

This PDF is a selection from an out-of-print volume from the National Bureau of Economic Research

Volume Title: The Design of Economic Accounts

Volume Author/Editor: Nancy D. Ruggles and Richard Ruggles

Volume Publisher: NBER

Volume ISBN: 0-87014-204-6

Volume URL: <http://www.nber.org/books/rugg70-1>

Publication Date: 1970

Chapter Title: The Proposed Integration of National Economic Accounts

Chapter Author: Nancy D. Ruggles, Richard Ruggles

Chapter URL: <http://www.nber.org/chapters/c3344>

Chapter pages in book: (p. 122 - 140)

7 THE PROPOSED INTEGRATION OF NATIONAL ECONOMIC ACCOUNTS

The System of Integrating the Economic Accounts

The national income accounts proposed in the previous chapter have been constructed so that they readily deconsolidate into the other forms of economic accounting. This method of integration is currently used by the Office of Business Economics to integrate input-output information, by the Federal Reserve Board to show the relation of flow-of-funds to the national income accounts, and by the new UN system as the basis for its general economic accounting structure.

From a logical viewpoint, one can conceive of any set of economic accounts as being essentially derived from other sets of economic accounts. In the early stages of economic accounting, integration was thought of in terms of a large n -dimensional matrix, and in many ways the new UN accounting system reverts to this idea in its matrix representation. However, the detailed data required for such a multi-dimensional matrix do not make it easy to present in statistical form, or to understand. The opposite procedure—starting with an aggregated system and deriving the detailed systems as different kinds of deconsolidation and more detailed breakdowns—permits the system to develop as required for different kinds of statistical analysis; additional information can be introduced at the detailed level without altering the basic structure of the system. In providing the framework, it is more reasonable to develop an aggregated set of data as a central core and to show detailed information as deconsolidations than to attempt to specify as the basic elements in the system masses of detailed data that can be aggregated in a number of different ways to provide alternative constructs. The

coverage of national income accounting is quite comprehensive, and shows how the current activity of the economy is related to past accumulations and how in turn it provides additional accumulation for the future. Deconsolidation of the national income accounts provides considerably greater flexibility in the development of analytic information and permits changes in the specification of the detailed data without affecting the more aggregated economic constructs. The more detailed data, furthermore, never need to be published, but can be kept in machine readable form if the principles underlying its construction can be adequately specified.

An integrated system of national economic accounts based upon the proposed national income accounting system is shown in Figure 5. The four basic types of national income accounts are shown in the blocks across the top of the diagram. The first block (Account 1) shows the national income and product account. The second block (Accounts 2a, 3a, and 4a) shows the income and outlay accounts for enterprises, government, and households. The third block (Accounts 2b, 3b, and 4b) shows the capital formation accounts for enterprises, government, and households. The last block (Account 5) shows the external transactions for all sectors. The other forms of economic accounts are shown as deconsolidations or more detailed breakdowns of these accounts.

