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A FEDERAL STATISTICS PROGRAM
FOR THE 1960'S

A STUDY

PREPARED FOR THE
SUBCOMMITTEE ON ECONOMIC STATISTICS
OF THE
JOINT ECONOMIC COMMITTEE
CONGRESS OF THE UNITED STATES

BY THE
OFFICE OF STATISTICAL STANDARDS
BUREAU OF THE BUDGET



OCTOBER 15, 1962

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LETTERS OF TRANSMITTAL

October 15, 1962.

To the Members of the Joint Economic Committee:

Transmitted herewith for the use of the committee and other Members of Congress is a report entitled "A Federal Statistics Program for the 1960's." This report was prepared by the staff of the Office of Statistical Standards, Bureau of the Budget.

The study is published at the request of the Subcommittee on Economic Statistics as a basis for public discussion of Federal statistical programs and various possible directions of future improvements. Publication does not in any way indicate approval by the Joint Economic Committee or the Subcommittee on Economic Statistics of any of the proposals discussed in the study.

Sincerely,

WRIGHT PATMAN,
Chairman, Joint Economic Committee.

OCTOBER 8, 1962.

HON. WRIGHT PATMAN,
*Chairman, Joint Economic Committee,
House of Representatives, Washington, D.C.*

DEAR MR. CHAIRMAN: Transmitted herewith is a report entitled "A Federal Statistics Program for the 1960's," prepared by the Office of Statistical Standards, Bureau of the Budget, and submitted to the Subcommittee on Economic Statistics by Dr. Raymond T. Bowman, Assistant Director for Statistical Standards of the Bureau, whose explanatory letter is attached. The study furnishes a guide to recently made improvements and to projected plans for coordination and development of the Federal statistics program.

The Subcommittee on Economic Statistics believes the study will be of interest and assistance to Congress, the executive departments, and others concerned with improved statistics. It is the hope of the subcommittee and of the Bureau of the Budget that the report will evoke wide discussion and comment on the proposals for improved economic and statistical activities which it contains. Such views will be most useful in revising the report periodically as changing conditions warrant and in assuring continually excellent and improving Federal statistical programs.

In recommending that this study be published as a committee print, neither the subcommittee nor any of its members takes any position concerning the merits of any particular proposal or program.

Sincerely,

WILLIAM PROXMIRE,
Chairman, Subcommittee on Economic Statistics.

EXECUTIVE OFFICE OF THE PRESIDENT,
BUREAU OF THE BUDGET,
Washington, D.C., September 28, 1962.

HON. WILLIAM PROXMIRE,
*Chairman, Subcommittee on Economic Statistics, Joint Economic
Committee, U.S. Senate, Washington, D.C.*

DEAR SENATOR PROXMIRE: Transmitted herewith is a report entitled "A Federal Statistics Program for the 1960's." It has been prepared as a staff memorandum in the Office of Statistical Standards, Bureau of the Budget, pursuant to the Bureau's responsibility for planning and promoting the improvement, development, and coordination of Federal statistical activities.

This report describes briefly the improvements recently made or currently underway in each subject matter area of the Federal statistics program. It then indicates the direction and nature of further development and improvements which are viewed as objectives in the years ahead.

We hope the report will be subjected to public discussion by groups of users of statistics and we invite their comments and suggestions, particularly with respect to needs and uses for new data and improvements in existing series, and their relative order of importance and priority. Such views will be most useful in revising and updating the report periodically as changing conditions warrant and in selecting those parts of the program which should be implemented from year to year and for which budgetary provision may be required.

Sincerely yours,

RAYMOND T. BOWMAN,
Assistant Director for Statistical Standards.

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A FEDERAL STATISTICS PROGRAM FOR THE 1960's

CHAPTER I

INTRODUCTION AND HIGHLIGHTS

INTRODUCTION

The importance of adequate and timely statistical data to the processes of orderly government and efficient conduct of business in a modern society is well recognized. What is needed now is more rational orientation and more precise definition of statistical requirements in relation to the purposes to be served. In the light of emerging patterns of growth and institutional arrangements, and of economic and social developments which can be anticipated, we need to reexamine our national statistical system in terms of national needs broadly conceived—and not merely in terms of identifying and correcting particular deficiencies or adding new and discrete data-collection programs to meet specific new demands. As one step in this kind of reexamination, this review seeks to interpret and identify emerging problems and to point to directions of needed future development.

This introductory chapter, as a convenience to the reader, includes a summary of the high-priority items, which are elaborated in subsequent chapters. To provide further background for understanding the purposes which the Federal statistical program attempts to serve, a brief definition of the role of Government in meeting the needs for statistical information is set forth in chapter II. This chapter attempts in particular to point out the heterogeneity of demands for data in a modern dynamic society and some of the criteria used in determining the place of the Federal Government in meeting such demands.

Attention is then turned to consideration of our major statistical programs, indicating for each the significance of recent achievements and directions for the further development and improvement of the program during the 1960's. It should be understood that the developments now considered desirable which are set forth here are not intended to limit continuous review and modification of objectives as changing conditions require. In chapter II our system of national economic accounting and other comprehensive measures such as production and productivity estimates are examined in these terms. Chapter III reviews our periodic census programs in the same terms; and chapter IV deals in similar fashion with current statistical programs in major subject fields.

The major elements of organization of the Federal Government's statistical program are described in an appendix which indicates the

principal strengths and weaknesses of this organization. Relationships between the Federal statistical organization and other institutional arrangements for compiling, analyzing and interpreting statistical data are pointed out and suggestions made concerning some of the general directions in which improvements in organization must be sought.

This report draws heavily upon statements prepared in 1960 by the major statistical agencies at the request of the Office of Statistical Standards, Bureau of the Budget. In these statements the agencies set forth their views on improvements needed in their statistical programs, and new data-collection projects which should be undertaken in their fields of interest during the 5-year period 1962-66.

This program statement sets forth the objectives for future development of the Federal statistical program. It is concerned primarily with statistics in which there is broad public interest and those pertaining to broad segments of society, its social and economic institutions and how they function. It also includes statistics which are needed by Government agencies other than the collecting agency or are of such a nature as to require coordination in a government-wide program. It does not cover uses of statistical techniques as such, for example, in medical research conducted or sponsored by the National Institutes of Health.

OUTLINE OF HIGH-PRIORITY ITEMS FOR STATISTICAL IMPROVEMENTS

Each of chapters III through V has a section on directions for improvement. For convenience, the highlights of the projected improvements are summarized here. It should be kept in mind that this summary is merely to make the highlights readily accessible. It is brief and highly selective and the various points are elaborated and explained in the appropriate chapters which follow.

Comprehensive measures of economic activity

Summary measures of economic activity serve only as a starting point for economic analysis. It is essential to understand what elements work together to produce the economic output. One of the central tasks of the period ahead, therefore, is to move decisively toward the integration and systematization of the various systems of national economic accounting—national income and product, balance of payments, interindustry purchases and sales, balance sheets, and flow-of-funds accounts. The ability to relate the various accounts will make possible improvements in reliability and increase their usefulness for analyzing business conditions. The achievement of these objectives may involve organizational changes.

Areas for further expansion include (1) further work on interindustry purchases and sales not only by major industry groups but for key industries as well, (2) the systematic development of balance sheets to show the capital resources of each major sector of the economy and the financial claims and ownership relationships, and (3) measures of real product for a variety of detailed industries in manufacturing and construction. These developments will require improved basic data on production and prices.

A program to provide consistent data among the various measures must begin with reports already filed by business under the various

provisions of the tax laws, since such data are already in widespread use. A central task of statistical programing involves a systematic review of such data and of other collections to improve the consistency in the raw material for economic analysis.

Among specific data improvements needed are (a) current figures on the value of deliveries to the Government of major types of equipment and on progress payments on major types of construction; (b) major improvements in the validity of totals for nonresidential construction and for current repairs, both residential and nonresidential; (c) improvement in the precision of inventory data and some extension in detail, particularly with reference to product composition, stage of fabrication, and industrial location; (d) a significant increase in the reliability of major components of consumer expenditure; (e) data on the age distribution and extent of depreciation of certain types of assets; (f) data on quarterly changes in corporate profits in nonmanufacturing industries; and (g) current data on entrepreneurial income.

Periodic censuses

Federal legislation provides for a series of periodic censuses which are the basic source of comprehensive general-purpose information descriptive of various aspects of the Nation's people and activities. In the statistical system the comprehensive periodic censuses, with their wealth of detail with respect to subject and geographic coverage, provide "benchmarks" on which many of our current surveys are based. They are necessary as a basis for, but are not substitutes for, current statistics at either the national or local level. They also provide the description of the universe for designing sample surveys and interpreting their results. They are extensively used not only by Government agencies, but also in the research and survey work of private organizations.

The trend to increased use of sampling in conjunction with the censuses should be continued to spare both Government and respondents the cost of more complete reporting than is necessary. The use of supplementary surveys and closer integration of censuses with annual surveys should also be explored further.

The analysis of results of the evaluation program of the 1960 Censuses of Population and Housing should be prepared as soon as possible both for the benefit of the users of census data and as a basis for recommendations for future censuses.

Among areas for which census-type data are needed is that of transportation. In addition, there are major types of activity not yet covered by the Census of Business: medical and other health services, nongovernmental educational services; insurance and real estate, legal services, and recreation. Retail merchandise-line statistics are lacking. Additional product detail and more information on materials consumed in manufactures are needed from the censuses of manufactures and mineral industries.

Current statistics

Current statistics are the day-to-day working tools which provide the groundwork for planning action required by Government policy. They are indicators of economic and social trends, including extensions to the present of significant summary data provided by the periodic

censuses. They furnish the building blocks for carrying forward the summary measures which are the guides to economic well-being.

A principal problem in a program of current statistical indicators involves the selection of the measures which are sensitive to change and thus are significant. Usefulness often depends on the currency of the information, so speed and ease of collection are important factors. For purposes other than indicating trends, however, the detail available, the method of collection, and the accuracy of the result may be more important than the timing.

To speed up the availability of the data, to reduce the burden on the respondents, and to reduce costs, current inquiries are usually limited as to detail and often involve sampling and other methods of partial coverage. Use is made of administrative records and information is sometimes assembled through State and local sources, with the role of the Federal Government being to encourage the use of common definitions, promote higher standards of coverage and quality, and publish acceptable data assembled into national series.

It is impossible to touch on all the detailed subjects covered by current series; only some of the highlights are indicated below. Details will be available only in the specific programs of the various data collecting agencies.

(a) *Social statistics*.—As here defined “social statistics” include population distribution and characteristics; vital events and migration; social status, organization, and change; and Government functions dealing with aspects of social welfare—education, health, crime, social security, and support of the indigent.

For this diverse area the formulation of a set of unifying principles to guide the design of an overall body of demographic and social data would be extremely useful.

There is need for further development of an intercensal program of population statistics. Reasonably reliable State and local estimates are needed at least annually for important areas. In developing such a program the question as to how much should be Federal and how much State or local responsibility cannot be avoided. Whatever the developments, the Federal Government will be called upon for leadership and coordination.

Studies on organizing and providing for medical care services, especially for the aged population, should be completed and carried out. There should be further exploration of the use of data from existing medical records in hospitals and other institutions, as well as from the records of individual physicians.

Better measures of the utilization and productivity of our educational resources are needed. A statistical programming activity within the Office of Education should be established on a permanent basis.

(b) *Labor statistics*.—First priority should be given to strengthening the statistical series needed to develop programs for meeting problems of long-term unemployment. More understanding is needed of the reasons for movement into and out of the labor force. The development of further information on the characteristics of the unemployed should be carried forward. A series of studies on migratory labor is also recommended.

Hours and earnings data should be extended to additional nonmanufacturing industries and to nonproduction workers in manufacturing.

There is need for information on occupational mobility to evaluate the possibilities for transfer of skills and to understand the work patterns which lead to careers in occupations of particular importance. Steps should continue toward the development of a comprehensive measure to reflect all components of employee remuneration.

(c) *Production and distribution.*—Current data on production and distribution are designed to provide measures of the rate or level at which various goods and services move from producer to consumer. This broad topic covers hundreds of descriptive series in such fields as manufactures and mineral industries, agricultural production, domestic trade, foreign trade, and transportation, utilities, and communication.

There is a general need in this area for continual development of the data needed for summary measures, for better integration among series by wider and more effective use of common records and concepts, and for otherwise improving the usefulness of the data.

