
<tr>
<td>Less: interest received</td>
<td>100</td>
</tr>
<tr>
<td>Profit</td>
<td>50</td>
</tr>
<tr>
<td>Income originating</td>
<td>-15</td>
</tr>
<tr>
<td>Product originating</td>
<td>-15</td>
</tr>
</tbody>
</table>

On the credit side of this account, the value added to output by the commercial bank is calculated in terms of product flows by deducting from its sales, consisting of monetary service charges, its current account purchases from other firms. (It will be remembered that this netting yields the desired value of final production since sales and purchases of intermediate products cancel for the economy as a whole.) In terms of income flows, value added is obtained on the debit side by summing the distributive shares, with interest netted.

Since monetary service charges made by commercial banks are low in relation to total costs incurred, income and product originating appears low—in the present example it is actually negative. It is evident that the conventional method fails to give a proper accounting of output originating in the commercial banking area. Some income and product flows not taking monetary form must occur, omission of which results in seriously incomplete measurement.

The product flows in question are identified as the services rendered by banks without explicit charge to their depositors, such as checking, bookkeeping, and investment services in connection with the handling of deposits. In lieu of monetary service charges, banks finance the cost of these services by retaining part of the property income earned by investing deposits instead of paying it out to the depositors. This retained income is assumed to represent the income flows not taking monetary form.

To obtain an adequate picture, the accounts are redrawn as they would appear if this short-circuiting of income and service flows had not occurred and, instead, commercial banks had (1) paid out to depositors all property income earned on the investment of their deposits and (2) charged them fully for the cost of the services rendered to them.
An item for imputed interest paid (equalling property income received minus interest paid on deposits) is entered on the debit side of the accounts. On the credit side, an entry is made for imputed service charges (equalling total operating expenses of banks, including profits, less monetary service charges). It can be seen by reference to exhibit 13 that the two must always balance: imputed service charges = wages paid (50) + current account purchases (25) + profits (50) — monetary service charges (10) = imputed interest paid = interest received (100) — interest paid on deposits (5) = 95.

This imputation is added, in exhibit 14, to the data shown in exhibit 13. Exhibit 14.—Income and Product Account of a Commercial Bank, Monetary and Imputed Transactions

<table>
<thead>
<tr>
<th>[Thousands of dollars]</th>
<th>Wages paid</th>
<th>Service charge receipts</th>
<th>Monetary interest paid on deposits</th>
<th>Less current account purchases from other firms</th>
<th>Product originating</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>50</td>
<td>0</td>
<td>10</td>
<td>25</td>
<td>80</td>
</tr>
</tbody>
</table>

The nonmonetary income and product flows having been made explicit, a more adequate accounting of the value added by commercial banks appears. Also, these banks are revealed in their role of financial intermediaries. Interest is not seen to originate in banking, but to be transferred by banking from the industries in which it originates to the depositors to whom it accrues. (A minor complication is introduced if, in addition to receipts of interest income, receipts of dividends by commercial banks are taken into account. See Part III, section on Interest.)

Next, the imputed banking flows must be traced further through the economy to determine their ultimate effect on the size and structure of national income and product. This is done on the basis of the ownership of the deposits in connection with which the imputed flows arise. To the extent that these deposits are owned by businesses, matching debit and credit entries are made in their accounts—the debit for imputed service charges paid and credit for imputed interest received. The balance of the accounts is not disturbed; for businesses affected, purchases of intermediate products are increased by the amount of imputed service charges and net interest paid is decreased by the amount of imputed interest received.

Thus, to the extent that the deposits of commercial banks are held by business owners, there is no change in the size of national product or income. Imputed service charges cancel as intermediate products in the consolidation of the business system, and so do the inter-industry imputed interest flows. All that occurs is a redistribution in the industrial origin of output, in the process of which the share of banking is increased and that of other industries is reduced.

To the extent, however, that the ownership of bank deposits is vested in persons, the results are different. Imputed service charges made to persons constitute a final product and appear as a component of sales to persons under personal consumption expenditures for “services rendered without explicit charge by financial intermediaries, other than life insurance.” Imputed interest paid by banks to persons serves to increase net interest by an identical amount. Both product and income originating are thus raised to reflect nonmonetary income and product received by persons from banking. (In this discussion, it will be noted, the accounting for imputed flows between banking and government has been neglected. For this detail, see the section on Interest, in Part III.)

The above description of the measurement of imputed flows in banking is only a brief summary of a complex subject which is still the subject of lively discussion among technicians in the field. The procedure has been criticized in general as unduly complex and, more specifically, as based on certain assumptions of doubtful validity. Particular exception has been taken to the assumption that all banking services not explicitly charged for are rendered to depositors and that the borrowers of bank loans are not involved, as well as to the assumption that these services are distributed in proportion to the ownership of the volume of deposits irrespective of turnover.

While these and other objections have some merit and it is hoped that a simpler and more cogent solution may be found to deal with the underlying problem of measuring the value added to output by banking, it would appear that the present procedure, all things considered, is the most satisfactory devised so far. Whatever its particular limitations, it attempts to measure a real element of income and product in the business economy and permits a sensible solution to the problem of allocating income by industries.

An imputation essentially similar to that for banking is made in connection with investment trust type of financial institutions. The precise mechanism of this imputation can be traced in the light of the above discussion of banking on the basis of the additional detail provided in the section on Interest, in Part III.

Life insurance and mutual financial intermediaries other than life insurance

The treatment of life insurance involves the second major type of imputation which is made in connection with financial intermediaries. Imputations are introduced because the standard national income and product classifications break down owing to the combined saving and insurance functions performed by life insurance. It is not possible to classify the explicit transactions which occur between life insurance companies and their policy holders into the conventional classifications of current receipts versus capital transfers and of consumption and saving. Accordingly, in the income and product accounts imputed transactions are substituted for the explicit transactions. Specifically, claims and premiums are disregarded. Next, the property income of life insurance companies which is withheld to the account of policy holders is treated as if it were actually disbursed in the current period. This item becomes imputed interest in the net interest component of income. Finally, the companies are regarded as explicitly charging policy holders for their services, as measured by operating expenses. An imputation equal to these expenses is entered in the business account under sales to persons. It appears in personal consumption expenditures as “Expense of handling life insurance.”

That a balance between the income and product accounts is secured if life insurance is treated in this manner can be seen most simply by realizing that, as far as the totals are concerned, life insurance companies have in effect been treated as individuals rather than businesses. Claims and premiums have been cancelled as though they constituted transfers among individuals; property income received by these companies has been converted via the interest imputation into property income received by policy holders; and operating expenses incurred by the companies have been converted by means of the service charge imputation into final purchases made by policy holders. The balance of the Consolidated Business Income and Product Account

1951

SURVEY OF CURRENT BUSINESS
thus reflects, in essence, the balancing accounts of the business system other than life insurance.

The effect of the treatment of life insurance on personal saving may be anticipated at this stage. Since the property income and operating expenses of life insurance are imputed to policy holders, and receipts and payments of premiums and death claims are disregarded, a measure of personal saving results (in the personal income and expenditure account described later) which consolidates the saving of life insurance companies with that of policy holders.

An illustrative treatment involving mutual life insurance, shown in exhibit 15, may serve to make this summary more concrete.

The upper panel of the exhibit records the monetary transactions which occur in a simple economy involving life insurance companies, other businesses, and persons. The lower panel reflects the transactions that would be recorded in the national income and product accounts. (Since nonbusiness production does not occur in this example, a distinction between business output and national output need not be made.) The lower panel differs from the upper panel by excluding death claims and premiums and by including imputed income and service transactions.