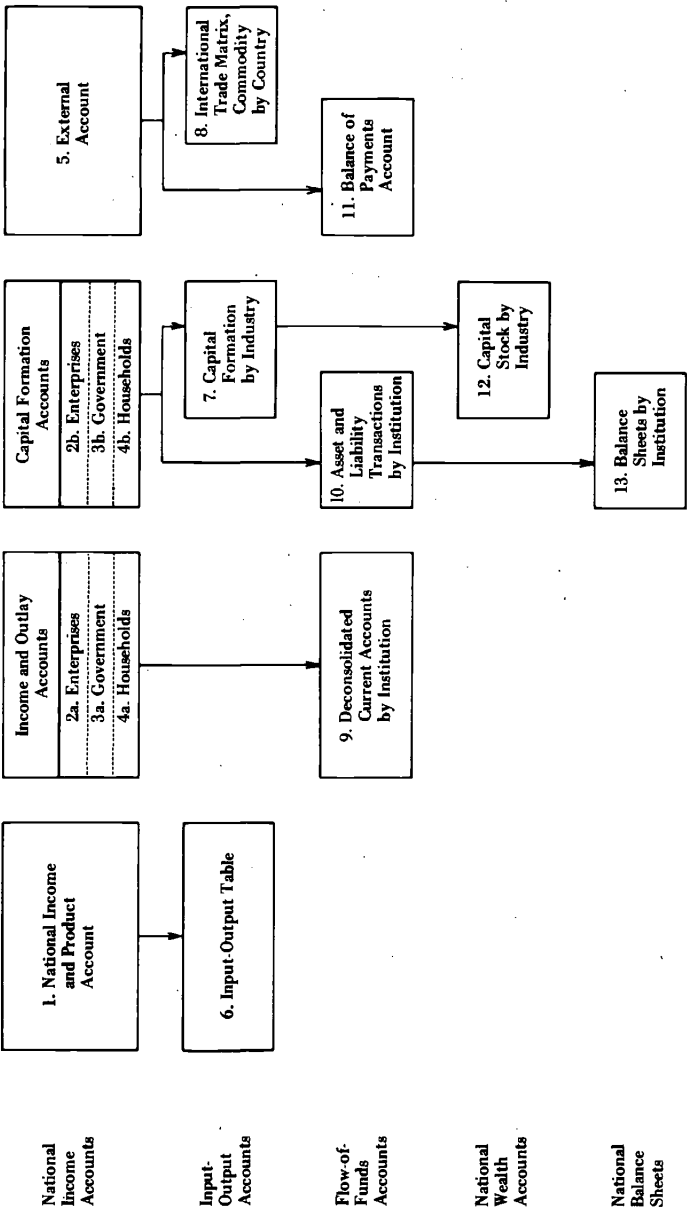
The input-output table (Account 6) is a deconsolidation of the national income and product account by industry and sector. It provides information on the value of production for each industry and sector in terms of the inputs required from other industries and sectors. The gross product for a specific industry or sector is the value of production minus interindustry purchases. It would be possible to break the input-output account into two pieces as has been done in the new United Nations revision, one showing the commodities produced by industries and sectors, and the other showing commodities consumed by them. For summary presentations, however, casting the data into a single table showing inputs and outputs by industry provides sufficient information.

In addition to current input-output accounts, data on capital formation taking place in the different industries and sectors of the economy are needed. These data (Account 7) can be derived directly from the breakdown of the data provided in the individual sector capital accounts.

An international trade account (Account 8) classifying exports and imports by industrial origin and country provides a related form of industry information. For some countries with large foreign trade sec-

FIGURE 5

The Proposed Integration of the National Economic Accounts



tors, it is important to be able to relate the functioning of the domestic economy to world trade flows. The classifications provided for this type of information should fit in with the industry classifications used for the input-output accounts and for capital formation by industry.

The flow-of-funds accounts provide information on the total sources and uses of funds by institutional sector. They can be thought of as consisting of two major kinds of flows: (1) current income and outlay flows, and (2) asset and liability transactions. The flow-of-funds accounts can be derived as deconsolidations of the sector income and outlay and capital formation accounts. Accounts 9, 10, and 11 in Figure 5 reflect such a deconsolidation, in which the sectoring is expanded to include institutions by legal form of organization, with particular emphasis on the financial sector of the economy. The deconsolidation of the income and outlay accounts should show transactions among the subsectors. The deconsolidation of the sector capital formation accounts is somewhat more elaborate, because what need to be shown are the transactions by specific types of asset and liability for each sector. Any desired level of detail or grossness can be provided by classifying assets and liabilities in terms of types of instrument and sector or subsector issuing the instrument. The balance of payments (Account 11) can also be considered part of the flow-of-funds accounts; it shows the relation of the rest of the world to the domestic economy.

National wealth (Account 12) is a logical extension of Account 7. The national wealth account provides information on total capital stock by type of good for each industry and sector of the economy; it is, of course, directly related to the use of the capital stock by different industries and sectors.

Finally, the national balance sheet (Account 13) represents a cumulation of the transactions in assets and liabilities by institutional sector shown in Account 10. The same classification of institutional sectors and subsectors and the same item classifications of assets and liabilities by type should be used in the balance sheet (Account 13) as were used for transactions in assets and liabilities in Account 10.

This system of integration permits a great deal of flexibility. It is important, however, that consistent classification systems be used throughout the economic accounting system so that the data in one part of the system can be related in analytic terms to data appearing elsewhere. Appendix Tables C-1 through C-13 show how these thirteen accounts can be implemented in terms of sets of interrelated classifica-

tions. However, the system of integration does not depend on the adoption of any special classification system; this choice can best be made in terms of analytic needs for the different kinds of information.