In addition, more flexibility must be developed to cover new products as they appear and attain significance, particularly in manufactures. Prompter publication of data for manufacturers' sales are needed and the possibility of a weekly series on manufacturers' sales and new orders requires exploration. More detail is needed to reorient current series to provide for better integration between existing series, particularly between annual surveys and current monthly surveys.

In agriculture the enumerative survey should be extended over the next few years so as to (1) provide improvement in the reliability of the national estimates for major crops and livestock, (2) be fully coordinated with the agriculture censuses, and (3) provide a vehicle for obtaining data needed for farm economic and other studies.

In retail trade, merchandise line data are needed nationally and for major integrated areas such as metropolitan centers, as are gross margin data. Improved data are needed on total retail sales, on sales for general merchandise, apparel, appliances, furniture, and furnishings stores, as well as more data on consumer credit granted by retail trade organizations.

Data are needed on the operating receipts of service trade establishments and on wholesale trade as conducted by nonmerchant wholesalers. Gross margin data are also needed in these fields.

In foreign trade, current study of procedures with emphasis on the problem of acceptable accuracy at the levels of detail peculiar to data in this field must be continued. Statistics on air cargo should be developed and there is need for the measurement of the domestic origin of exports and the domestic destination of imports. Further work on commodity classification is required to obtain comparability between data on foreign trade and on industrial production.

Improvements are required in the data on transportation, public utilities, and communication, now compiled principally by the regulatory agencies in these fields.

(d) *Construction and housing.*—Since July 1, 1959, responsibility for construction statistics has been concentrated in the Bureau of the Census. With an increased budget and consolidated management, some needed improvements have been planned and initiated. A principal objective of any long-term program would be to consolidate and perfect the significant advances which have recently been made to meet

minimum needs and then to extend and improve the program in relation to analytical and policy needs.

The new-housing-starts series should be consistent with changes in the housing inventory. The series on value of work in place should be improved. There is a major need for the development of adequate construction cost indexes for various types of construction. A completely rounded series on total repairs and maintenance should be given a high priority in the construction statistics program.

To better understand the effects of construction on the economy, interindustry and flow-of-funds tables should be prepared. There is a widespread demand for more current data on the housing market.

(e) *Prices*.—A report on Government price statistics by a committee appointed by the National Bureau of Economic Research at the request of the Bureau of the Budget has been submitted. Public hearings on this report were held by the Subcommittee on Economic Statistics of the Joint Economic Committee of the U.S. Congress.

Discussions on this report will continue and it is premature to suggest all changes which may result from these discussions. However, there is general agreement that expansion of price statistics is needed in several areas. More detailed price data are needed for the deflation of national accounts, for construction costs, for various tangible assets of economic importance, for the expansion of information on transportation rates, and on imports and exports.

Meanwhile, improvements also have to be considered in current widely used measures such as the Consumer Price Index, the Wholesale Price Index, and the Indexes of Prices Paid and Received by Farmers. In order to provide an on-going mechanism for dealing with the problems involved, research units should be established to develop techniques for dealing with such problems as quality changes, sampling, and revision of concepts.

(f) *Finance*.—Finance, as used here, deals with a heterogeneous body of data which includes statistics of money, banking and credit, business finance, security markets, and Government finance. The problem in all these areas for the years immediately ahead is to subject the existing series to periodic scrutiny to insure that the content is geared to current problems.

On a long-run basis, problems of banking statistics which deserve attention include increasing the usefulness of debits and deposit turnover series, placing the special business loan surveys on a periodic basis, developing periodic surveys of time deposits by ownership, developing data on term lending, studying the possibilities of measuring the "quality" of credit, and developing flow data—new lendings and repayments, in some detail—for commercial bank real estate lending.

The current sample survey and current reporting by banks must be studied as techniques for obtaining information on agricultural credit. In the field of nonfarm mortgage finance, the series on recordings needs modernization, and the problems of statistical treatment of second trusts and of the secondary mortgage market require study. Further study should be given to developing an integrated body of flow data on mortgage lending by leading lenders, and to the possibility of a current series on mortgage finance based on a sample of real estate transactions. Important long-range goals relative to

consumer credit include periodic benchmark studies of consumer finance companies and a statistical approach to finance charges.

In connection with reports on corporate profits and financial position data available in Internal Revenue Service publications, there is need for a regular audit control study to provide adjustment factors. Quarterly corporate profit and financial data are needed more promptly and for corporations in fields not now reported. Current statistics on the financial position of unincorporated nonfarm business are urgently needed.

Statistical goals in the field of security markets involve tabulation of reported financial data on brokers and dealers and study of mutual funds. Statistical coverage of the over-the-counter market should also be given attention. Series on the market for Government securities should also be developed as should series on State and local government ownership of the public debt.

Government financial data should be developed showing detail on major classes of durable goods purchased by the Federal Government. More current information on the finances of State and local governments is also urgently needed. It is also proposed on an annual basis that statistics on local government finances and employment be obtained for the units covered by the standard metropolitan statistical areas.

CHAPTER II

GENERAL PRINCIPLES GOVERNING THE FEDERAL STATISTICS PROGRAM

A primary requirement for the successful achievement of the goals of individuals and of society is the basic data necessary for rational decision-making and for measurement of the depth and course of events. Intelligent direction requires information, not only about the immediate problems or area of concern but about the functioning of the economic, social, and political aspects of society generally. It must be based on knowledge and a comprehensive understanding of the way the society functions, the extent to which it meets the needs of its members, and the nature and effects of changes in its growth patterns and institutional arrangements. It must also take into account the probable course of economic and social events and the relationship between them and the decisions and actions being considered.

Statistics provide much of the information which enables individuals, governments, businesses, and other economic and social organizations to conduct their affairs intelligently. The success with which a free society—through individual and collective effort—can achieve objectives such as economic growth without excessive fluctuations or unnecessary inequalities, or can formulate policies and programs to meet social problems of health or education, depends in part on the development of a program of meaningful, accurate, and prompt statistical intelligence. Statistics which differ perhaps only in subject matter and scope are used by the high school student discussing with his vocational guidance counselor what trade he should pursue, by the management of a manufacturing firm considering building a new plant, and by a college planning an expansion program.

The obligation of the Federal Government to produce statistics has two aspects. The first is the necessity for Government itself to have a sound factual basis for determining public policy and administering programs. The second is the responsibility of Government to provide the citizens with certain basic facts—with the informational tools they require to make our free society function successfully.

There is considerable overlap between the kinds of information used for these purposes. Much of the data needed for the first purpose is also useful for the second. Moreover, much of it can be collected only by the Federal Government so that it may be properly integrated to provide a comprehensive and balanced description of the functioning of society as a whole and of the interrelationships among its various elements.

The scope of Federal responsibility in providing statistics needed by individual citizens and non-Federal organizations is governed by the general principle of public interest. Application of this principle gives different results at different times, depending on economic and social conditions and the changing weight of opinion. There is an

element of public interest in almost any statistical series but there are limits to how far the Government should go in providing information for the use of private interests. Therefore, formulation of the Government program under this principle requires consideration of relative priorities. Higher priority must be given to providing those data which are more important and which are more widely needed. We discuss some of the considerations which must be taken into account under the following seven headings: integration of related data, flexibility to meet user demands, accuracy, timeliness, frequency, geographic detail, and industry and product detail.

INTEGRATION OF RELATED DATA

The nature and complexity of our economic and social institutions and the responsibility of persons in both public and private life for wise policy decisions make it increasingly necessary that the facts upon which decisions are based be adequate for the purpose. Even more careful attention than has been exercised in the past must be given to the way in which information is gathered, the concepts and definitions used to define the elements of information sought, and the interrelationships of the measures obtained if the operations of society are to be correctly and meaningfully portrayed. This interdependence and the necessity for integration of economic statistics was described most effectively in the report of the National Accounts Review Committee in 1957. Since that time, the criterion of integration within the structure of the national accounts has been used to guide the programs of various Government agencies for the improvement and expansion of economic statistics. High priority has been given to data needed to improve the accounts. There are, however, many types of economic data which do not enter into the compilation of the national economic accounts. With these, too, more emphasis is needed on definition and collection consistent with the concepts and framework of the accounts so that they constitute an integrated body of data and not just series of independent unrelated data.

In the case of social statistics, there has not, as yet, been developed any integrating principle which fills the role comparable to that of the national accounts in the economic area. There is, however, no less need for the coordinated development of statistics outside the area of those required for the national accounts.

The necessity for such coordination stems from somewhat different considerations. For example, concern over the type and extent of scientific research and development rapidly leads to interest in the demand for and supply of scientific personnel and then to the rate at which additional personnel are being trained and the ability of our educational institutions to provide adequate graduate work. At each one of these points many different types of information are required to describe various facets of the problem and to provide a basis for decisions as to appropriate solutions. The achievement of balance between the statistics pertaining to these facets and conformity to the requirements of major interrelated uses should guide the further development of programs in these areas.

FLEXIBILITY TO MEET USER DEMANDS

From time to time in a dynamic society, problems of imbalance and malfunctioning arise. A comprehensive system of statistical

intelligence provides warning signals when symptoms of these problems appear. The system should be sufficiently flexible that additional information needed for special study of these problems can be obtained and analyzed in conjunction with data already available without the necessity of devising new and independent collection procedures. When the temporary need has passed, the program should be cut back to provide the normal continuing measures of the rate and manner in which society functions.

ACCURACY

An effective statistical system must be continually concerned with improvement in the accuracy and validity in relation to the precision required by the uses made of the data. Poorly defined or inaccurate data whose meaning cannot be explained may not justify collection, since their use may be more misleading than helpful. Generally the degree of accuracy must be gaged in terms of major priority uses. Precision is costly but major uses are requiring more precision and the essential demands must be met insofar as feasible.

TIMELINESS

Timeliness is a perennial problem and requires continuous effort to improve. Analysis of the reasons for the lag between the time to which the data apply and publication date shows a range all the way from insufficient advance planning and preparation by the collecting agency to holding up the release of data because other data, in conjunction with which they should be analyzed, are not yet available. However, promptness of publication can be improved by one or more of the following lines of action: better planning; simplification of reporting forms and procedures with perhaps elimination of or subsequent reports on certain items which require more time for the respondent to prepare; use of better processing procedures and equipment; issuance of aggregates with later publication of detail which requires more tabulating time; issuance of preliminary reports based on a sample of fast reports; utilizing estimates of reporters in lieu of data based on records which take longer to compile; advancing the time period or date to which a report applies.

There is no single solution for all cases and no entirely satisfactory solution in some cases. Caution must be exercised in adopting some of the procedures just mentioned lest impairment of reliability and usefulness of the data more than offset the advantage gained in timeliness.

FREQUENCY

There is increasing interest in more frequent collection of data to detect occurrence or change in economic and social phenomena or to measure activity at an early stage frequently enough to establish direction of movement with a minimum of delay.

Recent interest has focused on weekly economic indicators. Aside from the element of cost, the uses of and need for weekly indicators should be considered in the light of the significance which can be attached to week-to-week movements, the frequency with which policies should be reviewed, and the rapidity with which the decision-making process can be carried on and policy changes implemented. In some areas it may be desirable and practicable, at little or no extra

cost, to devise survey procedures which will provide weekly collection of data which may also be cumulated or averaged over a longer period of time.

GEOGRAPHIC DETAIL

The importance of a systematic approach to the provision of local area information on a current basis is becoming increasingly evident. Meaningful analysis and interpretation of national series usually requires some geographic detail in order to know the composition of the national data—whether they are made up of areas which are homogeneous or widely differing in character. For interpretation of national scope, data for local areas must be consistent with the national aggregates.

In many instances sufficient geographic detail can be provided to meet the interpretative need for the use of the national aggregates even when sampling techniques are used. Where the major interests are in individual areas and such areas are numerous, the requirements are more difficult to meet and more expensive. The problem of Federal versus local government responsibility must be faced and also the large costs associated with providing data for all areas even though some may not require or use the data. There is clear justification for adequate periodic censuses at intervals frequent enough to provide useful benchmark measurements and local area detail. But because of the high cost of censuses and the time they consume before the information is readily available censuses cannot be expected to provide current data for the pressing requirements of small areas—cities, counties, States, etc. Methods must be developed to provide current data to meet specific needs related to problems of local areas as well as the Nation as a whole between the periodic censuses.

Substantial use is now being made of local data prepared in conjunction with large Federal or cooperative Federal-State programs. Locally prepared data are also used in compiling some national series. It may be possible to make use of more local data if the problems of comparability can be overcome. Beyond that, the responsibility of the Federal Government in providing local area data must be considered within the framework of the “public interest” principle and the importance of relative priorities.