Gross national product (2200) is obtained from the lower panel by adding sales (imputed) to persons by life insurance companies (600), sales to persons by other business (1100), and business capital formation (500). National income and personal income (also 2200) are obtained by adding wages paid by life insurance (200), wages paid by other business (1200), and (imputed) interest paid by life insurance (800). Personal saving (500) is obtained by deducting from personal income (2200) monetary and imputed personal consumption expenditures (1700). It can be seen that personal saving reflects the consolidated saving of persons and life insurance, as shown by the consolidated change in their net asset positions (400 for life insurance and 100 for persons, as indicated by the differences between the credit and debit totals in the upper panel).

The treatment of stock life insurance companies is essentially similar to that of mutual life insurance except that the operating expenses of life insurance companies are measured to include the companies' profits, which are correspondingly included in total income.

Further detail on the specific items entering the calculation of the property income flows (in the present example only interest was allowed for), together with information on somewhat similar imputations in connection with mutual financial intermediaries other than life insurance, is given in Part III in the section on Interest. This should be read in the general framework provided above.

**Government enterprises**

In addition to financial institutions, other types of business organizations require special treatment in the national income and product accounts. Government enterprises deserve explicit comment, not because they are important quantitatively in the United States economic structure, but because they complicate the accounts in a rather obtrusive way.

The distinction between government enterprises and general government can be understood readily even though it cannot be drawn with theoretical precision. Government enterprises are those agencies of government whose operating costs are at least to a substantial extent covered by the sale of goods and services, in contrast to the general activities of government which are financed mainly by tax revenues and debt creation. Government enterprises, in other words, conduct operations essentially commercial in character even though they perform them under the auspices of the State. The Post Office and public power systems are typical examples of government enterprises. On the other hand, State universities and public parks, where the fees and admissions collected cover only a nominal part of operating costs, are part of general government activities.

Since a choice must be made, it is preferable to consolidate government enterprises with business rather than with government. However, it seems desirable in handling these entities to introduce certain departures from the standard procedures adopted for ordinary business enterprises. (1) The profits of government enterprises are not included as part of factor cost in income originating in business, but instead are treated as a nonfactor charge against the value of output (see "subsidies minus current surplus of government enterprises" in table II). (2) The capital formation of these enterprises includes both fixed capital formation and inventory changes, which are classified in government purchases rather than gross private domestic investment. (3) The profits ("current surplus") of government enterprises are calculated without deduction either of net interest paid by them or of depreciation. Therefore, depreciation charges of government enterprises are not included in capital consumption allowances; and net interest payments by government enterprises are not counted as net interest payments by business. Since these modifications of the standard treatment of business

### Exhibit 15.—Illustration of Treatment of Mutual Life Insurance

<table>
<thead>
<tr>
<th>Debits</th>
<th>Credits</th>
<th>Other Business</th>
<th>Debits</th>
<th>Credits</th>
<th>Persons</th>
<th>Debits</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Death claims</td>
<td>100</td>
<td>Premiums</td>
<td>300</td>
<td>Interest</td>
<td>800</td>
<td>Sales</td>
<td>400</td>
</tr>
<tr>
<td>Wages</td>
<td>200</td>
<td>Interest</td>
<td>800</td>
<td>Sales</td>
<td>1200</td>
<td>Sales</td>
<td>1100</td>
</tr>
<tr>
<td>Cost purchases</td>
<td>400</td>
<td>Interest</td>
<td>600</td>
<td></td>
<td></td>
<td>Sales</td>
<td>500</td>
</tr>
<tr>
<td>Interest</td>
<td>800</td>
<td>Sales</td>
<td>1000</td>
<td>Wages</td>
<td>1200</td>
<td>Sales</td>
<td>500</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Indic著
enterprises do not involve changes in the debit or credit totals, it can be seen that the balance of the business account is not disturbed.

The effect of the treatment of government enterprises on the government account (see table IV) may be anticipated at this stage by noting that net interest paid by these enterprises is combined with that paid by general government and that their current surplus is treated as a receipt in the government account. These steps, in conjunction with (2) above, serve to consolidate the surplus (or deficit) of general government with that of government enterprises. This is so because net interest paid plus capital formation less current surplus of government enterprises measures the net excess of their expenditures over their revenue.

Several considerations suggested the particular accounting for government enterprises adopted in this report. With respect to the profits ("current surplus") of government enterprises, it was thought desirable to exclude them from factor charges because, in a way too difficult to disentangle, they were recorded net of losses which in effect reflected government subsidy operations conducted through the medium of government enterprises, mainly in World War II. The inclusion of government enterprise losses due to subsidy operations would have offset the corresponding subsidies in total income originating, and would have run counter to the general procedure of treating government subsidies as part of total factor cost.

The decision not to count net interest paid by government enterprises as net interest paid by business (and, correspondingly, to calculate the current surplus of government enterprises before deduction of net interest paid by them) was closely related to the decision not to treat their profits as part of factor cost. In general, a meaningful total of factor cost with respect to property factors can be obtained only if profits and interest are combined, and the inclusion of net interest paid alone might have been misleading.

Next, government enterprise capital formation was combined with government purchases rather than with private investment because the dividing line between capital purchases by government enterprises and those by general government is quite arbitrary. For instance, the construction of post offices is recorded in the general budget of the United States rather than in the accounts of the Post Office. Pending an exhaustive classification of all government purchases of capital goods, it was thought preferable to merge government enterprise capital formation with government purchases.

Finally to be noted is that the government surplus or deficit (consolidating both government enterprises and general government) which is obtained by this general procedure is the most useful definition of government surplus or deficit for many types of economic analysis.

The main aspect of the handling of government enterprises is their treatment as business-type organizations in order to avoid the classification of their current expenses as final purchases. Beyond this aspect, however, the treatment of government enterprises is in essence not more than a convenient means of disposing of a type of operation that has not reached quantitative importance in the United States total income and product picture. Were government enterprise operations to assume greater importance in the United States economy, it is entirely possible that some modification of their treatment in the national income accounts would be called for.

The Personal Sector

The personal sector of the economy covers essentially the consuming public. It consists chiefly of individuals in their capacity as income receivers and consumers, but it includes also nonprofit institutions, private trust funds, and private pension and welfare funds.

Personal account

Unlike business transactions, which are summarized by a profit and loss type of statement exhibiting the profit or loss realized in the current period, personal transactions are summarized by a statement of current receipts and expenditures. This difference reflects, of course, the fundamentally dissimilar nature of the two sectors of the economy.

The personal account, shown in table III, represents a consolidation of the accounts of all the persons who constitute the personal sector, just as the business account presented in table II was derived by consolidating the accounts of all the firms included in the business sector.

The personal account shows, in general, the transactions of persons with the other sectors of the economy. Since nonprofit institutions, private trust funds, and private pension and welfare funds are regarded as part of the personal sector, income receipts of these entities from other sectors are included in personal receipts and their purchases from other sectors are included in personal expenditures.

Conversely, since the account is consolidated, most transactions between these entities and individuals, as well as among individuals, are cancelled out in the process of consolidation. This process of cancellation is not extended, however, to the transactions among persons that are regarded as purchases of the services of factors of production—for instance, wages paid to domestic servants and payments of wages and interest by nonprofit institutions. Instead, these transactions are reflected on both the receipt and expenditure sides of the account, in order to preserve a record of them which is needed in tracing the total flow of production in the economy.

Classification of personal income

The classification of personal income on the right side of the personal account in table III follows closely the classification of the income items on the left side of the business account in table II. In addition, however, to the incomes originating in business, it also includes incomes received from general government and from abroad, as well as incomes derived from production within the personal sector.