The Input-Output Accounts

The input-output accounts include three separate tables: (1) the input-output matrix showing interindustry transactions, (2) an account showing industry and sector capital formation by type of good, and (3) a breakdown of exports and imports in terms of the type of industrial product and country or area of trade.

The Input-Output Table

This table provides interindustry transaction data. It is a direct deconsolidation of the national income and product account. The general form of the input-output matrix is shown below.

	I Intermediate Sales (by industry and sector)	II Final Sales (by sector)	III Value of Sales
I Purchases of Goods and Services (by industry and sector)	X_{11}	X_{12}	X_{13}
II Gross Product Originating (by type of factor cost)	X_{21}	X_{22}	X_{23}
III Value of product	X_{31}	X_{32}	X_{33}

Interindustry transactions are shown in X_{11} . Final sales by industries to sectors are shown in X_{12} . The row total X_{13} is the sum of X_{11} and X_{12} and shows total sales by industry and by sector. Gross product originating in terms of the various elements of factor cost for different industries is shown in X_{21} . There is no data in X_{22} , since by definition all factors of production are employed by the industries and sectors as producing units, and none are purchased directly as part of final sales. The row total X_{23} provides for the total economy exactly the same information that appears on the income side of the consolidated production

account. Column total X_{31} is exactly equal to row total X_{13} , industry by industry. The expenditure side of the consolidated production account is shown by sector in column total X_{32} . The corner of the matrix, X_{33} , is equal to the sum of all current income and product transactions.

Conventional input-output tables often do not contain information on the use of the factors of production. The inclusion of such information as an integral part of the table is very useful, however. The suggested breakdown is that developed for the income side of the consolidated production statement, as shown below.

Gross product originating at factor cost:
 Compensation of employees
 Compensation of self-employed
 Imputed interest on capital
 Net operating surplus
 Capital consumption

The treatment of imports in the input-output table corresponds quite closely to their treatment in the national income and product account. Imports are shown as a negative item in the use of final product. In input-output terms, this means that imports are classified with domestic production of a similar kind; thus, the total uses of a given commodity can exceed domestic production by the amount of imports. It is true that some commodities may not have any corresponding domestic industry. In order to meet this problem, separate industries for those products produced only abroad can be shown as rows in the input-output table.

Appendix Table C-6 gives an example of the arrangement of the stub and column headings for the input-output table. In this table, the industry input-output classifications shown are those used by the United States Department of Commerce. Any other system of industrial classification could be used without altering the general form of the account.

Capital Formation

This is the second set of data derived from the production account classified by input-output industries. Although it would be possible to classify capital goods in terms of industries producing them, such a presentation would have limited usefulness since only a few industries actually do produce products that enter into capital formation. A more

useful approach is a commodity classification of capital goods that would indicate the technological differences in the different kinds of capital goods, and at the same time would fit into input-output industry classifications. For example, it would be useful to break construction into residential structures, office buildings, plants, and other facilities. The classification by type of capital good used in the national income accounts is directly pertinent. It would also be useful to show inventories in terms of their stage in the production process, i.e., raw materials, work in process, and finished goods. Finally, capital formation of government and households must be included in order to cover all capital formation done in the economy.

The capital accounts for the various industries and sectors should also show gross saving of each sector arising from capital consumption and net operating surplus or saving. If gross investment by an industry or sector is larger than this gross saving, its capital formation will require a net financial contribution by other industries or sectors. Conversely if a given industry or sector generates gross savings in excess of its gross investment, it will be providing financing to other industries or sectors.

Appendix Table C-7 shows possible stub and column headings for input-output capital accounts. The classification by type of capital good shown is that used in the United States national income accounts.

The International Trade Matrix

This account shows goods and services imported and exported in terms of the input-output industry classification and the countries with which the trade is carried on. Such a table is particularly useful for those less developed countries that depend heavily on international trade for the sale of their domestic production and their supply of industrial products. This part of the system makes it possible to integrate the input-output table into the analysis of world trade. Appendix Table C-8 presents the form for such a table. The net trade balance shown in this table is the difference between exports and imports of goods and services.

The Flow-of-Funds Accounts

These accounts present information for the institutional sectors in terms of (1) a deconsolidation of their current account activities,

(2) their asset and liability transactions, and (3) the balance of payments. Together they are sufficient for the analysis of the flow of funds of the different sectors in relation to the economic activity of the system.