INDUSTRY AND PRODUCT DETAIL

The question of how much industry and product detail should be included in the Federal statistical program is similar to that of geographic detail. Adequate description and analysis of the functioning of society as a whole requires information about its various segments and their interrelationships. This calls for some industry or product detail. Certain responsibilities of the Federal Government; for example, mobilization planning, may require data on critical products or materials produced in relatively small amounts. In general, however, the Federal Government should not be expected to supply at public expense detail which primarily serves individuals or small groups for private gain. In some cases the needs of groups of this kind can be appropriately served under arrangements whereby they finance the collection and tabulation of additional detail in Government surveys which would not otherwise be obtained.

CHAPTER III

COMPREHENSIVE MEASURES OF ECONOMIC ACTIVITY

DEVELOPMENT AND USES

The United States possesses today, as do most developed nations, an extensive set of statistics on its economic activity. The breadth of this information system reflects the need for precise reporting on a dynamic economy of increasing complexity. The first major advance in this system during the 20th century took place during World War I, when our official measures of prices, employment, and output were significantly extended. Federal responsibilities increased during the Great Depression, and the pressures to wield these new powers as rationally as possible stimulated the initiation and expansion of series on sales, inventories, production, employment, and payrolls. The proliferation of statistical series was further accelerated by the tasks of economic control during World War II.

Development of comprehensive economic measures required systematic ways of summarizing and organizing masses of data. Initial attempts, some made as early as World War I, included the development of the valuable indexes of industrial employment, wholesale prices, and industrial production. Still more summary measures, first produced during the 1930's, reported on total employment in nonagricultural establishments, while in 1939 the central series on total labor force, employment and unemployment began. It was during the 1930's that the Office of Business Economics firmly established, and during the 1940's that it expanded, our first fully comprehensive measures of output in the form of the national income and product series. These series, and others to follow, rest on the work of individual analysts, many of them in academic and private research institutions, in developing the conceptual and structural framework of the accounts. With the presentation of a coordinate measure of prices—namely the price deflator for the national product—the United States then possessed fully comprehensive summary measures for the current and constant dollar values of the production taking place in every industry and area of the Nation.

Such summary measures, however, serve only as a clear-cut starting point for analysis. Essential as it is to summarize the output of the economy, it is no less essential to understand what elements work together to produce that output. Given the responsibilities laid upon the Government by the Employment Act of 1946, and the consequences that inevitably flowed from the Government's utilization of roughly one-fifth of our total product in recent years, a fixed requirement has become clear. Government policymakers must be able to rely upon data that fully reveal the interrelationships among the various types of production and the separate sectors of the economy. It is a major

advantage of the national economic accounts that they do just this. Thus, the accounts dealing with national income and product permit the analyst to follow the direction of production, to measure the incomes generated by that production, to know which groups of purchases account for declines in final sales and in what proportions, and to see the consequent changes in inventory accumulation and price levels.

With the steady and widespread use of the accounts, it was not long before attention was drawn to the need to systematize our data on economic output in the context of the financing required for that output. The flow-of-funds accounts, first issued in 1955 by the Board of Governors of the Federal Reserve System, measure the sources and uses of funds in each major sector, as well as the types of transactions involved. The growth of these systems of accounts still continues, and supplementation by measuring output flows among the several industries and the balance of equities and liabilities of the economy has begun. The tasks here, however, are largely ones of the future and are therefore discussed below in the section on "Directions for Improvement."

RECENT ACHIEVEMENTS

Since the end of World War II, continued effort by both public and private organizations has gone into improving the basic economic data upon which the national economic accounts rest. A hundred advances, however inconspicuous in themselves, have together transformed the validity of the national income accounts. These include, for example, the initiation of an annual survey of manufactures; a monthly survey of retail sales, and a quarterly survey of the finances of manufacturing corporations; the speeding up by an entire year of tabulations of statistics from tax returns; additional detail on automobile prices; additional reliability in measures of construction. Even if the structure of those accounts today were identical with that used in 1947, the improvement in validity, consistency, and promptness of publication would be a striking achievement.

However, major advances have been made in the national economic accounts per se. For the national income accounts these include the establishment of a systematic accounting framework in 1947; the provision of basic data, in the 1950's, on capital stock and capital formation in manufacturing; and, in 1958, the initiation of (1) quarterly measures of the flow of real product; (2) a broad conspectus of materials on Government income and expenditure which can be compared directly with the measures for private income and expenditure; and (3) the provision of more ample data on foreign transactions. The balance-of-payments accounts, in addition to being expanded to provide a wide variety of information on U.S. transactions that stem from the foreign aid program, benefited from up-to-date surveys on investments made by American nationals in foreign countries.

The flow-of-funds accounts, first issued officially in 1955, were steadily tested, studied, and improved in subsequent years. The necessity for change and expansion was recognized by the issuance, beginning in mid-1959, of quarterly accounts to make possible prompt reporting on the financial changes associated with production and distribution. At the same time improvements in the structure of the

accounts made them more closely comparable with the national income accounts, and therefore more usable with them. Official estimates of saving benefited by the incorporation of an estimate of national saving in the revised flow-of-funds accounts, as well as from the improvements in the national income accounts.

The measurement of the flow of industry output among the detailed sectors in manufacturing and in the other major industry categories of the economy was introduced by the Bureau of Labor Statistics in 1951 in the form of an input-output matrix relating to the year 1947, following an earlier preliminary estimate for 1939. Recently the Office of Business Economics, in line with efforts to build an integrated system of accounts, began work on a smaller scale study of interindustry purchases and sales in 1958, the most recent year for which basic census of manufactures data were available. This work is being done in direct connection with the estimating of national income and product. Hence, for the year under study it will be possible to make direct comparisons between (a) data on final output and the incomes associated with that output, and (b) the patterns of supporting production needed to produce that output. Work has likewise been initiated on the measurement of gross product by industry, in real terms. This will offer a valuable indicator of changing business condition as well as a logical link between the income accounts and those for interindustry purchases and sales. Preliminary investigation has begun, largely as a necessary byproduct of the work on the national income and the flow-of-funds accounts, of the balance sheets for each sector of the economy.

Progress may be noted here also in associated areas of statistics—areas that contribute to the Nation's economic accounts and in some instances benefit directly from them. The Federal Reserve Board Index of Industrial Production has, in recent years, increased in accuracy and expanded in detail. It has been adjusted to new census benchmarks. And it has been made significantly more useful by the addition of new categories for market groupings, while its coverage has been extended to include the output of gas and electricity companies as well as factories and mines. Mention should also be made of the utilization of the price data gathered by Federal and private organizations to estimate the deflators used in computing indexes of the trend in real national product. Finally, work in the field of productivity measurement has continued and expanded. Of special significance in the national accounts area has been the initiation by the Bureau of Labor Statistics of series to measure output per man-hour for the economy as a whole, for manufacturing and each of the major sectors—series that rest directly upon the national income accounts and are directly consistent with them.

DIRECTIONS FOR IMPROVEMENT

Analysis of national economic accounts and of supporting data is a vital component in the work of the Council of Economic Advisers, the Federal Reserve Board, the Treasury, and the Bureau of the Budget. Such analysis forms the basis for judgment as to what today's economic situation really is; how has it changed in the recent past; what is likely to happen in the near future; and what is the

long-term trend of economic growth. Depending on what conclusions are reached on these matters, alternative courses of action will be indicated with respect to Federal expenditure and taxation, the procurement of goods, action in the money markets and balance of payments policy, among others. The importance of these same issues for policy-making in the administration of programs of other Federal agencies is likewise significant. Needless to say, private businessmen require similar information, for they must decide when to accumulate inventories and when to reduce them; whether to increase employment or layoffs; when to start new capital projects and when to taper down existing ones.

So that decisions on such questions can be as informed as possible, we continue to seek improvement of our national accounts data. Our primary tasks in this effort are to achieve better integration, comprehensiveness, and greater consistency in the systems of accounts, and to effect needed improvements in specific statistical series that are utilized in compiling the accounts. The particulars of each of these tasks are dealt with in turn in the following paragraphs.

Integration of accounts

Our main systems of national economic accounts were developed under separate auspices and without full regard to their interrelationships and the ultimate need for integration of each system of accounts with the others. The difficulties involved in working out each of the separate sets of accounts were such as to make it impractical to attempt complete integration at the outset, however desirable this would have been in theory. These initial difficulties have now been overcome, however, and the structure of the main accounts has taken shape. Some of the technical problems that once impeded integration have been minimized by assiduous and competent work over the years. To an increasing extent, moreover, regular publication is exposing the systems to critical scrutiny and highlighting the inconsistencies among them. It is possible for highly expert users of the accounts to combine data from the separate systems for valid and meaningful analyses, but the crossings are too slow for appraisal of short-term economic trends or for prompt policy decisions. Moreover, related components of different systems are not necessarily consistent; even when defined in identical terms.

One of the central statistical tasks of the period ahead, therefore, is to move decisively toward the integration that will make the national economic accounts at once more reliable and most useful to the work of analyzing economic conditions. Placing the responsibility for issuing the sets of accounts in a single organization was recommended to the Bureau of the Budget in 1957 by the National Accounts Review Committee, after extensive consideration of the issues. That recommendation has become only more convincing with the passage of time. It is hardly necessary to add that the flow of statistical materials from a diversity of sources is quite another matter. So, too, would be the continuing benefit of initially processing portions of the accounts in the several units that have demonstrated expert abilities in such work.

The national income accounts are being expanded to show gross product produced in each industry—manufacturing, mining, public

utilities, and so on. At the same time the index of industrial production has been extended to measure output in the gas and electricity industries, and the need for its extension to construction and other industries has been clearly expressed. The sources of data used in making each set of estimates are closely related and the aggregates themselves are intimately linked. Moreover, in analyzing current economic change a most fruitful approach is to study the varying volume of production by manufacturing industry in relationship to final sales of these goods to ultimate consumers. (The intermediate adjustments in inventories and exports then account for the extent to which production did or did not keep pace with final sales. Incidentally, it is clear that import and export statistics should be classified on a basis comparable with production codes.) To keep such an analysis from being biased by mere statistical incomparabilities, however, requires that the data on production, inventories, and final sales all be integrated with each other.

Comprehensiveness

Our existing national economic accounts all grow from the pattern of accounts kept for the prudent guidance of individual business operations, including the ordinary profit and loss statement, the balance sheet, and the sources and uses of funds statement. The development of accounts for the Nation began most obviously with the balance-of-payments account and the national income and product accounts, widening to include the flow-of-funds accounts in recent years. The same forces which led to the development and elaboration of the existing systems of accounts continue to generate pressures for more comprehensive bodies of data to measure and interpret a wider range of economic phenomena with greater precision. Three areas of further expansion of our national economic accounts in particular are called for by the growing complexity of our dynamic economy.

(1) The flow of goods among the several producing industries of the Nation—steel to auto factories, coal to generating plants, electric motors to aircraft companies—is a vital element in producing current economic change. Particularly at the critical periods of business turnaround, variations in these flows may be as volatile and important to measure as changes in final output flows. Work on a table of inter-industry purchases and sales based on data obtained in conjunction with the 1958 Census of Manufactures is in progress.

This initial effort must not only be concluded but extended so that there is available in any year a reasonably up-to-date measure of these significant flows—not merely by major industry group but for key industries as well. How will slackened housing demand affect the other industries of the economy? Will a rise in automobile and machinery demand give sufficient impetus to purchases by the industries that supply the automobile and machinery industries so that a turnaround in economic activity is likely without Government action? To answer such questions we must have measures of the sales to and from these industries. Present work on the table of interindustry purchases needs to be expanded to provide such detail, and in such fashion that

the findings can be closely linked to the components of final product. Thus, it does not suffice to know that on the average a rise in purchases by the electrical machinery industry will lead to certain end consequences; in one period it may reflect increasing sales of television sets to consumers, in another, deliveries of government defense equipment—each with significantly different results. Moreover, for an economy as dynamic as that of the United States the more volatile components in the table of relationships need to be brought up to date at reasonably frequent intervals lest the policymaker be misled by outdated measures of relationship.