The nature of the incomes derived by persons from the business system has been covered in the discussion of the business account. Separate entries for each of the items disbursed by the business system can be found in the personal account except for interest and dividend payments, which are included in the interest and dividend entries but not shown separately, for lack of statistical information.

It will be noticed that only incomes currently received by persons are included as receipts in the personal account. Thus, wage and salary receipts represent actual receipts and differ from wage and salary accruals during the same period by the excess of accruals over disbursements and by employee contributions for social insurance, which, along with similar employer contributions,
### Table III.—Personal Income and Expenditure Account, 1939

<table>
<thead>
<tr>
<th>Personal consumption expenditures:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchases of direct services:</td>
<td></td>
</tr>
<tr>
<td>Compensation of employees:</td>
<td></td>
</tr>
<tr>
<td>Wages and salaries paid</td>
<td>2,150</td>
</tr>
<tr>
<td>Supplements paid:</td>
<td></td>
</tr>
<tr>
<td>Employer contributions for social insurance</td>
<td>11</td>
</tr>
<tr>
<td>Other labor income</td>
<td>17</td>
</tr>
<tr>
<td>Interest paid</td>
<td>801</td>
</tr>
<tr>
<td>Income originating in and net and gross product of households and institutions</td>
<td>2,979</td>
</tr>
<tr>
<td>Net purchases from business</td>
<td>64,003</td>
</tr>
<tr>
<td>Net purchases from abroad</td>
<td>484</td>
</tr>
<tr>
<td>Personal tax and nontax payments</td>
<td>2,440</td>
</tr>
<tr>
<td>Personal saving</td>
<td>2,701</td>
</tr>
<tr>
<td><strong>PERSONAL OUTLAY AND SAVING</strong></td>
<td>72,607</td>
</tr>
</tbody>
</table>

| Wages and salary receipts:       |  |
| Disbursements by:                |  |
| Business                         | 38,250 |
| Government                       | 7,343  |
| Households and institutions      | 2,150 |
| Rest of the world                | 2  |
| Less: Employee contributions for social insurance | 506  |
| Other labor income               | 431  |
| Business                         | 87 |
| Government                       | 17  |
| Households and institutions      | 17  |
| Income of unincorporated enterprises and inventory valuation adjustment | 11,282 |
| Rental income of persons         | 3,465 |
| Dividends                        | 3,706 |
| Personal interest income         | 5,417 |
| Government transfer payments     | 2,312 |
| Business transfer payments       | 451 |
| **PERSONAL INCOME**              | 72,607 |

Constitute receipts to government rather than to individuals. Similarly, only corporate profits distributed in the form of dividends appear in the personal account. For unincorporated enterprises, no useful distinction can be made between distributed and undistributed income, and the entire amount is transferred to the personal account.

Income receipts from government consist of wages and salaries, other labor income, interest, and transfer payments. With the exception of interest payments, they are listed separately in Table III. Government interest payments to persons are included in personal interest income.

The definition of each of these income receipts is similar to that of the corresponding receipts derived from business and does not require separate discussion. It should be kept in mind, however, that although the formal definitions of the items are similar their actual content may be very dissimilar owing to the different nature of government operations. For instance, wages and salaries received from government include military wages and salaries, a type of payment which is not made by the business sector. Similarly, government transfer payments include social security benefits, relief, and various payments to former members of the military establishment, all of which constitute payments that are unique to government operations and have no genuine counterpart in business.

Wage and salary receipts from abroad appear explicitly as receipts of the personal sector. They consist of the wages and salaries of American residents employed in the United States by foreign governments and international organizations. Personal interest and dividend receipts from abroad are included with other personal interest and dividend receipts under personal interest income and dividends.

Personal income derived from households and institutions consists of income receipts of individuals for productive services rendered within the personal sector of the economy. Income included under this heading are those received for services rendered directly to households, such as domestic service, and the incomes received by employees of, and suppliers of capital funds to, nonprofit institutions. As has been noted, in order to maintain a comprehensive record of total productive activity these transactions are not cancelled in deriving the consolidated personal account even though they occur within the personal sector.

### Relation of national income and personal income

The bulk of personal income is derived from production, and personal income is therefore used widely as an indicator of economic activity. However, it is not a measure of the value of national output because it excludes certain incomes that accrue in production but are not distributed to persons and includes certain other income receipts that do not accrue in production. The relation between national income, which is a measure of output in terms of factor income flows, and personal income is shown in Exhibit 16.

| Exhibit 16.—Relation of National Income and Personal Income, 1939
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>National income</td>
<td>72,522</td>
</tr>
<tr>
<td>Less: Undistributed corporate profits</td>
<td>1,269</td>
</tr>
<tr>
<td>Corporate profit tax liability</td>
<td>1,462</td>
</tr>
<tr>
<td>Corporate inventory valuation adjustment</td>
<td>711</td>
</tr>
<tr>
<td>Contributions for social insurance</td>
<td>2,138</td>
</tr>
<tr>
<td>Excess of wage accruals over disbursements</td>
<td>0</td>
</tr>
<tr>
<td>Plus: Net interest paid by government</td>
<td>1,265</td>
</tr>
<tr>
<td>Government transfer payments</td>
<td>2,312</td>
</tr>
<tr>
<td><strong>Business taxes paid on net income</strong></td>
<td>451</td>
</tr>
<tr>
<td><strong>Equals: Personal income</strong></td>
<td>72,607</td>
</tr>
</tbody>
</table>

In this exhibit, personal income is derived by deducting from national income all incomes earned in current production but not received by persons and by adding to it the incomes received by persons but not earned in cur-
rent production. The deductions consist of all elements of the “corporate profits and inventory valuation adjustment” component of national income except dividends (undistributed corporate profits, corporate profits tax liability, and corporate inventory valuation adjustment) and of the parts of employee compensation not distributed to individuals (contributions for social insurance and the excess of wage accruals over disbursements). The additions consist of transfer payments from government and business and of net interest paid by government. The latter item represents the excess of the total interest payments by government over its total interest receipts, and must be added to national income because the net interest component of national income falls short of the interest receipts of persons by that amount. (For a detailed tracing of interest flows, reference is again made to the Interest section of Part III).

Personal outlay and saving

The debit side of the personal account contains three general categories: personal consumption expenditures, personal tax and nontax payments, and personal saving.

Personal consumption expenditures consist chiefly of net purchases from business, corresponding to the credit entry for consolidated net sales to persons in the business account. Also included are purchases made directly by persons from abroad (mainly while travelling abroad, but including also international remittances) and purchases of direct factor services.

Purchases by persons of direct factor services measure production originating in the personal account. They are entered at their full cost, which consists of the compensation of employees and interest payments. As already mentioned, much of this expense is matched by a receipt entry in the personal account itself. However, employer and employee contributions for social insurance appear as a receipt in the government account, while the interest cost of production in the personal sector is composed of payments to all sectors of the economy.

It will be noted that there is no entry for purchases of goods and services from government. This is simply because all government agencies which are conceived as selling their services for a market price are defined as government enterprises and classified in the business sector, so that consumer payments to them, such as for postage stamps, appear as purchases from business.

Payments by persons to general government, consisting chiefly of direct personal taxes, are classified as personal tax and nontax payments, the second general category on the left side of the personal account. This entry does not include contributions for social insurance. These are not actually received by persons and are excluded in the computation of personal income. It may be noted, however, that the total individual income tax, including the portion withheld at source, is treated as though initially received by the personal sector. In other words, personal income is measured before deduction of this tax. The different treatment of these two types of withholding is somewhat arbitrary. Disposable personal income, of course, is measured net of both of them.