Deconsolidation of the Current Accounts

The process of deconsolidation of the current accounts for enterprises, governments, and households is quite straightforward. The information in the current accounts for each of the major sectors is merely shown for an increased number of subsectors. Although it would be possible to show the full set of to-whom from-whom financial transactions, this is not needed for most analyses.

For the enterprise sector, the subsectors shown should be directly related to the broad institutional sectoring already given in the enterprise current account. Specifically this means that corporate, noncorporate, and government enterprises, and nonprofit institutions should be recognized as major subsectors and these in turn broken down into major industry divisions as shown below.

- Agriculture, forestry, and fisheries
- Mining
- Contract construction
- Manufacturing
 - Durable
 - Nondurable
- Transportation
- Communication
- Electric, gas, and sanitary services
- Wholesale and retail trade
- Finance, insurance, and real estate
- Services

Not all of these industry divisions will be important for all the major subsectors. The industry division classification can be collapsed when appropriate.

For the government, the institutional subsectoring should be in terms of recognized governmental bodies having both taxing and budgetary authority. This suggests that for the current account deconsolidation there should be no breakdown of the federal government, but that individual states and possibly local governments should be shown as subsectors. A breakdown such as in Appendix Table C-9b

would be very useful for the study of the behavior and the role of the different levels of government in the economy.

The breakdown of the household sector can be based upon the occupational status of the head of the household. Proprietors, employees, and individuals not in the labor force should be distinguished as separate major subgroups. Proprietors and employees could be further classified by the industrial divisions provided for the enterprise sector, thus showing such groups as farm households, retail trade, professional proprietors, etc. Households not in the labor force could be further broken down to show the retired and institutional population. Such subsectoring would permit the household data to be directly related to the subsectoring of the enterprise sector.

Thus, all the sector current accounts can be deconsolidated as shown in Appendix Tables C-9a, C-9b, and C-9c. The stubs in these tables are closely related to the information provided in the consolidated current account for each major sector.

Asset and Liability Transactions Accounts

These accounts represent a more complex deconsolidation of the capital formation accounts. The basic elements of this deconsolidation are shown below.

Transactions in Assets and Liabilities

	Institutional Sectors
Assets	
Development expenditures	
Durable goods expenditures	
Inventories	
Financial assets	
Liabilities and equities	
Liabilities	
Equities	
Retained income	
Realized capital gains	

Development and durable goods expenditures and inventories are obtained directly from the investment side of the capital formation account, and are broken down by the institutional subsectors already discussed. In the sector capital account, however, the financial transactions involving assets and liabilities are represented only by *net* financial investment.

Deconsolidation involves showing separately the financial transactions affecting the assets and liabilities for each subsector. Finally, equities not only reflect the current saving or surplus of a sector, but also changes in equity caused by sales of assets resulting in capital gains that are not reflected in current income. It will therefore be necessary to include an item for realized capital gains.

It should be emphasized that this treatment of transactions in assets and liabilities does not take into account the revaluation of assets and liabilities except to the extent that these revaluations are realized by *actual* transactions. Much as the national income accounts eliminate changes in the value of existing inventories from the measurement of income, so also unrealized valuation changes in assets are excluded from the account showing transactions in assets and liabilities.

Appendix Table C-10 shows a classification of the transactions in assets and liabilities based on that used by Raymond Goldsmith in his study of national balance sheets [31]. Other systems of asset and liability classification could be used without altering the general form of this account.

For financial analysis, both further subsectoring of the financial sector and more detailed classifications of financial assets and liabilities will be required. Such highly specific information is best developed separately as sets of tables related to the more general table for the economy as a whole. It is not desirable to introduce such a level of detail for all sectors since it would require data that are both difficult to estimate and of little analytical use.

Balance of Payments

This account records the net financial transactions of the rest of the world with the domestic economy. The usefulness of integration of the balance of payments with the national income accounts has been widely recognized.

For present purposes the balance of payments is shown on a net basis as it is presented in the United States national income accounts; it is directly related to the "net trade balance" derived in Appendix Table C-8. Appendix Table C-11 shows the balance of payments in terms of the net trade balance, net payments sent abroad, and the net change in monetary reserves.

National Wealth and Balance Sheets

The national wealth account and the national balance sheet provide information on the stock of durable and development goods and services by industry of use, and on the composition of assets and liabilities and equities by institutional subsector, respectively. Both of these accounts are logical extensions of information already contained in the national economic accounting system.