(2) The systematic development of balance sheets to show the financial resources for each major sector of the economy is now overdue. How does the relationship between capital stock and output in our major industries today differ from that during earlier periods of business change? What does the cash and equity position of business at present imply with respect to the extension or curtailment of business investment in the period ahead? Answers to these questions will be assisted by the provision of balance sheets. Moreover the development of such statements will add significantly to the reliability of current measures of saving, and complement them by providing insight into the financing available for economic growth. Developments in the knowledge of sector assets will, however, require better information of a more detailed character on the stocks of fixed capital in the various industries, their age distribution, and ownership relationships; equally, information regarding broad sectoral positions with respect to the issuance and holding of debt, both public and private, is necessary. Corollary data reflecting the characteristics of the stocks and flows of this debt are also desirable. The need for a Census of Wealth is clearly indicated.

(3) Measures of real product, already available for the economy as a whole, are being developed for major sectors. This project requires expansion to provide measures for a variety of detailed industries in manufacturing and construction so that the current variations of production can be clearly discerned and the relative contribution of different elements to that variation be assessed. Not the least important element of such an expansion is the provision of improved basic data on production and prices in the individual industries to support the detailed estimates that are needed.

Progress in the above-mentioned areas is to be valued not only for its own sake but also for the external effects it will generate in related areas. Chief among these is the study of productivity. It is hoped that improved series on real product by industry consistent with GNP and in conjunction with more complete data on resource inputs (land, labor, and capital) will lead to more comprehensive and meaningful estimates of productivity. A goal for the future of weighted factor productivity measures for industries and for broad sectors of economic activity does not seem to be unrealistic.

Consistency

The expansion of the national economic accounts, first to include the flow of funds, then interindustry purchases and sales and real product by industry, and now the proposed incorporation of national balance sheets, has put an increasing burden on the underlying statistics.

Every additional set of measures increases the premium on the consistency of basic economic statistics.

The economic analyst does not generally limit his analysis to a single aspect of a problem. Concerned with farm income, say, he will look to data on farm production and expenses; to employment that goes to produce off-farm income received by farmers; to the investment in equipment which goes to increase farm income; to the variation in nonfarm incomes from which derives the strong demands for farm products. He therefore must have measures for each of these aspects that are substantially consistent with each other. In this example of our agricultural measures there is a larger consistency than in many other areas. On the other hand a study of national productivity changes must relate employment data (from several sets of surveys) to measures of production (from still another group of surveys) to measures of depreciation and capital stocks (which come from quite different and unrelated sources). Estimates of productivity change include the effect of unknown amounts of statistical incomparability. The economic aspects are tightly interrelated; but the surveys are not.

The consistency required for economic analysis is not necessarily to be sought in a single all encompassing survey—although in some areas greater consolidation of surveys would probably be economical and also produce better data—but rather in the development of far greater integration of basic surveys within each industry group. While other modes of development are feasible, the common focus of analysis by industry, and the distinct variation of problems among the industries suggest that this basis of distinction is fundamental and useful. Furthermore, a program to provide consistent data must begin from the very substantial volume of reports already filed by business under various provisions of the tax law—including the personal and corporate income tax returns and the employer social security tax returns. Since such data are already used by many agencies in the making of many benchmark estimates no completely new departure is envisaged. Nevertheless the wide increase of special surveys in recent decades, the initiation of Social Security tax reports, and the continuation and expansion of the major periodic enumerations of earlier decades combine to raise such problems of consistency as to warrant a reconsideration of the total array of data now being compiled. A central task of statistical programing is to make such a systematic review.

Specific data improvements

The program changes needed to achieve the fuller integration of accounts proposed above, together with a greater consistency among underlying data collection programs, would make for significant advances in the reliability and breadth of data used for the national accounts. In addition specific urgent improvements are outlined in the report of the National Accounts Review Committee, both in the recommendations of the Committee and in the statement to that Committee by the chief of the National Income Division. These recommendations constitute a sound listing now as well as then. We note here some of the most urgent improvements required for current analysis, including National Accounts Review Committee recommendations and others.

Government expenditures.—At the present time more detailed usable measures are available on private expenditures in many portions of the economy than on Government expenditures. Current figures must be provided on the value of deliveries to Government of major types of equipment, and on progress payments on major types of construction. Such information is needed not merely because of the dominant effects that Government procurement has on current production. It is necessary so that accurate estimates of private investment in the major types of equipment may be prepared.

Balance of payments.—This area of national accounting was developed early but data problems are still difficult and some conceptual problems are still troublesome. In the light of the increasing importance of U.S. foreign transactions and the attention being directed toward this segment of our national economic accounts it is desirable to take steps which will strengthen or improve the analytical usefulness of these measures and the data on which they are based. To that end, the listing of international transactions with different regions should be brought up to date to reflect new trade patterns; specifically, Japan should be placed in a category of its own; there should be a breakout of international transactions attributed directly to the Government; U.S. foreign trade data, collected and published by the Census Bureau, should be reconciled to the figures representing payments for imports and exports in the balance of payments accounts, published by the Office of Business Economics.

Expenditures for construction.—Major improvements are needed in the validity of the basic data on expenditures for nonresidential construction, and for current repairs, both residential and nonresidential. Users of the accounts are interested both in a correct total for construction activity and in the various components. Improved totals must be wholly consistent with the residential and other components of construction. The extension of the national accounts to encompass flow of funds and balance sheets likewise requires measures of construction activity that can be directly associated with changes in the inventory of houses under construction as well as, for much economic analysis, the changing overall inventory of housing. Moreover, the users of the accounts seek to relate construction activity to employment, for assessing productivity change.

Inventories.—The present basic array of data on inventories requires substantial improvement in precision, and some improvement in detail. Aggregates for retail inventories are in need of marked improvement. At all levels—manufacturing, wholesaling, and retailing—more detail for selected items or groups of items is required. At retail the provision of some detail on numbers of units held (for certain key items) and dollar holdings for other items or groups of items is needed, since the economic implications of inventory accumulation of certain items differs markedly from that of other groups of items. For a few critical classes of commodities, particularly in the metals area, it is also necessary to have comparable data on holdings by enterprises in the major manufacturing groups, wholesaling, and retailing. Significant and variable portions of the inventory are held at all levels and analysis of the figures for one level carries little meaning. (More detailed recommendations, most of them still applicable, appear in the report of the Federal Reserve Board Task Force on In-

ventory Statistics—1955, and in the report "Availability and Reliability of Inventory Data Needed to Study Economic Change," prepared by Elmer C. Bratt, Consultant to the Bureau of the Budget—1961. The latter has been published by the Joint Economic Committee in Part III of a series on "Inventory Fluctuations and Economic Stabilization.")

Consumer expenditures.—The recent expansion of published detail for consumer expenditures (in both current and constant dollars) demonstrates the importance attached to adequate data on this, the largest single item in the national product total. A significant increase in the reliability of major components of consumer expenditures is, however, requisite. One necessary step will be to provide monthly measures of retail sales not merely by type of store but by commodity group. If this information were available currently the estimating process would be simplified; disturbing errors made in the past because of lack of data would be less likely to be repeated in the future. Such sales detail need not be obtained from all types of retail business but only those where the shifting composition of sales is great enough to be of broad economic significance. A second step will be to collect data on sales in the major service trades—a sizable group for which little in the way of reliable current data is available for use in estimating expenditure components.

Depreciation.—Significant advances are underway in the tabulation by the Internal Revenue Service of data on the age distribution and extent of depreciation taken on certain types of assets. For the preparation of national balance sheets, as well as estimates of net investment by sector and depreciation, major investigation is required on the actual life of depreciable assets (as distinguished from taxable life); the pattern of loss of value; the contrasting figures for depreciation at current and replacement cost; depreciation on Government capital; and the most appropriate methods of estimate for depreciation of consumer durables. Whether these data appear primarily in the national income accounts, in the flow of funds accounts, in an integrated system or a separate presentation, they constitute essential information for understanding the role of capital assets in the process of economic change and growth.

Corporate profits.—The significant contribution by the Internal Revenue Service in the earlier publication of annual data on corporate profits makes all the more apparent the need for data on quarterly changes in profits. Such data are already available for manufacturing, although even here the information is needed earlier. Such data are totally lacking for most of the other major sectors of the economy, except those under regulation. These data could be provided by an extension of the existing financial reporting program for manufacturing corporations to encompass corporations in trade, mining, construction, and business services. Such an expansion in basic data would not only effect a significant increase in the validity of current data on national income and profits, but would, in addition, permit showing for each industry the concurrent changes in wages, profits, and other shares, thus providing a basis for a clearer understanding of the industrial sources of variations in income flows.

Entrepreneurial income.—The signal inadequacy of present information on nonfarm entrepreneurial incomes has been cited by the

Office of Business Economics and by almost every report on current economic statistics. Regular and reasonably prompt benchmarks are now provided through the efforts of the IRS. Virtually no data are collected, however, to support estimates of short term variations, which are essential to the understanding of current cyclical fluctuations. A survey is needed covering the major sectors in which entrepreneurial income is both significant in volume and too volatile for reliance on simple projections between benchmarks. Again we note that such a survey should not be made independently of other surveys covering the same sectors for best results.

Finally the importance of Government policy with respect to small business suggests that both corporate and noncorporate business incomes be summarized so that data on earnings by size of business may be available at intervals. While the distinction between corporate and noncorporate forms of business is frequently made for tax reasons, the ability to combine the two categories but distinguishing by size of enterprise should add a significant dimension to our knowledge of current change.

Other series.—Even for the national income accounts, as narrowly construed, the improvements suggested above cover only some of the major needs. Further experience with the preparation of flow-of-funds estimates, national balance sheets, etc., will reveal a variety of other changes required to improve them. Policy determinations will be called for with respect both to broad priorities and to the basic approaches to be used for collecting the necessary data. Currently and in the years ahead actions must be taken to meet these requirements.

CHAPTER IV

PERIODIC CENSUSES

SCOPE AND SIGNIFICANCE IN THE STATISTICAL SYSTEM

Principal structural members of a governmental statistical system are its periodic census programs. From their earliest beginning, censuses have been regarded as important instruments for determining public policy. There is an account of a census in the Old Testament and nearly 2,500 years ago, in ancient Babylon there were censuses of population, agriculture, stock and produce for the purpose of assessing fiscal, military, and labor liabilities. The very word "census" derives from the Roman procedure of periodically enumerating the population to determine civil status and the valuation of estates for imposition of taxes.

Today censuses are looked upon primarily as means by which the state collects and records information about the population, farming or industry with the reporting unit anonymous. Modern censuses provide generalized statistical information and are not taken to determine specific actions by Government related to specific individuals. Censuses of population, dealing with population aggregates within political subdivisions, have multiplied with the growth of democratic governments. The constitutional provision for a census of population in the United States in 1790 and every 10 years thereafter was for the purpose of determining representation in the Congress of each of the various States.

Not many years after the first census in the United States it was recognized that information in addition to simple population data was needed for the formulation and guidance of public policy. Accordingly, the census law for 1810 provided for the collection of certain industrial statistics showing "the number, nature, extent, situation and value of the arts and manufactures of the United States." From then until 1880 the scope and content of the decennial censuses expanded both in coverage and subject matter. For example, in the census of 1850 there were six separate schedules, one of which included social statistics for the first time, covering such matters as education, religion, pauperism, crime and wages.

The first decennial census under a permanent census bureau was in 1910 and covered population, agriculture, manufactures and mines. It had become apparent, however, that more frequent censuses of manufactures and agriculture were required. From 1900 to 1920 there were censuses of manufactures every 5 years; beginning in 1922, and thereafter until 1940, there was such a census every 2 years. After a lapse during the war there has been a census of manufactures every 5 years beginning with 1948. Since 1925 there has been a census of agriculture every 5 years. The census of business (distributive trades and service establishments), taken every 5 years since 1948

along with other economic censuses, was originally scheduled as part of the decennial censuses, starting in 1930. Off-schedule business censuses were taken in 1933 and 1935 as special projects. The first census of housing was taken in 1940 in connection with the decennial census of population and repeated in 1950 and 1960.

Complete censuses at regular intervals are the basic sources of comprehensive data concerning demographic, social and economic aspects of the Nation's activity. Their universality of coverage permits periodic microanalysis of the subject matter in rich and significant detail. Moreover, the data are tabulated and published in varying degree of detail for the United States as a whole, regions, divisions, States, economic areas, standard metropolitan statistical areas, counties, cities, census tracts and city blocks. Even for those particular items for which sampling is employed there is a wealth of information for relatively small geographic areas.

Censuses not only serve the purpose of permitting cross-section analyses at given points in time but also, when taken in series, furnish the data necessary for the measurement of net change during the intervals. In addition, with general coverage, it is possible to make inter-area comparisons in order to scale the relative success or failure of political subdivisions in meeting the aspirations of their residents and to identify problems of both local and national significance.