The amount remaining out of personal income after the purchase of goods and services and payments to government is personal saving. It comprises the saving of individuals, including owners of unincorporated enterprises, and the saving of the organizations that are considered part of the personal sector, namely private pension and welfare funds, private trust funds, and nonprofit institutions serving individuals. It is the sum of the saving and dissaving of these groups.

Seen from another aspect, personal saving measures the net change in the asset position of persons as between the beginning and end of the accounting period. Personal saving is made up of the net increase in all the kinds of assets in which recipients of personal income invest, offset by the net increase in all the kinds of liabilities which they incur.

Included are not only the items commonly thought of in connection with personal saving, such as changes in cash and deposits, in security holdings, and in personal indebtedness, but also the net investment of noncorporate business in realty, equipment, and inventories. Personal saving also includes changes in the reserves of life insurance companies and mutual financial institutions, as explained above in the discussion of the treatment of these entities in the national income and product accounts.

Assets are defined, of course, in the context of the conceptual framework underlying national income measurement. Capital gains and losses are not counted as changes in asset position, and all consumer purchases of goods except residences are classified as consumption rather than as investment.

Imputations

As in the case of business output, the measurement of output in the personal sector is not confined to monetary transactions, but also takes into account imputed income and product flows. The most important of the imputations is for the value of food provided free to employees of households and nonprofit institutions. The imputation involves an increase in the wages and salaries of employees, equal to the cost of the food to the employer, on both the credit and debit sides of the personal account. The reconstructed account depicts the situation which would prevail if monetary wages were raised by the value of the imputation and the corresponding food were purchased by the employees rather than by their employers.

An imputation is also made for the value of free lodging furnished to clergymen, employees of nonprofit hospitals, and certain quantitatively unimportant groups. None is made in the case of domestic servants, because it is felt that, as a general proposition, they do not regard the lodging furnished them as an addition to income.

Nonprofit institutions

Nonprofit institutions include religious organizations, social and athletic clubs, labor organizations, nonprofit schools and hospitals, charitable and welfare organizations, and other nonprofit organizations furnishing services to individuals. It has already been pointed out that they are consolidated with individuals in the personal account. While the principle of consolidation is clear, some fairly intricate manipulations of items are involved. These may be illustrated by reference to exhibits 17 and 18, which are designed to show the treatment of the major transactions involving nonprofit institutions. Certain simplifications have been made to keep the example to manageable proportions. Investment by nonprofit institutions (counted as part of private domestic investment) has been excluded, as have government payments to nonprofit institutions (included in government transfer payments).
Exhibit 17 shows a set of interrelated transactions of nonprofit institutions, individuals, and corporate business. Exhibit 18 gives the Personal Income and Expenditure Account corresponding to these transactions. In essence, the latter account is obtained by consolidating the transactions of nonprofit institutions and individuals. In this process, the transactions involving cash relief, gifts, and dues cancel out. However, cancellation is not extended to transactions between nonprofit institutions and individuals involving payments for factor services. The record of these transactions is preserved in the comprehensive accounting for national output.

Exhibit 18 shows the Personal Income and Expenditure Account based on Exhibit 17 [Thousands of dollars]

<table>
<thead>
<tr>
<th>Personal consumption expenditures</th>
<th>Debits</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchases of direct services</td>
<td>Wages (1)</td>
<td>15</td>
</tr>
<tr>
<td>Compensation of employees</td>
<td>Wages (12)</td>
<td>6</td>
</tr>
<tr>
<td>Wages and salaries paid</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Interest paid</td>
<td>Interest (2)</td>
<td>3</td>
</tr>
<tr>
<td>Interest (11)</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Income originating in and net</td>
<td>27</td>
<td></td>
</tr>
<tr>
<td>etc. products or households and</td>
<td>Net purchases from business</td>
<td></td>
</tr>
<tr>
<td>institutions</td>
<td>Purchases (10)</td>
<td>40</td>
</tr>
<tr>
<td>Personal saving</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Personal outlay and saving</td>
<td>81</td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>81</td>
<td></td>
</tr>
</tbody>
</table>

Thus, employee compensation [wages (1)] and interest paid by nonprofit institutions to individuals [interest (2)] appear on both sides of the personal income and expenditure account and constitute components of "income originating and net and gross product of households and institutions," which measures the value added to national output by the personal sector. In addition, this measure includes the compensation of household employees [wages (12)] and interest paid to the business sector by nonprofit institutions [interest (3)] and by households [interest (11)].

Private trust funds and private pension and welfare funds are also consolidated with individuals in the personal sector. In these cases, however, the procedure is more straightforward since these entities do not produce.

Further breakdowns of personal account

The personal account, like the business account, includes somewhat heterogeneous elements, and further breakdowns of it would be useful. Two, in particular, should be mentioned.

Individuals might be distinguished from the various types of quasi-individuals included in the personal account; and, more important, individuals might be subdivided into significant social groups, such as farmers, other businessmen, independent professional practitioners, and wage earners, showing separately the incomes of these groups and their disposition among consumption, taxes, and saving. At the present stage, inadequacy of statistical materials limits the development of comprehensive measures of this sort.

A second significant breakdown of the household portion of the personal account—now in preparation in the National Income Division—would be by size of income. The present breakdown of personal income receipts, as shown in Table III, does not shed much light on the income distribution. In addition to their use in welfare studies, size distributions of income, taxes, consumption, and saving would be useful in functional economic analysis.

The government sector

The government sector includes Federal and State and local general governments and the social insurance funds administered by them. These funds comprise those set up under the Social Security and Railroad Retirement programs, State health insurance funds, the retirement funds established for government employees, and military life insurance funds. The distinction drawn between general government and government enterprises, which are included in the business sector, has already been described.

Government account

The transactions of government are summarized by a consolidated statement of receipts and expenditures, as presented in Table IV. In many ways this statement resembles the conventional budgets of governmental bodies. However, there are several differences.

In the first place, the account shown in Table IV is consolidated. All levels of American government, the social insurance funds administered by them, and the net expenditures of government enterprises are covered. However, separate breakdowns for the Federal Government, State and local governments, and social insurance funds are given in tables 8, 9, and 10 in Part V.

Second, the account excludes receipts from the sale of assets, expenditures for the acquisition of financial and second-hand fixed assets. Third, the timing of receipts and expenditures differs from that of conventional budget statements, being synchronized with the timing of the corresponding expenditures and receipts in the other accounts. Personal taxes are on a cash basis, other taxes are on an accrual basis, and purchase entries reflect time of acquisition rather than of payment. Finally, the classification of transactions differs from that of conventional budget statements, being adapted to the needs of national output measurement and general economic analysis.


Classification of receipts and expenditures

Most of the transactions contained in the government account have already been discussed in connection with the business and personal accounts.

The labor cost items, which appeared on a receipt basis in the personal account, are on an accrual-cost basis in the government account. The difference consists of employers' and employees' contributions under retirement systems for government employees. In table IV the employer contribution is treated as a simultaneous government expenditure and receipt. The employee contribution appears as a deduction from wages and salaries in the personal account and as a receipt in the government account.

Transactions with abroad, not yet discussed, appear explicitly under "net purchases from abroad" and are included also in "net interest paid." The former entry measures the excess of government purchases from foreigners over government sales to them (cash gifts are treated like purchase and sale transactions in this connection, but loans are excluded). Net interest paid is defined as the excess of total interest payments by government to all sectors over total interest receipts from all sectors. Government enterprises are covered in both payments and receipts.

Most of the salient features of the classification of government receipts and expenditures have come to attention already, in connection with the construction of measures of total national output. However, certain points may be elaborated now that all government transactions have been assembled.