National Wealth

This account, as shown in Appendix Table C-12, has stub and column headings directly comparable to those in Appendix Table C-7 on capital formation by industry and sector. Conceptually, this account represents the cumulation of capital formation over time. It can be calculated on a perpetual inventory basis, taking into account both capital consumption and revaluation to reflect changes in prices. For economic analysis, it is most useful if this measurement of the capital stock reflects market valuations and reproduction costs. Given the existence of capital formation data for previous periods, it should be possible for those interested in the construction of economic models concerned with the vintage of capital to obtain data on the vintage as well as type of capital for each industry. On the equity side neither capital consumption nor amortization will appear, since this account is drawn up in terms of the market value of assets. Instead, the following three items will appear: (a) cumulative net operating surplus, (b) cumulative net financial balance, and (c) revaluation of assets from original cost minus capital consumption.

The Balance Sheet

This account, as shown in Appendix Table C-13, has stubs and column headings directly comparable to those in Appendix Table C-10, the transactions in assets and liabilities by institutional subsector. Since the balance sheets are in market values of the assets and liabilities, it will be necessary to include an additional item in equity to show the amount of unrealized capital gain resulting from changes in the market value of assets and liabilities held by the different subsectors. As suggested by Gorman [32], it would also be useful to provide a special

table showing the revaluations of assets and liabilities for the balance sheet. This would be similar to the current practice of showing the implicit price deflators in the national income accounts.

Related Economic and Social Data

Although the formal economic accounts provide a general framework for economic and social data, they do not, of course, contain all required information, and it is necessary to develop supplementary sets of information that can be directly related to them.

Prices and Real Measurements

One of the first kinds of information the economist wishes to develop outside the formal system of transactions accounts is constant price data. Since the economic transactions reported in the national economic accounts reflect changes in both prices and quantities, the user must adjust these data if he wishes to obtain measures that reflect quantity changes alone. Customarily, constant price data are provided for two different kinds of breakdown: final expenditures and production by industry. The final expenditure breakdown is obtained by using price indexes to deflate transactions in current prices, or by directly obtaining volume measures for specific categories of final expenditures. Generally, constant price data are computed for all categories of consumption, capital formation, imports, and exports, all valued at market prices. For production by industry, it is usually necessary to deflate both the inputs into an industry and the outputs from an industry in order to obtain deflated value added. Again in some cases it may be possible to use volume measures of the output of an industry or of inputs to obtain more accurate measures.

If data on national wealth are available, it may also be desirable to obtain real measures of the capital stock in different periods. Such measurement is necessary if estimates of depreciation are to be based upon anything but original cost. To develop balance sheets at current market prices, it is also necessary to know the extent to which the changes in the balance sheet from year to year are the result of revaluation rather than changes in the total quantity of assets available.

Special tables are needed to show the implicit price deflators for final expenditures and for output originating in different industries as

well as revaluations for national wealth and balance sheets, since such information is as much a part of economic behavior as are the real changes that take place in the economy.

Supplementary Breakdowns

In analyzing economic change, industrial breakdowns are especially important. Although this kind of information is shown in the input-output tables, most countries do not prepare these tables annually, and for many purposes quarterly or even monthly data by industry may be highly desirable. Current and constant price data by industry for short-run periods provide the basis for many economic indicators. In addition to total value added, breakdowns of wages and profits by industry are also very useful. For certain industrial sectors, e.g., the farm sector and the automobile sector, it may be desirable to present complete production accounts.

There is also a need for more detailed breakdowns of certain components of final expenditures on gross national product. Expenditures for consumption and for capital formation by households, enterprises, and government are particularly useful. Such breakdowns on a quarterly basis in both current and constant prices provide information on the flow of goods and services to final consumers and enable the analyst to see precisely what parts of final demand are expanding and contracting. For the government sector, it will be useful to show not only the actual expenditures on goods and services, but also total outlays by the different levels of government, in terms of major programs and types of transaction, e.g., transfer payments, subsidies, expenditures on goods and services, etc. For the foreign sector, special tabulations designed to highlight various critical elements in the balance of payments can be presented. In the household sector, breakdowns of income by size distribution and by social or demographic group will be useful. Finally, consideration should be given to regional breakdowns of all of these kinds of information. Thus, for example, time series showing the income of households within regions, the output of industries, and the expenditure of governments can be provided if the original data are developed to permit this. As already suggested, the volume of data involved in regional breakdowns may be so great that only a portion of it should be published, and the rest provided in machine readable form to those concerned with regional problems.