The depth and detail of typical census data, particularly the wide variety of cross tabulations available, are major sources for research into many aspects of our society and our economy. They also provide both the raw material and refined classifications needed in many cases to advance statistical methodology.

With the comprehensive censuses as "benchmarks" many of the areas are covered by annual or more frequent sample surveys which show promptly the intercensal movements in statistical measures of activity. They also provide a universe of data invaluable for designing sample surveys and interpreting their results. Census data are used for this purpose both by Government agencies and in the research and survey work of private organizations.

The present program of periodic censuses for the United States is as follows:

The Decennial Census of Population now authorized by law to be taken as of April 1 in each year ending in zero, is the source of much of our detailed knowledge about the social and economic characteristics of the population.

The Census of Housing provides data on the volume and characteristics of the housing inventory and how it is used. Taken in conjunction with the population census, the characteristics of housing are related to its occupants. The 1960 Census of Housing obtained a measure and description of gross changes in the housing inventory as well as a broader coverage of the conditions of private living accommodations.

The Census of Agriculture, taken every fifth year in the years ending in 4 and 9, provides comprehensive information in physical, financial and other terms, about the structure, organization and operation of the agricultural economy. Once every 10 years, in the year ending in 9, a supplemental coverage of irrigation and drainage is authorized.

Censuses of manufactures, of mineral industries, and of other businesses, including the distributive trades and service establishments, are scheduled to be taken every 5 years, covering the years ending in 3 and 8. These censuses provide information appropriate to each kind of business on the size, form of organization and operations, as measured by various types of input and output, of the establishments engaged in these activities.

The Census of Governments is taken every fifth year in the years ending in 2 and 7. It provides, for States, counties and individual local governmental units above a minimum size, statistics on the number and types of governments, government employment, government finances and taxable property values.

FURTHER DEVELOPMENT OF CENSUS PROGRAMS

Plans for future censuses call for certain innovations in coverage or procedures. These, as well as other developments which are extensions of recent trends, are discussed in the following paragraphs.

Use of sampling

The trend toward increased use of sampling in taking censuses should be continued. Where complete coverage is not essential to meet required standards of accuracy, sampling should be employed if it is administratively feasible and if the particular item of information or associated items can be given sufficient precision to serve for small area analysis. Both Government and the public should be spared the cost and trouble of more complete reporting than is necessary for the important analytical uses.

Supplementary surveys

Census law provides that surveys may be made to collect "preliminary and supplementary statistics related to the main topic of the census" both before and after the main census undertaking. One principal advantage of this is that it permits a more stable and efficient operation through spreading the workload of a census over a longer period of time. It also facilitates the exploitation of sampling. The content of the main body of the 1958 Census of Manufactures was materially reduced by this means. Further development in the use of such supplementary surveys is necessary.

Integration of other data collections and censuses

The annual Survey of Manufactures was completely integrated with the 1958 Census of Manufactures so that firms which had been reporting on the former filed the same form as part of their census return. As "annual survey" programs are developed in other economic areas, for example, mineral industries and wholesale trade, they should be similarly integrated with the periodic censuses.

In census years the use of broad ties of commodity data reported in the census return to current commodity survey data should be continued and extended. Also, the use of reports filed with other agencies as a substitute for a census return should be extended where possible.

This technique, similar to that initiated some years ago when tax returns were used in lieu of retail trade census reports from stores with no employees, is particularly applicable to small firms.

Development of a national register of residential addresses is expected to have significant influence upon the methodology of taking the Censuses of Population and Housing. This subject is discussed in the chapter on Current Statistics.

1960 census evaluation program

A number of new procedures were employed in taking the 1960 Censuses of Population and Housing. In addition, the Census Bureau's program for evaluating the coverage and reliability of its figures was strengthened and expanded. The experience and results of the 1960 censuses are to be thoroughly analyzed both for the benefit of users of census data and as the basis for recommendations for the next census.

Provision for such analysis should be included in the plans and costs of each census as they were for the 1960 Census of Population.

Census of transportation

Among the areas for which census-type data are urgently needed is that of transportation. Authorizing legislation provides quite properly that the Census of Transportation not duplicate statistics collected by Federal regulatory agencies or any other source. The first Census of Transportation is now planned for 1963 and will consist of three segments: (a) a survey of the distribution of commodities by all classes of transportation; (b) survey of passenger travel; and (c) truck and bus inventory. To be of greatest value, the data obtained through this program must be used in conjunction with information derived from administrative sources. To facilitate these uses it is desirable to pull together from the various sources and present in one place, in a handbook of transportation statistics, a summary of the most important data relating to transportation. Such a compilation should include, for establishments classified in transportation according to the SIC, in as comparable form as possible, some of the measures usually presented from censuses of other economic activities—for example, employment, payrolls, cost of fuel and energy and other items of expense necessary to derive value added, gross revenue, expenditures for plant and equipment, value of assets, and depreciation.

Census of construction

In 1929, 1935 and 1939 Censuses of Construction were taken as a part of the Census of Business. In 1949, the Bureau of Labor Statistics made a survey of the structure of the residential construction industry. Since then no large-scale data have been obtained on either the residential or nonresidential construction industry. For many purposes it is desirable to have current data on the structure of this industry and this will require that certain difficulties be overcome; these relate primarily to the previous restriction of the censuses to contract construction.

Other gaps in scope and content of economic censuses

There are still important gaps in the scope and subject matter covered by the economic censuses. Several major types of activity are not covered in the Census of Business: medical and other health services; educational services (nongovernmental); insurance (agents, brokers, etc.) and real estate; legal services; and recreation. Merchandise-line statistics have not been obtained in any recent census of retail trade.

Additional product detail and more information on materials consumed in manufacture are needed from the Censuses of Manufactures and Mineral Industries. Some of these gaps can and should be filled in the 1963 censuses, but others will require continuing attention.

Estimates of wealth suffer materially from the lack of precise and detailed benchmark data. This is admittedly an extremely difficult area and will require extensive planning and development. Its importance to a more complete understanding of our economy and to the formulation of public policy is so great that planning should be directed now toward a comprehensive program of wealth measurement in the second half of the 1960 decade. In preparing such a program careful consideration must be given a number of conceptual and methodological problems such as the definition of value to be employed, how the ages of assets are to be described, and how the distinction is to be made between the use and ownership of wealth. For the data to be most useful they should be related to a short time span and collected, to the extent possible, in connection with the pertinent economic censuses.

CHAPTER V

CURRENT STATISTICS

Practically all agencies of Government require some kind of current statistical data in order to perform their functions effectively. The same is true of most kinds of business operations and other forms of organized economic and social activity. Our modern society, in fact, simply could not function properly without timely information on such things as prices, weather, communicable diseases, employment and unemployment, births and deaths, credit and money supply, manufacturing output, agricultural crops and markets, school attendance, wages and earnings, and a host of other subjects which are just as much a part of our way of life as roads and highways, water and sewer systems, supermarkets, or television.

For a variety of reasons—not the least among which is the reputed tendency of Americans to think in figures—this country probably has a more highly developed statistical system producing a more elaborate array of current data on a wider range of subjects than any other country in the world. Nevertheless, our statistical agencies still confront a host of demands for more and more current data—on additional subjects, in greater detail, compiled more frequently and made available more promptly.

Probably no statistical system, however elaborate, could fully satisfy all expressed needs for current data. Hence a principal problem in a current statistical program is the selection of the measures that are most significant in terms of the value of the information obtained. This problem is manifested in a variety of ways, and the principles applied to its solution differ even more widely. Such factors as sensitivity to change of the activity involved, speed and ease of collection of the data, amount of burden on respondents in supplying information, availability of alternative measures, and many others may be taken into account. The content of our current statistical program as a whole is merely the aggregate resulting from decisions on such matters by scores of different Government agencies which produce current data either for their own administrative purposes or for general use. There is no central body of principles governing the system as a whole, and no single structure or framework into which all components of the system must be fitted. The examination of current statistical programs in this chapter, therefore, will deal seriatim with major subject areas. In the discussion of programs in each subject area attention is given to the present status or recent developments and directions for improvement.

SOCIAL STATISTICS

As used here "social statistics" includes: population—its distribution and characteristics; changes in the population as shown by

records of vital events and migration; social status, organization, and change; and statistics involved in a variety of Government functions dealing with aspects of social welfare—education, health, crime, social security, and support of the indigent. This list is not complete, but is indicative of the broad scope of this area.

The Current Population Survey is now the vehicle for collecting much current information in addition to the regular monthly labor force data, including summary annual estimates of migration, occasional estimates of fertility, annual estimates of number of households, characteristics of students, personal and family income, and other population characteristics. This same survey also provides supplementary labor force information and a mechanism for adding questions on subjects of particular concern to Government agencies. The capacity of the CPS to serve such needs has been expanded by addition of a second panel of households.

Population statistics

A growing demand for improved population statistics in the interval between decennial censuses arises, in part, from a desire for more frequent population counts for local areas and, in part, from a desire for better information nationally on such subjects as migration, household formation, farm population, and other population characteristics.

The need for an improved intercensal program of population estimates and projections is well documented. In addition to estimates for States, annual population estimates should be made for standard metropolitan statistical areas and for other areas and counties in which there is a special interest. Some detail on population characteristics (such as sex, color, and more detailed age groupings) should be provided in conjunction with the estimates for States and selected metropolitan areas. The Federal Government should be in a position to provide leadership, coordination, and assistance to States and localities in making their own population estimates for places not covered by the Federal program. These efforts should be supported by expanded research in methodology and a program of special studies designed to improve the system of State and local estimates.

Population projections for States and selected areas—a basic requirement for manpower projections—should be made at appropriate intervals between censuses.

More detailed cross-tabulations of decennial population census data should also be provided for States and large areas.

A program of analytical studies of critical demographic, economic, and social situations and trends should be carried out. This program should cover such subjects as birth rates and spacing, early school leaving and level of educational attainment, mobility of the population and factors leading to migration, low incomes and causes of economic dependency, etc. The program should be supported by supplements to the CPS or other surveys where necessary.

Funds were requested in the 1963 budget to finance exploration of the problems involved in developing a register of residential addresses. Such a register would involve transcribing the addresses from the 1960 census enumeration listing books onto magnetic tape. The listings would be kept up to date by incorporating data from building permits and other sources. If the developmental work and

testing of an address register demonstrates the effectiveness of this approach, its use will help improve completeness of coverage and achieve lower costs in future censuses and provide a more efficient method for drawing samples for current population and housing data.

Health statistics

After 5 years of operation the National Health Survey has become established as an essential source of information in an area of growing importance. Significant data are already being collected through two of its major components—the Health Interview Survey and the Health Examination Survey; and a third—the Health Records Survey—will soon be in operation. A committee of consultants to the Office of Statistical Standards, Bureau of the Budget, completed an evaluation of the Health Interview Survey in 1961. Recommendations of this committee will furnish guidance for the future development of the survey.

Budgetary provision has been made for methodological and developmental studies in preparation for the second cycle in the Health Examination Survey, which will emphasize pediatric examinations; and for developmental work on the Health Records Survey, including planning and testing of schedules and the selection of a sample of institutions providing hospital and medical services. The feasibility of obtaining data from records of a sample of physicians also should be explored.

Further expansion and improvement of the National Health Survey should include collection of data at regular intervals on personal health expenditures and health insurance coverage, extension of the Health Examination Survey to cover all age groups and a wider range of health conditions, and extension of coverage of the Health Interview Survey to the population in resident institutions.

Important data needs in this area remain to be filled, including especially studies of the aged population to provide information needed currently. Such studies should include special analyses and interpretation of data obtained from vital records and from the National Health Survey on health and medical care of the aged, as well as surveys of patients in nursing homes and home nursing services.

Vital statistics

The National Vital Statistics Division of the National Center for Health Statistics has made significant progress in establishing marriage and divorce registration areas to improve reporting of these events. Meanwhile, for use in conjunction with 1960 population census data, samples of marriage and divorce records have been purchased from a sample of States and localities. Procedures for continued compilation of national data on a sample basis would be desirable until all States are included in the registration areas.

The National Vital Statistics Division is undertaking a program of special surveys and tabulations related to the availability of the 1960 population census data, including preparation of unabridged life tables and related actuarial tables, detailed tabulations of birth and death certificate items for small geographic areas, and computation of vital statistics rates for a variety of characteristics. The Division has also initiated a new program of vital record-anchored studies in which samples of records are drawn for the purpose of obtaining additional

information from physicians and families on factors related to the events, such as factors associated with lung cancer, and the exposure of pregnant women to radiation for medical purposes. These tabulations should be supplemented by a program of intensive analysis of such data, their detailed characteristics and their interrelationships.