The value of government output

Value added by government to national output, like value added in all other nonbusiness sectors of the economy, is measured by total factor cost incurred. In the case of the government, factor cost is confined to the compensation of government employees. Interest payments are not counted. Two issues should be considered as relevant to this treatment: first, the distinction between employee compensation and transfer payments; and, second, the exclusion of monetary interest and the question of substituting an imputed interest series for it.

Employee compensation versus transfer payments

A distinction is made between two types of government payments to individuals in their nonbusiness capacity—employee compensation and transfer payments. The former is in return for current productive services rendered; to the latter no such services correspond. This distinction is a basic one, because it segregates flows which are taken as measures of value added to national output from flows which are not so regarded. Hence it is important to see how it is made in practice.

Difficulties arise in the concrete interpretation of the term "productive service." For instance, in the classification of work relief wages that were paid in the depression of the thirties, the question arose as to whether they should be classified as labor returns or as transfers. A more fundamental issue is raised by the national income estimates of some foreign countries, in which military employee compensation has been excluded from factor income and treated as a transfer on the basis of some more ultimate, philosophical notion of productiveness.

In the United States estimates, the criterion for classifying an item as employee compensation or as transfer hinges on the current performance of work. No attempt is made to probe into the issue of whether the work is performed efficiently or whether, in some more ultimate sense, it is "productive." The practical impossibility of drawing distinctions of this type has been covered inferentially in the evaluation of the basic notions underlying national output measurement.

But even on the basis of the simple current-work-performed criterion, a clear-cut distinction between wages and salaries and transfer payments does not emerge in all cases. For it is not always possible to say whether a specific payment is made for the current work that is performed or for other reasons. Allowances for soldiers' dependents presented a classification problem of this type. It was decided to classify them as employee compensation rather than transfer payments, although a case for the opposite decision also could have been made. On the other hand, terminal leave payments, bonuses, and other deferred payments (such as under the "G. I. Bill") to members of the armed forces of World War II were considered transfers, as they were disbursed at a date far removed

Table IV.—Consolidated Government Receipts and Expenditures Account, 1939

<table>
<thead>
<tr>
<th>Item</th>
<th>Value (Millions of dollars)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Purchases of goods and services:</td>
<td></td>
</tr>
<tr>
<td>2. Purchases of direct services:</td>
<td></td>
</tr>
<tr>
<td>3. Compensation of employees:</td>
<td></td>
</tr>
<tr>
<td>4. Wages and salaries</td>
<td>7,343</td>
</tr>
<tr>
<td>5. Supplements:</td>
<td></td>
</tr>
<tr>
<td>6. Employer contributions for social insurance</td>
<td>109</td>
</tr>
<tr>
<td>7. Other labor income</td>
<td>87</td>
</tr>
<tr>
<td>8. Income originating and net and gross product</td>
<td>7,629</td>
</tr>
<tr>
<td>9. Net purchases from business</td>
<td>5,375</td>
</tr>
<tr>
<td>10. Net purchases from abroad</td>
<td>64</td>
</tr>
<tr>
<td>11. Transfer payments</td>
<td>2,512</td>
</tr>
<tr>
<td>12. Not interest paid</td>
<td>1,205</td>
</tr>
<tr>
<td>13. Subsidies minus current surplus of government enterprises</td>
<td>485</td>
</tr>
<tr>
<td>14. GOVERNMENT EXPENDITURES</td>
<td>17,270</td>
</tr>
<tr>
<td>15. Personal tax and nontax receipts</td>
<td>2,440</td>
</tr>
<tr>
<td>16. Corporate profits tax accruals</td>
<td>3,162</td>
</tr>
<tr>
<td>17. Indirect business tax and nontax accruals</td>
<td>9,365</td>
</tr>
<tr>
<td>18. Contributions for social insurance:</td>
<td></td>
</tr>
<tr>
<td>19. Employee contributions</td>
<td>596</td>
</tr>
<tr>
<td>20. Employer contributions</td>
<td></td>
</tr>
<tr>
<td>21. Business</td>
<td>1,330</td>
</tr>
<tr>
<td>22. Government</td>
<td>109</td>
</tr>
<tr>
<td>23. Households and institutions</td>
<td>11</td>
</tr>
<tr>
<td>24. Deficit (+) or surplus (−) on income and product transactions</td>
<td>1,607</td>
</tr>
<tr>
<td>25. GOVERNMENT RECEIPTS AND DEFICIT</td>
<td>17,270</td>
</tr>
</tbody>
</table>
from the time the military service was performed. Counting these payments as compensation for services would have necessitated allocating them over past years on an accrual basis— a course which seemed artificial and would have involved continuous revisions of the national income and product estimates for the war period.

**Government interest**

Government interest payments are not regarded as measuring value added to output by government because they are subject to fluctuations which in any common sense notion cannot be regarded as representing corresponding changes in the value of current production. It may be added that business interest can be included in a measure of national output without such explicit consideration of its behavior. Any fluctuations in it not reflecting productive activity are offset by opposite changes in business profits. Hence, the inclusion of business interest has no distortive effect on the output measure and, in fact, is necessary to secure the correct total.

Thus, value added by government takes account only of the services of the labor factor whereas the valuation of business output includes also returns to nonlabor factors. The question accordingly arises as to whether an allowance should be made for the services of government-owned property by the imputation of a rate of return to it, somewhat analogous to the imputation of a return to owner-occupied homes in the business sector of the economy.

An imputation for government-owned property is not made in the national income accounts for the United States because the conceptual and statistical bases for making a realistic and useful imputation are absent. The analogy to the housing imputation does not hold. The bulk of this imputation is anchored to realistic estimates of the gross rental value of owner-occupied houses available from Census reports, based on comparisons of owner-occupied property with rental property of similar type. In the case of the government no similar market-based information to establish the rental value of the vast bulk of government structures and equipment is, or can be, available. The rental value of the highway system or of the Tennessee Valley Authority cannot be estimated by reference to the rental value of property of similar type.

In the absence of a realistic market evaluation of the rental value of government property, its net return would have to be derived by estimating the total value of government real capital assets, segregating the part which is deemed to be in productive use, and then applying to the latter a rate of return to reflect the value added by the property. Clearly, each of these steps would be highly speculative, and a measure of imputed return useful in realistic analysis would not be likely to result.

**Decisions affecting valuation of business output**

In the national product, output is valued at market prices—inclusive of indirect business taxes and exclusive of subsidies. The manner in which these two items are defined therefore affects the total value of national product.

**Indirect business taxes versus personal taxes**

Indirect business taxes are taxes (other than social insurance contributions) that are chargeable to current cost by business enterprises; and personal taxes are taxes paid by persons that are not so chargeable.

This distinction leaves the treatment of retail sales and related taxes somewhat ambiguous, since in some instances these taxes are included in the sales price and charged to current expense, and in others excluded and paid separately by the consumer. In the latter case it would be possible to regard these taxes as personal taxes and to list the corresponding purchases at values excluding them. In this report the procedure of treating all these taxes as indirect business taxes forming a part of market price has been adopted, because it is thought to be the more meaningful from the standpoint of studying market behavior.

Further emphasis on this type of study underlies a proposal to depart from the accounting distinction between personal and indirect business taxes used in this report. It has been suggested that for analysis of consumer behavior all taxes that are closely tied to consumer purchases should be treated as indirect business taxes and included in personal consumption expenditures, regardless of whether they are chargeable to current cost by business. For instance, automobile license and registration fees paid by personal consumers would, according to this plan, be classified in personal consumption expenditures and indirect business taxes, rather than in personal taxes as at present. The logic would be that payment of these taxes is a determinant in the choice of consumers as between automotive and other types of expenditures. While this suggestion has some merit, it would raise difficult problems of classification. The influence of various types of taxes on personal consumption is a matter of degree and does not provide a clear-cut criterion of classification.