Social and Demographic Information

All of the data discussed thus far have been concerned with transactions. There are, however, related social and demographic data that also need to be considered. One of the most directly related sets of demographic data is employment by industry. It is important that the employment data be developed using precisely the same classifications used for income originating by industry. If this is done, it is then possible to derive income per worker by industry, and to show how this changes in different industries over time. Other demographic information is necessary to provide per capita measures of consumption or per capita regional data that can show differences in levels between different regions. Splitting the household sector into different economic groups has already been mentioned. In order to include social and demographic information more directly, sets of sample data are required that can be directly related to the economic accounts. Samples of households providing information on such things as wages, other income, financial transactions, and assets and liabilities need to be linked with social and demographic information relating to age, education, work status, family composition, place of residence, occupation, etc. Given a sufficiently large sample of such information, special tabulations of the economic characteristics of various groups in the economy would be possible. It will also be possible to use the sample data as the basis for testing various hypotheses or simulating various kinds of economic behavior.

Microdata sets, however, should not be confined to household data. Other forms of sample data can also be drawn from the operating records of government agencies. Thus, samples of tax returns from both households and businesses are possible. Social security records from establishments can do much to link the individual with the operation of producing units. For other sectors of the economy, many kinds of operating records exist that are valuable for economic research. It should be emphasized again that in the use of such records for economic analysis, provision must be made to preserve the confidentiality of the records.

Implementation of the Proposed System

This system has been designed to provide (1) a standardized set of integrated economic accounts, and (2) a system for interrelating these

accounts with other economic and social information. The proposed system is, however, more than just a general framework into which different kinds of data can be fitted; it is built around specific economic constructs, and considers economic activity in terms of the interrelation between enterprises, government, and households. It is constructed so that the various aggregates and activities of the different sectors can be deconsolidated and decomposed into more detailed classification systems. In this connection, special emphasis is given to viewing the economy in terms of the operation of industrial and institutional sub-sectors. Emphasis has also been placed upon the development of microdata sets that can provide highly disaggregated information for use in developing special cross-tabulations or directly in simulation models. Although the proposed system has been developed largely in terms of the data system of the United States, the new revision of the UN system has also been considered.

Less Developed Countries

Less developed countries are usually severely limited in providing statistical information. Many may not be able to obtain the necessary data for major parts of the proposed national economic system and for other parts only broad estimates without the underlying detail may be possible. The proposed system is, however, constructed in such a manner that it can readily be adapted to such conditions. The basic structure of the system is of a telescoping nature, and in its most summary form there are relatively few major economic constructs and broad intersectoral relationships shown.

The limitation of statistical resources in these countries does not mean that estimates about the functioning of the economy are any less necessary. Estimates must be made from the best available evidence, and it is important that they be made in the context of a complete economic accounting system so that they will be internally consistent. First, the basic set of national income accounts in their most simplified form needs to be constructed. The final product side of the income and product account should show the use of resources for public and private consumption, and enterprise and government capital formation, together with the related information on imports and exports. In many countries, enterprise consumption and household capital formation may have to be ignored because of lack of statistical information. The income

originating side of this account should show production originating in the market sector, production originating in households, and production originating in the government sector, together with information on indirect taxes and estimates of capital consumption.

The enterprise account should show the nature of the activity taking place in the market sector of the economy, and the relative importance of large producers as against the handicraft trades. For some countries where specific foreign companies are particularly important, it may be useful to show these foreign companies as a separate sector. On the outlay side of the account, the payments that enterprises make to the government and the income retained by enterprises are of particular importance. In the capital formation account for enterprises, the sources of financing obtained from the other sectors of the economy and from capital consumption and retained earnings will provide important information about the process of capital formation.

Government accounts are particularly important for these countries, and it is quite reasonable to expect government outlays to be shown in terms of expenditures for consumption, development, and durable goods. For this sector of the economy much more detailed information can be provided since data from government budgets and government internal accounts should be available even when other statistics are not.