Work on these projects should be continued and accelerated where possible. In particular the construction of national, State and geographic division life tables and related actuarial tables should be pushed forward to completion, and the processing and publication of basic vital statistics reports should be speeded up.

Educational statistics

In recent years greater recognition of the importance of education not only for the individual but for the Nation at large has highlighted the need for better, more incisive, and greatly expanded data in this field. The large prospective increase in the school population, together with limited educational resources, has made the need for improved statistics pressing to guide the optimum allocation of these resources. Statistical series are needed to describe inadequacies, requirements, and progress.

Increased funds for educational statistics have permitted the development of series on such subjects as enrollment, financial data, and various school services. Critical evaluation of the series providing data on classroom shortages has been undertaken. Special one-time surveys investigate particular aspects of the educational process. A cooperative research program, instituted in 1956, provides the Commissioner of Education with funds for cooperative arrangements with universities and colleges and State educational agencies, for the conduct of research, surveys, and demonstrations in the field of education. The best known survey sponsored under this program is the project "Talent" which will obtain data on psychological, personal, family, educational and social characteristics of 500,000 high school students with followup planned for later years to compare these factors with later educational and occupational experience.

Continued high priority should be given to critical evaluation of established statistical series, to strengthen the planning and technical staff, and the exploration of more efficient methods of collecting and processing data to improve their quality and timeliness.

Greater emphasis and better data are needed on the measurement and forecasting of requirements at all levels of education—elementary and secondary, higher education, and vocational education. This would include development of better measures of current shortages in facilities and staff, new facilities being planned, and projections of requirements to meet future needs. The 1957 inventory of college and university physical facilities should be evaluated, modified, and updated as necessary.

More adequate data are needed on the financing of education at all levels. This would include such items as data on State-local financing of elementary and secondary education and information on the various sources of financing for higher education—individual, institutional, and government—current as well as projected. More should be known also about the cost of education to the institution and to the student, the availability of financial assistance to students,

and the extent to which "gifted" students are unable to obtain higher education because of financial difficulties and restrictive admission policies.

Information on the manpower aspects of education needs improvement. This would range from specific information on the current supply and demand for instructional talent in schools and colleges to information which would illuminate more adequately the role and effectiveness of our system of higher education in supplying the range of skills required to meet labor force needs. Statistics of the latter type, such as a study of the extent to which college degrees are prerequisites to job opportunity, should be integrated with other studies in the manpower field.

Data should be developed to provide improved measures of the quality, effectiveness, and characteristics of American education and educational institutions, which include more than 30,000 public school systems, additional thousands of private schools, and a complex of more than 2,000 institutions of higher education. One significant survey now under way is the "Survey of Course Offerings and Enrollments in High School Subjects and Years Required for Graduation in Each Major Subject Field." The survey is being extended to nonpublic schools. Necessary tabulations should be provided to enable school districts, administrators, parent-teacher associations, and the public to make meaningful comparisons.

The program of school statistics should provide information for nonpublic schools parallel to that currently available and planned for public schools.

As a long-range goal it is recommended that a statistical program be started which will provide measures of utilization and productivity of our educational resources. The scope of these statistical measures should be broadly conceived to include both public and private educational institutions, educational activity within industry, the Armed Forces, and elsewhere.

Statistics on law enforcement and crime

Establishment of reliable, complete, and comparable data in the fields of law enforcement and judicial statistics is complicated by the number of jurisdictions involved and the variety of their statutory requirements and practices.

In the field of crime and delinquency statistics, the Federal Bureau of Investigation has recently made a number of improvements in Uniform Crime Reports. The Bureau of Prisons is reducing the backlog of detailed reports on admissions to and discharges from State and Federal institutions. A new survey of the current prison population will provide information on previous prison terms for inmates of State institutions.

Available evidence indicates that juvenile delinquency has become an increasingly serious social problem. A program is recommended which would compile data on the characteristics of juvenile delinquents, the reasons for their arrest and referral to court, and the treatment of juvenile offenders.

Work should continue on developing more comprehensive and uniform statistics on crime, establishing a uniform classification of Federal offenses, encouraging the adoption of uniform classifications and more complete reporting by local jurisdictions.

Other social statistics

Other statistical series bear on the welfare of various population groups and cover such subjects as individual and family income, standard budgets for various types of families, social insurance, welfare payments, services to veterans, and the handicapped.

Agencies operating income maintenance or special service programs have studied the adequacy of various programs in terms of the needs of the recipients and analyzed the joint receipt of benefits; for example, the need of old-age insurance beneficiaries for supplementary public assistance. To illustrate, the Bureau of Old-Age and Survivors' Insurance has developed a national sample survey of beneficiaries of old-age insurance to determine the sources and adequacy of their support.

Of first priority for the immediate future are problems of medical care of the aged in relation to the basic social and economic factors with which social security and public assistance are heavily involved.

Additional insight on financial problems of retired persons and their relation to living arrangements, health, length of time since retired, etc., are important in evaluating the social security program. Plans now underway to study the problem through a national survey of the aged should be carried out. These plans should be extended to include a longitudinal study of beneficiaries for a better understanding of the role of the social security program during retirement.

Many of the series in the fields mentioned above are compiled by consolidating State summaries. The problems of this technique are extensive and require further study. Where variations in the concepts used by the States are known, they are taken into account and appropriate adjustments can be made. However, the opportunities for internal analysis are limited since the detailed observations are not always available and possibilities exist for variations in concept which are not apparent. A program of methodological studies should investigate the needs for improvement in this type of compilation.

LABOR STATISTICS

The core of "labor statistics," as used here, includes the current series on labor force, unemployment, employment, hours and earnings, and wage rates which are general purpose statistics widely used as current economic indicators, for analysis of the labor force, for detailed analysis of business conditions and for measures of progress which can be used by public and private agencies alike in program planning. Related series are also included, such as insured unemployment, labor turnover, and in addition, the analysis of provisions of collective bargaining contracts is included within this group.

Some labor statistics are used in building more comprehensive measures, in current national income estimates, in the monthly industrial production indexes, and in productivity indexes. In turn they rest on less frequent but more inclusive periodic censuses or administrative reports. The labor force series, for example, requires monthly an independent set of population estimates by age, color, and sex. The employment, hours, and earnings series are benchmarked once every year or two to employment reports collected through social insurance programs, and the wage rate series using State employment security

records as sampling frames. In this interdependent set of relationships, improvements in one of the series are likely to be reflected in a number of others. At the same time a premium is placed on coordination, standardization of classifications, and overall review to identify gaps and relative weaknesses.

Recent developments

Within the past few years improvements have been made in a variety of forms by expanding the samples; by using improved techniques; by expanding the coverage of a number of series; by developing new surveys; and by providing tools to increase usefulness for analytical purposes, such as the provision of seasonally adjusted data. A list of the more significant accomplishments achieved or currently in process is included here as a basis from which to recommend further improvements.

(a) Based on the sample expansion in 1956, the monthly report on the labor force shows additional occupational detail and more detail on the characteristics of the unemployed. A major change in the organizational arrangement was made in July 1959, when responsibility for the labor force series was transferred to the Bureau of Labor Statistics, with the Bureau of the Census continuing to act as collecting and compiling agent.

(b) Employment, hours, and earnings series (based on establishment reports) have been revised to incorporate the 1957 Standard Industrial Classification and to adjust to more recent benchmarks. The quality of the data is being improved by adopting industry estimates stratified by size which will improve the estimates of hourly and weekly earnings. Additional employment detail in manufacturing will also be made available.

(c) The community wage survey program has been expanded from 20 to 80 cities. The 80 cities were selected to be representative of all standard metropolitan statistical areas, so that information can be provided annually on changes in wage rates for a large part of non-agricultural employees. Information is provided both on an individual market basis and nationally (all markets combined) for selected office-clerical and manual occupations. In addition, information on salaries is provided for a selected list of professional, administrative, and technical occupations on a national basis only. This program has been supplemented by strengthening the series on current wage developments.

(d) The national estimates of labor turnover in manufacturing industries are being extended to provide State and area estimates and to strengthen the national sample. The State and area estimates are prepared by cooperating State employment security agencies, under joint BES-BLS sponsorship. In addition to 39 States, estimates are now published for 62 areas.

(e) The industry wage survey program provides more specific detail for selected industries on occupational wage rates than is possible in the community wage program and was expanded in 1960-61. In all, 70 manufacturing and nonmanufacturing industries will be surveyed over a 5-year cycle, most of them only every 5 years but some at more frequent intervals.

(f) BLS has instituted an annual survey of "fringe benefits" showing both the hours of leave paid for in relation to total hours

and employer expenditures for various types of such benefits. Manufacturing will be covered once every 3 years and selected nonmanufacturing industries in intervening years.

(g) Employment and payroll information compiled by State employment security agencies has been strengthened by extension of the series in 1956 to include Federal civilian workers, by converting the series to the revised SIC, by providing information by size of establishment by industry once a year, and by providing four-digit detail for manufacturing industries annually.

(h) The weekly series on insured unemployment has been improved by allowing for certain administrative factors and by the publication of seasonally adjusted rates. A new monthly series showing the characteristics of the insured unemployed by States was initiated in 1960. In addition, the Bureau of Employment Security has sponsored State studies of the labor force status of claimants following exhaustion of benefits, and has developed guides for the States to follow in developing local estimates of total unemployment. The State employment security agencies and the Bureau of Employment Security obtain information in some depth on the personal, economic, and family characteristics of the long-term unemployed through surveys of claimants filing under the temporary extended compensation (TEC) program. The TEC program covers individuals who have exhausted their regular unemployment insurance benefits. A series of studies was conducted during fiscal year 1962 to obtain these data which will be available on an individual State basis and nationally.

(i) All State employment security agencies are now preparing estimates of total unemployment by area in accordance with a uniform procedure in the Bureau of Employment Security's Handbook on Estimating Unemployment. This has also made possible the presentation, for the first time in a single publication, of data on work force, total employment, and total unemployment for the Nation's 150 major labor market areas. These data were first released in the publication, Unemployment in Major Areas, which contained information for January 1961, and comparisons with January and November 1960. The data are now issued regularly on a bimonthly basis as a part of the BES publication, Area Labor Market Trends.

(j) In the field of current occupational employment statistics a most important forward step has been the development of a program of information on scientists and engineers. The Bureau of the Budget has requested the National Science Foundation to assume a "focal agency" responsibility for the development of appropriate statistics in this field. In addition to the initial sponsoring of the periodic series, the National Science Foundation has sponsored a number of exploratory surveys, studies of demand for scientists and engineers, and other special studies.

(k) Information on local employment by occupation is being provided for selected areas by the area skill surveys conducted by the State employment security agencies in cooperation with the Bureau of Employment Security. The surveys also provide analyses by occupation of manpower requirements and resources, including estimates of future labor needs, generally looking ahead 2 and 5 years. Studies for some 90 areas have been completed and surveys in 48 additional areas are planned or underway.

(l) Beginning in September 1958, monthly employment estimates on farm labor, both family labor and hired farmworkers, have been prepared for 35 States. Formerly the data, which are based on crop reporter returns applied to census of agriculture benchmarks, were available only for the Nation and a few broad regions. The Department of Agriculture's Statistical Reporting Service has also engaged in a number of experimental projects to see if it would be possible to obtain annual employment benchmarks from the June enumerative survey.

(m) Studies of labor requirements in the construction industry, covering both the direct and indirect employment effects of selected construction programs, have been undertaken. BLS has completed data collection for highway, hospital, school and public building construction, and is now surveying housing (public and private), and civil works construction and is resurveying highway construction to bring the information previously collected up to date. It is hoped that under this program major types of construction activity can be covered every 5 years.

(n) Work has begun on the analysis of labor costs in the manufacturing industries of foreign countries which compete with the United States in world markets. A pilot study of labor costs per unit of output in iron and steel in nine major steel-producing countries is now underway.

(o) Measures of output per man-hour for the private economy and major sectors—agriculture, manufacturing and nonmanufacturing—have been developed and continue to be refined and extended. In addition, measures of physical output per employee and per man-hour for selected industries have been continued to furnish understanding of diverse productivity movements among industries. Work has been started on increasing the number of individual industries covered by these productivity measures. Coverage of the more difficult and complex industries may require direct collection of data from establishments.