**Subsidies versus purchases**

Subsidies are monetary grants to business, and it is usually easy to distinguish them from government purchases of goods and services. However, in certain instances a subsidy element may be included in the purchase price of an item in lieu of an explicit subsidy. A clear-cut instance in which the subsidy element is recognized but not stated separately is Federal Government payments for mail contracts. Payments of this type, which are not important in the total, are regarded as purchases, and no attempt is made to segregate the subsidy element.

**Imputations**

Imputations are made for wages and salaries paid in kind to government employees. The most important of these imputations is for food and standard clothing issued to members of the armed forces. It may be noted that only standard, or personal, clothing is included, not special clothing and equipment. Also, the rental value of shelter provided is not allowed for. The principal line of reasoning is that in many instances the provision of lodging to servicemen does not reduce their cash housing expenditures and hence is not a clear addition to their income.

In the recording of the imputations, the accounts are reconstructed to correspond to a situation in which the government paid cash to its employees, which is the situation to which the employees themselves would have reconstructed these items from the business system. In the government account (table IV), compensation of employees (and income and net and gross product originat-
ing in government) is raised by the value of the imputation. But total government purchases of goods and services are not changed because government purchases from business are reduced by a corresponding amount. In the business account (table II), there is a corresponding shift from sales to government to sales to persons. Finally, in the National Income and Product Account (table I), the imputation raises personal consumption expenditures and gross national product, on the one hand, and the compensation of employees, national income and the sum of charges against the value of national product, on the other.

In view of the fact that an imputation is made for wages and salaries received in kind, it may be wondered why transfer payments, and also subsidies, are confined to monetary transactions—why specific goods and services given to individuals are not included in transfer payments, and why those given to business are not counted in subsidies. The basic reason for this apparent inconsistency is that, whereas in the case of wages and salaries a generally accepted procedure for imputation, partly pragmatic and partly tradition-based, is available, this is not so with respect to transfer payments and subsidies. The principal difficulties in the way of establishing such a procedure have been set forth in the discussion of the basic notions underlying national output measurement.

By way of supplementary argument, it may be noted that the introduction of transfer payments and subsidies in kind would interfere with the function of the accounts as a record of actual transactions. Of course, wage and salary and other imputations that are made in the national accounts have a similar effect. In these instances, however, it is felt that the resulting improvement in the income and product components and totals outweighs the disadvantages involved.

Two examples of the rather extreme complications of the accounts that can arise from the introduction of imputations of transfer payments and subsidies may be given.

Suppose, for instance, that services rendered by government employees in the administration of relief programs were to be regarded as transfer payments in kind. In the government account (table IV), transfer payments would be increased and compensation of government employees correspondingly reduced. In the personal account (table III), transfer payments would be increased on the credit side and employee compensation (and hence purchases of goods and services and income and net and gross product originating) on the debit side. In effect, the government employees rendering the services classified as transfer payments in kind would now be classified in the personal sector, as household employees. Finally, in the National Income and Product Account (table I), personal consumption expenditures would be raised, and government purchases lowered, by the amount of the imputed transfer payments. It is apparent that these reclassifications would greatly reduce the value of the accounts as records of the income and product flows that actually occur among the major sectors of the economy.

Or, assume that a subsidy in kind consisted of services rendered by government employees. In this instance the reclassification would involve labelling as subsidies in the government account payments actually made for wages. In the business account wages would have to be increased, to include wage payments actually made by the government, and offset by a corresponding increase in the deduction made for subsidies.

Social insurance funds

The consolidation of social insurance funds with the accounts of general government is a straightforward procedure which need not be detailed. However, certain differences between the treatment of social insurance funds and of privately-administered pension funds may be pointed out. These stem from the fact that the social insurance funds are consolidated with government while private pension funds are consolidated with individuals in the personal sector.

With respect to the measurement of employee compensation (and national income), the difference is merely one of classification between shares—employer contributions to government-administered funds are listed under “employer contributions for social insurance,” whereas employer contributions to private pension funds are included in “other labor income.” However, the effect of the differences in treatment on personal income and saving is more substantive. Employer contributions and property income received by privately-administered funds become elements of personal income, and the saving of these funds part of personal saving. Employee contributions into these funds, as well as benefit payments made by them, are canceled as constituting transfers within the personal sector. Employer and employee contributions and property income received by social insurance funds, on the other hand, enter government receipts; benefit payments made by them are explicitly recognized (as transfer payments by the government) as a component of personal income; and the saving of social insurance funds is a component of the government surplus rather than of personal saving.

Rest of the World Sector

The transactions of the rest of the world with the United States are summarized in the rest-of-the-world account presented in table V. The rest of the world covers foreign countries, territories and possessions of the United States, international organizations, and the United States monetary gold stock. The gold stock is included in this sector because net acquisitions of gold by the monetary authorities from domestic sources are considered foreign investment.

It may seem strange at first that the “rest of the world” is a sector of the national economy, and, indeed, there would be no need to consider it in the case of a closed economy which had no dealings with foreign countries. In the real world, however, trade and investment do cross international boundaries. Consequently, to complete the set of accounts it is necessary to include one which summarizes the transactions of foreigners with the three domestic sectors of the economy.

The rest-of-the-world account is a receipt and expenditure account and, like the other accounts, consolidated. It bears a close affinity to the balance-of-payment statement. It differs from this statement mainly in arrangement, with respect to netting and the classification scheme applied to the transactions involved.

The debit side of this account shows the net purchases of United States goods and services by the rest of the world. It is divided among net purchases of direct factor services and other purchases (net) from business, government, and persons. Net purchases of direct factor services from the United States by the rest of the world, as shown by the net inflow of factor incomes to the United States,
measure United States national income and product originating in the rest of the world.6

Because of the inclusion of gifts in net purchases from United States persons and government, net purchases of goods and services by the rest of the world cover all its current transactions with the United States. The excess of purchases over sales must be financed by a change in the net international asset position (an increase of United States claims on abroad or a decrease of foreign claims on the United States). From the standpoint of the rest of the world, this excess constitutes net foreign disinvestment in the United States, as shown on the credit side of the account.

**International gifts**

Inclusion of cash gifts received by foreigners from the United States in sales to United States persons and to the United States Government, together with the corresponding inclusion of gifts made by foreigners in purchases from the United States, secures a treatment of these transactions which is appropriate for the measurement of national product. Net gifts made by United States persons and Government appear in personal consumption expenditures and government purchases but are offset in the net foreign investment component of national product.

Needless to say the treatment of gifts as purchases is a somewhat unsatisfactory short-cut. It was adopted in order to simplify the structure of the accounts at a time when the important role of gifts in international transactions was not yet apparent. It has not been discarded because the alternative, more elaborate treatment also has serious shortcomings.

This alternative treatment consists of the establishment of a separate category of international transfers in the income and product accounts to cover the gifts now included in the purchases and sales of goods and services. These international transfers would affect, in addition to the rest-of-the-world account, the personal and government accounts (tables III and IV). The national income and product account (table I) also would be affected. Personal consumption expenditures and government purchases of goods and services would be reduced by the amount of net gifts made, and the entry under net foreign investment would be increased by a corresponding amount (with an appropriate change in the designation of the term to indicate that it would no longer reflect net foreign investment, but the balance of transactions in actual goods and services).