For the household sector, much of the required information will have to be derived from the government and enterprise accounts. But specific information on the breakdown of the household sector into socioeconomic groups is extremely important. For example, it is necessary to know the number of people in the agricultural subsistence sector, compared with those in the urban service sector or the urban manufacturing sector. In a number of these countries special population surveys are undertaken, and it would be useful if these could be fitted into the other data relating to the household sector.

Finally, the external accounts also need to be shown in considerable detail, since the economic development of many less developed countries is closely related to the problems of international trade and payments.

Once the basic framework of national income accounting data is constructed, it is possible to generate additional related information. For example, constant price data can be provided for final expenditure if appropriate information on price changes for different commodities can be obtained. Some sort of industrial breakdown is generally possible, since in most cases the data for output are obtained on an industry

basis. Deflation of the industry output data can also be carried out on the basis of price information which is usually obtainable. The degree of refinement in the statistical estimates will depend upon the kind of information available.

For some less developed countries it may be possible to construct summary input-output tables and highly aggregated financial data. For both estimation and analytic usefulness, these sets of information must be directly integrated with the basic national income accounts so that they augment information rather than provide a set of data that is inconsistent and not directly comparable.

Although the specific classifications used to show the structure of a less developed country must be adapted to the availability of information and to the particular structure of the country involved, it is very important that the basic information fit into a standardized economic accounting system. Highly specialized and unique sets of information seriously limit the ability of any country to compare its performance with that of similar countries and, with change over time, comparisons between time periods also become difficult. Therefore, these countries should use the same type of economic accounting system as developed countries, so that comparability over time and space can be maintained.

Developed Countries

For the developed countries, the proposed system serves two functions. First, it provides a framework for existing data, which insures consistency among the different kinds of information, and provides a logical place for each. Second, because it is comprehensive, the proposed system provides a checklist of important economic information and reveals statistical gaps that may exist for a particular country.

The proposed changes in the definitions of some major economic constructs and the sectoring of the economy would require more data than is provided by the present US system. For example, it will be necessary to estimate the capital formation of households and government in terms of development expenditures and durable goods, and through the perpetual inventory method and analysis of length of life to arrive at information on stocks of development outlays and durable goods for these sectors. From a technical standpoint, it is possible to develop these statistics on the basis of existing information. Some special

studies might have to be made of the length of life of different durables, and decisions on amortization of development outlays would be required. For enterprise activities, studies would be needed of enterprise consumption and enterprise expenditures on research and development and education and training. To obtain estimates of imputed interest at the establishment level, plant and equipment data would be required for establishments in various industries, and to obtain imputed interest for enterprises, the value of net assets owned by various kinds of enterprises would also be required. Estimates of depreciation would have to be reworked to adjust them for length of life and replacement cost valuation.

Input-output and flow-of-funds data now exist on a basis that matches the national income accounts, but additional work needs to be done on extending the comparability to the more detailed subsector levels for both industries and institutions. The extension of the flow-of-funds data to sets of national balance sheets and the development of national wealth information require substantial additional information, as indicated by the Wealth Inventory Planning Study [33]. The recommendations in this study fit in with the type of information required for the proposed system.

Although the proposed national economic accounting system has been developed primarily in relation to western national accounts, the general structure is also relevant for countries using the material product concept of economic accounting. The material product concept views certain types of expenditures as intermediate rather than final goods, so that to obtain material product these must be eliminated from final expenditures, on the one hand, and from output, on the other. In countries where the government provides substantial amounts of services free, it is useful to show the interrelation between the enterprise sectors and the community sector. The proposed system provides this distinction—separating the activity of enterprises that sell their goods on the market from those that provide consumption goods free. Countries interested in using material product concepts are also interested in the full set of economic transactions taking place in their economic systems, and since the proposed set of national economic accounts is constructed in terms of these transactions it will be as directly relevant to the operation of these systems as to Western systems. Since market values in the material product countries do not have the same significance as they have in other countries, social and demographic information may

assume a greater importance. Thus, for example, it may be important to observe directly the characteristics and behavior of household units and their changes over time.

The proposed national economic accounting system is intended as a general economic accounting framework. It has been developed to provide for the systematic treatment of the ever-expanding information about the operation of the economic system. It involves specific statistical requirements for the more aggregated comprehensive core of information. On the other hand, its system of deconsolidation and disaggregation provides for the increasing wealth of information that is becoming available in the more developed countries and that is required for the analysis of modern economic and social problems.