Directions for improvement

In the field of labor statistics, considerable attention must be devoted to the improvement of statistics needed in the development of manpower policy and the execution of manpower programs. There are three important aspects of manpower statistics which will need emphasis in the next few years.

The first of these requires estimating prospective supply of and demand for labor as a guide in planning educational programs, determining manpower training needs, guiding placement efforts of the Employment Service, and assessing the adequacy of the prospective labor force in terms of economic growth potential. Such estimates need to be prepared for various occupations and skill levels. Basic to such a system is the expansion and improvement of current information on occupations by industry.

The second aspect of manpower information which requires increased emphasis in coming years is the study of occupational change. Studies of job mobility and of occupational career patterns will be useful in understanding the possible flexibilities of the labor force and in throwing light on the cause of frictions and inflexibilities.

Thirdly, emphasis needs to be laid on the problem of unemployment. More frequent surveys of the incidence of unemployment by social, economic and geographical categories are needed in analyzing the nature and structure of unemployment.

The information for these three aspects of manpower problems can be provided from a variety of statistical series and special surveys—labor force surveys, establishment reports, analytical studies and projections.

Occupational statistics.—Occupational information is of particular importance in longrun considerations of the education and training of the labor force. In addition to periodic cross-sectional counts, there is need for information on occupational mobility to evaluate the possibilities for transfer of skills and to understand the work patterns which lead to careers in occupations of particular importance.

In the past, occupational information has been made available through the decennial censuses, with only piecemeal information for intervening years. Now the expanded current population survey sample provides some current information; the body of information on scientists and specialized personnel is growing; and additional information is available from the expanded wage-rate surveys. The 1962 budget provided for inclusion in the regular appropriation of the Bureau of Labor Statistics funds for periodic surveys of the numbers and functions of scientific and technical personnel on establishment payrolls, a series which has been developed in the past with NSF funds. Additional occupational material for particular local areas is becoming available through the employment security system. Work is required to bring these various sources together to develop estimates of occupation by industry consistent with current employment statistics. Furthermore, imaginative research should be undertaken on the best methods for collecting occupational data, both for current samples and census-type benchmarks, whether by independent surveys or by tying in with existing statistical or administrative reports. Finally, the fragmentary information on job mobility, on "work histories," should be expanded.

On the basis of such a system of current occupational information, occupational projections should be prepared consistent with, and also contributing to, anticipated patterns of economic growth.

Labor force analysis.—Present monthly series provide current information on the labor force status of the population together with considerable detail on personal and economic characteristics useful in analyzing current economic conditions and projecting future trends for the Nation as a whole.

Resources should be provided for intensive surveys of selected depressed areas as needed. Such surveys should be designed to tie in as much as possible with available employment and insured unemployment statistics for local areas, to develop methods of improving current local estimates of labor force and unemployment.

More understanding is needed of the reasons for movement in and out of the labor force, particularly the differences in the kinds of workers entering or leaving the labor force. In part, these are matters of developing new techniques for classifying persons not in the labor force in relation to their potential or past labor force status.

Such surveys would describe characteristics of "marginal" workers to get at least indirectly some insight on labor force motivation.

The development of further information on the characteristics of the unemployed should be carried forward. Surveys "in depth" for which funds were appropriated for 1962 and additional funds were requested in the 1963 budget will provide further information on the impact of unemployment, the labor force status of other family members, the number of dependents of unemployed workers and their sources of income. Information on job mobility will be obtained and related to job-seeking experience by expanding the annual supplement to the MRLF on work experience.

Further research should be encouraged to maintain quality and to lead to technical improvements in labor force statistics, including interviewing techniques, sample design, measurement of biases and investigation of differences between labor force estimates and employment and unemployment estimates developed from other sources.

In view of the overall interest in migratory labor problems and the needs of the employment service agencies, a series of studies on migratory labor is recommended. These surveys would obtain information on patterns of migration, earnings, educational attainment, and other economic and social characteristics of migratory farmworkers and their families. The surveys would thus combine demographic and labor force data using current population survey techniques.

An annual expansion of the Current Population Survey to possibly four times its usual size and a series of surveys in selected SMSA's on a rotating basis would permit much more detailed analysis of the labor force and the unemployed by such characteristics as occupation, age, work experience during the preceding year, and marital status. Data available from such an expansion would increase understanding of unemployment problems, further labor force analysis and provide additional information on occupations and occupational mobility.

Employees, hours and earnings (establishment reports).—Improvements now being undertaken and for which additional funds were requested in the 1963 budget in the series on nonagricultural employment, hours and earnings will strengthen current estimates, particularly those of average hours and earnings. Important among these are the extension of hours and earnings data to additional nonmanufacturing industries, and to "nonproduction" workers in manufacturing. Although hours and earnings information is available for some nonmanufacturing industries, it should be extended as rapidly as possible to cover all nonagricultural industries, to match the coverage in the national accounts and to provide basic data needed in productivity estimates.

The quality of the current employment series based on reports from establishments varies from industry to industry. This reflects emphasis placed in the past on the manufacturing industries. Other sectors of the economy present more difficult technical problems in the collection of data. Despite recent efforts, the employment series suffers from inadequate samples for certain industries, from lack of representation of new firms coming into existence since the benchmark period, and from difficulties with a few highly seasonal industries for which even the benchmark sources may not be fully adequate. A review of these problem areas should be undertaken and a program

devised to meet essential needs at a reasonable cost. At the same time the program for investigation of response problems and control of quality should be resumed.

Monthly estimates of farm employment by State should be strengthened, using more frequent benchmarks (than the quinquennial Census of Agriculture) and improving the sample used for the current monthly estimates. It is hoped that with the development of the June enumerative survey of crops, annual benchmarks of farm employment will become available.

The feasibility of collecting unfilled vacancy statistics by broad occupational categories and industry should be seriously investigated.

Labor turnover statistics.—Labor turnover statistics provide information that is not only of general public interest but also of immediate concern in the operation of the public employment service. The program for labor turnover statistics in manufacturing should be extended to all States. Funds for most of this expansion were included in the 1962 budget. For use in employment service operations, data are needed on additional areas and for nonmanufacturing industries as well as manufacturing. The design of this expanding program needs further study and definition in relation to demonstrable needs.

Wage and salary statistics.—The compilation and analysis of data on wage rates and related statistics was significantly strengthened in 1960. The program should be subjected to continuing technical research on data collection techniques, including sampling and tabulation procedures, and the results should be appraised with a view to improving efficiency and quality control. This research and experience may indicate the desirability of some expansion of the area wage surveys either in the number of areas covered or the number of establishments surveyed so that data may be published by major nonmanufacturing divisions (wholesale and retail trade, finance, and service) for more than the few larger areas which the present program permits. In the industry wage survey program there is need for more frequent studies in some industries than are now being surveyed on a 5-year cycle. Special ad hoc studies in a few industries not now in the survey program may also be necessary.

Data on annual earnings in important industries, especially those with pronounced seasonable variations, would be invaluable. The possibilities of obtaining these data from various sources should be explored.

A gap in the present program of surveys of salaries in professional fields of work exists with respect to those occupations for which data cannot be obtained from establishment surveys, such as social workers, librarians, dietitians, and pharmacists. In the past there have been a few sporadic surveys of certain groups, usually in collaboration with the appropriate professional associations. These have been based on samples of individuals and provide information on personal characteristics—marital status, education, experience, etc.—as well as salaries and related benefits. A continuing program of such surveys would be desirable so that various groups could be covered on a cycle basis about every 5 years. Plans for such a program should be coordinated with the program of occupational statistics.

Farm wage rates are now estimated quarterly on the basis of current information collected through the Department of Agriculture

crop reporting system. Information on farm wage rates is included in the Parity Index, is useful in the placement service for farmworkers, and is essential to the consideration of minimum wage proposals for agriculture. The series on farm wage rates needs improvement, to strengthen the current estimates of farm wages, to provide up-to-date weighting patterns for the wage computations, and to provide farm wage rate estimates on a monthly instead of a quarterly basis.

With the growing importance of wage supplements, the usefulness of employee earnings and wage rate data becomes progressively more limited in analyzing the relation of wage changes to changes in employment, productivity, and prices. There are many conceptual and technical problems which must be resolved before a comprehensive measure can be developed which will reflect all components of employee remuneration. Research and development efforts should be directed toward this objective.

The new series of studies of employer expenditures for supplementary ("fringe") benefits and the composition of payroll hours, now in the developmental stage, is limited in both employee and industrial coverage. The feasibility of extending coverage to include all non-supervisory employees should be explored. It may also be desirable to survey all major industry groups more frequently than the present schedule allows in order to provide adequate information for productivity and labor cost estimates.

Employment security program and operating data.—State employment security agencies, charged with operating the unemployment insurance and labor placement programs, find, in general, that information on local labor markets, on characteristics of the labor force or on the unemployed is useful in their evaluation of programs or in planning operations. They have specific operating requirements for farm wage rates, for example. The need is always for more data on a State, or preferably a county, basis. The Bureau of Employment Security has need for all kinds of manpower information in setting program objectives and measuring progress. It is recognized that a further detailed examination of the specific needs of the Federal-State employment security system for additional data should be instituted.

Industrial relations statistics and studies.—There is included in the 1963 budget additional provision for analysis of the significant provisions of collective bargaining agreements. Analysis of the prevalence of different types of collective bargaining provisions on such subjects as seniority, pensions, and grievance procedures will be useful in interpreting changes in the labor market as well as more directly in collective bargaining negotiations.

More work on other aspects of industrial relations is needed. The work stoppage statistics program of the Bureau of Labor Statistics needs comprehensive review and strengthening. A modest research program dealing with union and management organization and activities in collective bargaining for which some funds are requested in the 1963 budget would provide background information valuable to the Federal Mediation and Conciliation Service and public boards of inquiry, as well as to employers and labor organizations. Use should be made of the extensive materials now available from reports

required under the Labor-Management Reporting and Disclosure Act and the Pension and Welfare Plans Disclosure Act.

Work injury statistics.—Strengthening of work injury statistics should follow the lines of technical review of procedures and quality of reporting and the development of the State-cooperative injury-rate program in more States (the BLS program now includes 12 States). In addition, the limited program in the field of workmen's compensation statistics, including the provision of technical advice and assistance to the States, for which funds were requested in the 1963 budget, should be extended and expanded.

Foreign labor conditions.—The increasing importance in world affairs of underdeveloped countries in Africa and Asia, as well as increasing competition to United States from industrialized countries, call for further strengthening of work on manpower and labor conditions in other countries. Present programs for which some additional support is provided in the 1963 budget now cover a broad range of topics, including population, manpower, employment, wages, labor costs, prices, productivity, labor legislation and standards, trade union activities, and labor-management relations.

A closely related subject is the impact of foreign trade on domestic employment. Better data are needed for use in the determination of U.S. foreign trade policies. Provision is made in the 1963 budget to expand the pilot program initiated in 1962 for developing international comparisons of unit labor costs and other labor conditions. Additional statistical analysis is needed in the international comparisons of unemployment rates, productivity, levels of living, and other aspects of labor. These comparisons will be useful in improving both governmental and public understanding of foreign labor conditions. In a number of cases they will also help in our understanding of our own problems by putting them in the perspective of what other countries have done and are doing in the same fields.

INDUSTRY STATISTICS

Data are now being collected and published monthly, quarterly, or annually on the output of over 2,000 manufactured commodities. These cover all of the major manufacturing areas. A basic monthly survey of manufacturers' sales, orders, and inventories provides data which constitute key indicators of current activity in manufacturing on a more comprehensive but less detailed basis than the individual product series. Similarly, an annual survey of manufactures provides economic data comparable to but in less detail than that obtained in the quinquennial Census of Manufactures.

Annual statistics are collected on all minerals of commercial importance, and for the more important minerals data are collected more frequently. These data cover production, shipments, inventories, and consumption, and they are largely collected on a commodity basis rather than an establishment basis.

The series on expenditures for new plant and equipment were developed primarily to provide information on anticipated expenditures. Estimates are issued quarterly on actual expenditures for the past quarters and anticipated expenditures for each of the next two quarters. Calendar year anticipations are published each March.

The estimates are shown by broad industry divisions along with subgroups for manufacturing.