The complication of the accounts which would be involved in the establishment of a separate category of international transfer payments, while considerable, would be warranted if it would throw into clear relief the large international aid transactions involving the United States Government. However, this would not be accomplished for the reason that international aid, in addition to cash grants, involves also loans and aid in kind. The three forms of aid often are almost indistinguishable from one another in their economic aspects.

There is no clear-cut procedure available for distinguishing between international aid rendered in kind and government purchases for domestic purposes. For instance, in World War II it would have been rather unrealistic to distinguish between lend-lease, which presumably would have been classified as international aid in kind, and other government purchases for war purposes. Nor is there available an uncontroversial yardstick for classifying loans into loans proper and those that in effect represent international transfers. Since the relative magnitudes of the three media for extending international aid of essentially similar nature have been subject to considerable shifts, it would not have been instructive to establish a separate category for cash gifts alone, the only type of aid that could have been distinguished objectively.

It may be noted that conceptually similar problems arise with respect to the domestic operations of government. Aid to individuals and business also involves monetary grants, goods and services rendered in kind, and loans. In the case of these domestic transactions, monetary aids (in the form of transfer payments and subsidies) are recorded, but the two other types of aid are not recognized as such. While from some standpoints this dividing line is somewhat arbitrary, it is much more meaningful than a corresponding line would be for international aid. In the domestic sphere, shifts in the relative importance of the three media in extending aid of essentially similar nature have not been present in a comparable degree.

---

6 Wages paid to foreign residents employed abroad by the United States Government are counted as "purchases from abroad" in the government account and are correspondingly netted against purchases from government in table V. Alternatively, they could have been counted as wages in the government account and netted against wages in table V. The latter procedure, which would increase the value of income and product originating in the government sector of the economy at the expense of the rest of the world sector, was rejected chiefly because it leads to a less useful set of tables on payrolls, employment, and average earnings of employees.
Treatment of gold

In essence, the treatment of gold production in national income and national product is the same as that of any other commodity. The classification of gold transactions, however, is somewhat different and complicates the picture. As with any other commodity, the distributive shares arising directly or indirectly in its production (together with nonfactor charges, such as indirect business taxes and depreciation) are reflected on the debit side of the national income and product account, and the value of gold produced enters the credit side either as such or as an ingredient of the value of some other final product.

It is the classification in the product flow that is less transparent in the case of gold than of other commodities. Domestic nonmonetary use of gold may be reflected in any of the domestic components of national product—personal consumption, domestic investment including inventory change, and government purchases. To convert domestic nonmonetary use into a measure of total domestic production, monetary use and exports must be added and imports must be deducted.

These items—the change in the monetary gold stock and net gold exports—which in combination measure net domestic business sales of gold for export and monetary purposes, are included in net purchases by the rest of the world from United States business. In other words, the monetary gold stock is set up as part of the rest of the world and its transactions with United States business are treated as foreign transactions. Thus, changes in the monetary gold stock not offset by gold exports and imports come to be reflected in net foreign investment.

Silver is not regarded as an international monetary asset. It is classified in the product flow exactly like any other commodity.

Gross Saving and Investment Account

The entries in the sector current accounts presented so far show the current transactions of each of the four major economic groups, yielding in each case a residual which represents a form of saving. A logical extension of this system of sector current accounts would be the establishment of corresponding sector saving and investment accounts showing the disposition of these savings in the form of net financial and real investment.

Sector saving and investment accounts of this type have not been constructed on a comprehensive scale (a statement of this type for persons is presented in table 6, Part V) and cannot yet be made an integral part of the national economic accounting system. A consolidated saving and investment account for the Nation as a whole is presented instead, in table VI.

In the process of consolidation the financial investments involving transactions among the domestic segments of the economy are cancelled, and all that remains are matching flows of saving and of domestic investment (fixed capital formation and inventory change) and foreign investment. The consolidated capital account is obtained from the four sector current accounts by assembling all items in these accounts that so far have been entered only once because they constitute transactions not with other current accounts but with the capital accounts of the same or other sectors.

The placing of the government deficit (or surplus) on the left side of the account is arbitrary. It was dictated by the consideration that in many types of economic analyses the government deficit is treated as an "offset" to saving. Needless to say, no basic issues are involved; the government deficit (or surplus) could be entered, with changed sign, on the right side of the saving and investment account (and correspondingly on the left side of the government current account). This would accord better with the affinity between government surplus and deficit and other forms of domestic saving and dissaving.

The content of the gross saving and investment account is determined by the basic concepts and classifications underlying national income accounting. Only business assets are included in fixed capital formation and inventory change. Consumer- and government-held tangible assets are not included in capital formation. It should also be recalled that fixed capital formation is presented gross and that, therefore, capital consumption allowances appear as a component of (gross) saving.

Table VI.—Gross Saving and Investment Account, 1939

| [Millions of dollars] |
|----------------------|-----------------|
| 1 Business purchases on capital account | 9,476 |
| 2 Change in business inventories | 441 |
| 3 Net disinvestment in the United States by rest of world | 888 |
| 4 Government deficit (+) or surplus (−) on income and product transactions | 1,867 |
| 5 GROSS INVESTMENT AND GOVERNMENT DEFICIT | 12,672 |
| 6 Excess of wage accruals over disbursements | 30 |
| 7 Undistributed corporate profits (domestic) | 1,162 |
| 8 Corporate inventory valuation adjustment | 74 |
| 9 Capital consumption allowances by private business | 8,101 |
| 10 Foreign branch profits (net) | 47 |
| 11 Personal saving | 2,701 |
| 12 | |
| 13 GROSS PRIVATE SAVING | 12,672 |
DEFINITIONS OF CONCEPTS AND TERMS

The following definitions of the national income and product aggregates and their components are intended to give concise, accurate descriptions of the coverage of the various series and, at the same time, to call attention to the principal aspects of the series which are not readily apparent from their titles. The definitions of the national aggregates should be considered in conjunction with the definitions of their components as the details of the latter are not repeated in the former.

I. National Income and Product Aggregates

National Income is the aggregate earnings of labor and property which arise from the current production of goods and services by the Nation's economy. Thus, it measures the total factor costs of the goods and services produced by the economy. The Nation's economy in this context refers to the labor and property supplied by residents of the Nation. Earnings are recorded in the forms in which they accrue to residents of the Nation, inclusive of taxes on those earnings. As such, they consist of the compensation of employees, the profits of corporate and unincorporated enterprises, net interest, and the rental income flowing to persons.

Gross National Product or Expenditure is the market value of the output of goods and services produced by the Nation's economy, before deduction of depreciation charges and other allowances for business and institutional consumption of durable capital goods. Other business products used up by business in the accounting period are excluded. The Nation's economy in this context refers to the labor and property supplied by residents of the Nation. Gross national product comprises the purchases of goods and services by consumers and government, gross private domestic investment, and net foreign investment.

Net National Product or Expenditure is the market value of the net output of goods and services produced by the Nation's economy. All business products used up by business in the accounting period are excluded. The Nation's economy in this context refers to the labor and property supplied by residents of the Nation. Net national product comprises the purchases of goods and services by consumers and government, net private domestic investment, and net foreign investment.

Personal Income is the current income received by persons from all sources, inclusive of transfers from government and business but exclusive of transfers among persons. Not only individuals (including owners of unincorporated enterprises), but nonprofit institutions, private trust funds, and private pension and welfare funds are classified as "persons." Personal income is measured as the sum of wage and salary receipts, other labor income, proprietors' and rental income, interest and dividends, and transfer payments.

Disposable Income is the income remaining to persons after deduction of personal tax and nontax payments to general government.

II. Components of National Income and Product Aggregates

A. National Income (as in table 1, Part V).

Compensation of Employees is the income accruing to persons in an employee status as remuneration for their work. From the employer's standpoint, it is the direct cost of employing labor. It is the sum of wages and salaries and supplements to wages and salaries.

Wages and Salaries consists of the monetary remuneration of employees commonly regarded as wages and salaries, inclusive of executives' compensation, commissions, tips, and bonuses, and of payments in kind which represent income to the recipients.

Supplements to Wages and Salaries is the monetary compensation of employees not commonly regarded as wages and salaries. It consists of employer contributions for social insurance, employer contributions to private pension and welfare funds, compensation for injuries, directors' fees, pay of the military reserve, and a few other minor items of labor income.

Income of Unincorporated Enterprises measures the monetary earnings and income in kind of sole proprietorships, partnerships, and producers' cooperatives from their current business operations—other than the supplementary income of individuals derived from renting property. As with corporate profits, capital gains and losses are excluded and no deduction is made for depletion.

Inventory Valuation Adjustment measures the excess of the value of the change in the volume of nonfarm business inventories, valued at average prices during the period, over the change in the book value of nonfarm inventories. This adjustment is required because corporate profits and income of unincorporated enterprises are taken inclusive of inventory profit or loss, as is customary in business accounting, whereas only the value of the real change in inventories is counted as current output in the national product. No valuation adjustment is required for farm inventories because farm income is measured exclusive of inventory profits.

Rental Income of Persons consists of the monetary earnings of persons from the rental of real property, except those of persons primarily engaged in the real estate business; the imputed net rental returns to owner-occupants of nonfarm dwellings; and the royalties received by persons from patents, copyrights, and rights to natural resources.

Corporate Profits before Tax is the earnings of corporations organized for profit which accrue to residents of the Nation, measured before Federal and State profit taxes.
without deduction of depletion charges and exclusive of capital gains and losses. Profits accruing to residents are measured by eliminating intercorporate dividends from profits of domestic corporations and by adding the net receipts of dividends and branch profits from abroad. In other major respects, the definition of profits is in accordance with Federal income tax regulations.

**Corporate Profits Tax Liability** comprises Federal and State taxes levied on corporate earnings. Disbursements of tax refunds are deducted from tax liability in the year in which the tax liability was incurred.

**Net Interest** measures total interest (monetary and imputed, private and government) accruing to United States persons and governments minus total interest paid by United States governments. Government interest (Federal and State and local) is deducted because it is not considered income arising in current production. It is necessary not only to exclude the portion of it paid directly to persons and governments, but also to deduct the portion of it paid to business, because the latter is reflected in the incomes paid out or retained by the business system. The imputed interest component of net interest is measured in general as the excess of property income received by financial intermediaries from funds entrusted to them by persons over property income actually returned in monetary form by these intermediaries to persons. A portion of imputed interest is numerically equal to the value of financial services received by persons without explicit payment; the remainder represents property income withheld by life insurance companies and mutual financial intermediaries on the account of persons.

**Personal Consumption Expenditures** consists of the market value of purchases of goods and services by individuals and nonprofit institutions and the value of food, clothing, housing, and financial services received by them as income in kind. It includes the rental value of owner-occupied houses but does not include purchases of dwellings, which are classified as capital goods.

**Gross Private Domestic Investment** consists of acquisitions of newly produced capital goods by private business and nonprofit institutions and of the value of the change in the volume of inventories held by them. It covers all private new dwellings, including those acquired by owners of newly produced capital goods by private business.

**Net Foreign Investment** is the net change in international assets and liabilities, including the monetary gold stock, arising out of the current international flows of goods and services, factor incomes, and cash gifts and contributions. Thus it measures the excess of (1) domestic output sold abroad over purchases of foreign output, (2) production abroad credited to United States-owned resources over production at home credited to foreign-owned resources, and (3) cash gifts and contributions received from abroad over cash gifts and contributions to foreigners. The net transfer of cash gifts and contributions offsets corresponding entries in personal consumption expenditures and government purchases of goods and services.

**Government Purchases of Goods and Services** measures purchases of goods and services by government bodies, exclusive of acquisitions of land and used depreciable assets and of current outlays of government enterprises. It consists of general government expenditures for compensation of employees, purchases from business (net of sales by government of consumption goods and materials), net government purchases from abroad and international contributions, and the gross investment of government enterprises. Therefore, government purchases of goods and services excludes transfer payments, government interest, and subsidies, as well as loans and other financial transfers outside the scope of income and product transactions.

**C. Personal Income and Disposition of Income** (as in table 3, Part V).

**Wage and Salary Receipts** is equal to wages and salaries less employee contributions for social insurance, except that retroactive wages are counted when paid rather than when earned.

**Proprietors' and Rental Income** is the sum of income of unincorporated enterprises and inventory valuation adjustment and rental income of persons as given in the components of national income.

**Personal Interest Income** measures total interest (monetary and imputed, private and government) accruing to United States persons. The imputed interest component of personal interest income is the same as in national income.

**Transfer Payments** consists of monetary income receipts of individuals from government and business (other than government interest) for which no services are rendered currently, of government payments and corporate gifts to nonprofit institutions, and of individuals' bad debts to business.

**Personal Tax and Nontax Payments** consists of the taxes levied against individuals, their income, and their property that are not deductible as expenses of business operations, and of other general government revenues from individuals in their personal capacity. It includes payments for such specific services as are provided within the framework of general government activity. It excludes, however, purchases from government enterprises. Tax refunds are deducted from payments as of the time of refund.

**Personal Saving** is the excess of personal income over personal consumption expenditures and personal tax and nontax payments. It consists of the current saving of individuals (including owners of unincorporated businesses), nonprofit institutions, and private pension, welfare, and trust funds. Personal saving may be in such forms as changes in cash and deposits, security holdings, indebtedness, and reserves of life insurance companies.
and mutual savings institutions, the net investment of unincorporated enterprises, and the acquisition of real property net of depreciation.

D. Reconciliation Items Between National Income and Gross National Product (as in table 4, Part V).

Depreciation Charges represents the charges made by private business against receipts for the current consumption of durable capital goods and comparable allowances for nonprofit institutions. It includes depreciation charges against owner-occupied houses. Depreciation reported by business is not adjusted for changes in the replacement value of capital goods, except for farm enterprises.

Accidental Damage to Fixed Capital measures the value of the physical losses by fire, natural events, and other accidents to fixed capital of private business, not covered by depreciation charges.

Capital Outlays Charged to Current Expense represents new construction and purchases of new durable capital goods included in gross private domestic investment that are charged as current expense by business rather than entered on capital account.

Indirect Business Tax and Nontax Liability consists of tax liabilities incurred by businesses, except corporate income taxes, and other general government revenues from business. It includes all sales taxes. It includes payments for such specific services as are provided within the framework of general government activity. It excludes, however, purchases from government enterprises. Government receipts from the sale of surplus property are not included in this item. Tax liabilities are net of refunds.

Subsidies Minus Current Surplus of Government Enterprises:

Subsidies are the monetary grants provided by government to private business.

Current surplus of government enterprises represents the excess of sales receipts over current operating costs of government enterprises. In the calculation of the current surplus, no deduction is made for charges to depreciation or other reserves and interest is not counted in either receipts or costs.

Subsidies and current surplus are shown as a single item because of the difficulties involved in segregating subsidies paid through Federal Government enterprises from other expenditures of these enterprises.

Statistical Discrepancy is the excess of the value of the estimated gross national product computed by the final products method over its independently estimated value computed by adding necessary conceptual adjustments to the national income.