Recent developments

(a) A program to improve textile data, particularly for inventories, was initiated in 1960 to provide data on the flow of goods all along the complex pipeline of the textile industry. The need for this information, not previously available, stems from the wide fluctuations in activity and employment within the industry. Current reports provide data on production, stocks, and unfilled orders for gray goods and finished goods separately at the weaving mills and finishing plants; stocks of gray goods and finished goods held by converters, wholesalers, jobbers and importers, and stocks of finished goods in the hands of apparel manufacturers and jobbers. Each stage covers cotton, wool and manmade fibers separately. The first series of releases in this new area have started to appear.

(b) The 1959 Annual Survey of Manufactures provided for the collection of new quantity data for the first time on a selected list of products for which quantity data had been generally available only in census years. The criteria for selection of the items included unavailability of adequate physical volume data from other sources, the existence of meaningful measures of physical quantity, ease of collection, large dollar amounts, and low estimate of error. Products were selected in areas such as food, textiles, apparel, paper, furniture, chemicals, leather, glass, electrical machinery, etc., especially where needed for the improvement of the index of production.

(c) Industrial research and development is now being surveyed to provide dollar volume expenditures on research and development undertaken in industry for the three major categories of basic research, applied research, and development. Data are also provided on the sources of funds for research and development in various fields. While definition problems are still troublesome, there has been improved consistency from year to year and the data are being released in a more timely and useful fashion.

(d) The Bureau of the Census assumed the data collection responsibilities in fiscal year 1958 for the monthly industry survey program which provides information on manufacturers' sales, inventories, and orders. Revision of the sample design for the survey, use of the annual survey of manufactures instead of Statistics of Income as the benchmark, and other improvements adopted in 1962 will increase reliability of the estimates and provide greater industry detail. The reporting unit in the new sample design is still the company, except that for very large multiactivity firms provision is made for reports for divisions.

(e) The quarterly survey by OBE of inventory and sales anticipations has been put on a permanent basis. Data are now published quarterly on actual sales and inventories for past quarters and on anticipated inventories and sales for each of the succeeding two quarters.

(f) Data on inventory valuation methods are now available regularly in the Internal Revenue Service's annual Statistics of Income pertaining to corporations. These data are limited in usefulness, however, by the fact that the inventory valuation method used is not

reported to IRS for inventories accounting for approximately 50 percent of the total value of corporate inventories.

(g) Funds have been appropriated to the Bureau of the Census for a company statistics program to supplement the usual establishment statistics programs. When fully developed, the program will serve three basic purposes: (1) provide an up-to-date inventory of inscope corporate families, (2) provide an annual measure of the acquisitions and dispositions of other firms by these companies, and (3) provide a link between statistical series based upon establishments as the reporting unit and those based upon companies as the reporting unit. This program is still in the formative stage.

(h) In recent years the sample of reporting companies for the series on plant and equipment expenditures was increased from about 3,500 companies in 1954 to about 9,000 companies in 1957. Beginning late in 1959, the quarterly estimates of anticipations before seasonal adjustment were improved by adjustment for systematic biases. In addition, seasonal and bias adjustments which had been made for major industry divisions were extended to the manufacturing subgroups.

(i) The Bureau of Mines is developing procedures for linking its commodity data more closely with certain general-type data collected on an establishment basis. The latter data, which relate to facilities, activities, methods, and materials handled, are collected annually from all mineral producing establishments other than petroleum and natural gas producers. Data on individual commodities are linked to the establishment reports by means of an expanded standard industrial classification code, and the production data are transferred to each report along with man-hours data from the health and safety surveys. By this means production and man-hour data can be tabulated by establishments classified according to the standard industrial classification.

Directions for improvement

Manufactured products.—Coverage of the present program on the production of manufactured products is fairly comprehensive but there are still significant gaps in the commodity program, particularly in the area of growth products. Data are presently lacking for such rapidly growing and important industries as instruments, switchgears, industrial control devices, electronic components, drugs and medicines, and rubber products. Annual surveys should be initiated in these fields where, in addition to the need for current information on the physical volume and value of shipments, the products are so technically complex that it is impossible to compile accurate data on them by measurement only at quinquennial census intervals.

Surveys on an annual basis should also be started in a number of commodity fields which, while not so complex as those listed above, are too important to be covered only once in 5 years; e.g., concrete products, narrow fabrics, fertilizers, and prepared animal feeds. The industrial production index would benefit significantly in its direct coverage of manufactured products from this program improvement. Some of the commodities mentioned would qualify sufficiently as economic indicators to warrant data collection on a monthly or quarterly basis. In addition, the collection of inventory information should be

extended to additional key products already in the commodity program.

Manufacturers' sales, inventories, and orders.—The most important immediate need for improvement of this series is completion of the revision and reorientation toward "divisional" reports that is currently underway. The reorientation should, if feasible, provide data for manufacturers' sales branches and sales offices separately from data for manufacturing establishments so that inconsistencies between the current and quinquennial census wholesale trade and manufacturing programs can be eliminated.

The revision and reorientation toward "divisional" reports and exploration of the feasibility and meaningfulness of a weekly series on manufacturers' sales and orders should be completed soon. This will provide a basis to which other needed improvements could be added, such as:

1. Monthly estimates of inventories for major industry groups within manufacturing, showing separately estimates of finished goods, unfinished goods, and raw materials.
2. Monthly estimates of manufacturers' inventories of finished goods, subdivided into major classes of producers' equipment and consumers' goods.
3. Quarterly estimates of manufacturers' sales to and orders from the Federal Government for others than the aircraft and missiles producers, from whom these data are collected now.
4. A series on orders for export, the feasibility of which is now being explored.

In addition, the quarterly survey by OBE of inventory and sales anticipations should be put on a permanent basis with regular and current publication.

Company statistics program.—The major promise of and expectation from the company statistics program is that it will provide a device for developing better integrated statistics programs, both current statistics programs per se and current statistics programs as they relate to benchmark statistics programs. The work of Census in its company statistics program, the Census-IRS project to link Census establishment data and IRS company or tax unit data, and a planned central directory of industrially classified statistical units provide a sound basis on which to build a better integrated statistical program.

Plant and equipment expenditures.—The most pressing need for this series is for more frequent benchmarks. The series now rests on a 1948 benchmark. A 1958 benchmark has been slow in developing because of technical difficulties, but is expected to be completed this year. Annual or biennial benchmarks would not be practical because of the difficulties in comparing estimates of anticipated and actual expenditures projected from different bases; new benchmarks every 5 years would be desirable.

Other desirable improvements include improvement of samples used to project benchmarks for some industries, separate estimates for plant and equipment, separate estimates on expenditures for replacement of existing capacity and expenditures for increasing capacity, estimates by asset size groups, and more refined and detailed industry data.

Mineral products.—There is need for an annual survey of mineral industries to obtain data comparable with that made available through the annual survey of manufactures. The Bureau of Mines, which is responsible for intercensal mineral statistics, collects data on a commodity basis which, to be more meaningful, should be related to establishment-type data. Although the Bureau of Mines is now linking these two types of data by special procedures, there is still need for data on such items as employment, salaries and wages, and other major expenditures.

Productive capacity.—Development of a coordinated program of capacity measures or materials useful for such measurement calls for work along several different lines. Measures of capacity are needed on the basis of an engineering concept—maximum physical output using given stock of capital facilities without regard to prices, costs or factor restraints—and an economic concept—maximum output using given plant and equipment at the preferred operating level from the standpoint of minimizing costs and maximizing profits. Data compiled for these uses should, where feasible, be consistent with established statistical series such as the national accounts, industrial production, and expenditures for plant and equipment. Projects suggested for early undertaking are described below.

Data on production or value of shipments for individual manufacturing establishments available in Census records should be analyzed to determine for each individual establishment the peak production attained within a span of 4 or 5 years by product class or combination of product classes. Actual production of all establishments each year compared with the aggregate of the individual peaks would then provide measures of the percent of peak attainment.

Work currently underway at OBE will provide an estimate of the growth since 1929 of total capital facilities on the basis of the perpetual inventory method. Similar measures should be prepared on an industry basis. Looking farther ahead, in order to provide necessary benchmark data for these types of estimates in the future, plans are being developed for taking a comprehensive census of wealth before the close of the decade.

Exploratory work should be carried on to determine the feasibility of obtaining more direct measures of capacity or the relationship between capacity and actual production reported in a regular existing survey such as the annual survey of manufactures. Activities of Government agencies along this line should, where feasible, be supplementary to and in cooperation with those of private organizations which are using similar procedures. Cooperative efforts of public and private agencies should also be directed toward the development of definitions and standards for obtaining reliable and meaningful measures of capacity and related data, including consideration of such factors as labor force, materials input, and state of technology as well as the stock of capital facilities.

Surveys of capacity to produce selected survival items were started in 1958 but were discontinued early in 1961. The validity for present uses of the data shown by the older surveys for the more important items needs to be appraised to determine the need for updating them.

AGRICULTURAL PRODUCTION

Reports on agricultural production start with intentions to plant major crops, actual plantings, and extend on through the growing season with forecasts of production. Final reports cover acres harvested, yield per acre, and actual production of all of the major crops and a wide variety of minor crops. There are periodic estimates of the inventory of selected farm crops on and off farms. In addition to annual estimates of livestock inventories, there are monthly estimates of livestock slaughter and production of dairy and poultry products. There are other periodic reports covering such subjects as the pig, calf, and lamb crops, cattle on feed, and broiler chick placements.

Recent developments

In the fiscal year 1961, a new operating program in the field of crop and livestock reports was initiated in 11 Southern and 4 Midwestern States. It is being extended to additional States each year. This program has been in the process of development and testing since 1953.

During the intervening years a research program has been aimed at solving the problems of defining farm units and selecting a probability sample of farms, meeting time requirements for enumerative surveys, and developing objective measures to improve forecasts of yields. Other elements of agricultural production statistics which have been or are in the process of improvement in frequency and geographic covering are the reports on cattle on feed, lambs on feed, and plantings of tomatoes and celery.

Directions for improvement

Provision has now been made for extension of the new program of enumerative surveys and objective yield measurements to additional States. Additional research and development work will also be done on forecasting yields from objective measurements for soybeans and sorghum.

Extension of the operating program with respect to both geographic area and product coverage should proceed with just as much care and caution as has been exercised in the research and development stages. Additional increments over the next 2 or 3 years should extend coverage to the entire country in such a manner as to (1) provide improvement in reliability of national and State estimates of the major crop and livestock items; (2) be fully coordinated with agriculture censuses; (3) be used as a vehicle for providing data needed for other farm economic studies conducted by the Department of Agriculture; and (4) take full advantage of experience gained during early stages of the operating program so that modifications and improvements shown to be desirable may be incorporated.

DOMESTIC TRADE

Statistics on domestic trade measure the flow of goods from the producer through wholesalers and retailers to the consumer. Data on inventories reflect points in the distributive process at which goods pile up. Analyzed in conjunction with sales, they provide a basis for better judgment as to the future course of economic activity. These

data are made available with varying geographic and type of product detail. Frequency ranges from monthly (weekly for retail trade sales) to annually. A recent addition to the body of information in this area is provided through the survey of consumers' intentions to buy houses, automobiles, refrigerators, and a few other selected durable goods.

Recent developments

In recent years improvements made earlier in the survey procedures for the collection of current retail trade data have been consolidated, the quality of the estimates has been improved, and research has been conducted into the means of obtaining additional items of information (e.g., merchandise line data). Comprehensive data on plant and equipment expenditures by retail trade organizations were collected as part of the 1958 Census of Business, and accounts receivable data were added to the monthly retail trade program of Census. Provision was made in the 1963 budget for a program to measure the physical and dollar volume of retail inventories of large consumer durables.

The department store statistics program of the Federal Reserve System is currently under extensive review by a committee consisting of Federal Reserve, Budget Bureau, and industry representatives. In January 1961 the committee announced agreement on a set of principles to guide a revision of this program and on the statistical series that will be the maximum department store statistics program financed by the Federal Reserve System. Early in 1962, it completed its review of department store departmental statistics and recommended to the Board of Governors of the Federal Reserve System a new national departmental report of department store sales, with data for about 20 departments. Simultaneously, it recommended to the Bureau of the Budget and the Bureau of the Census initiation of a new merchandise line series for all retail trade. The Board adopted the principles recommended in 1961 and is favorably disposed toward the national departmental program. The feasibility of a merchandise line program is being tested by Census as part of its planning for the 1963 Census of Business.

In the service trade area, major recent achievements stemming from the 1958 Census of Business are (1) updating the benchmark data on the operating receipts, employment, etc., of service trades, and (2) the first comprehensive benchmark data on plant and equipment expenditures for service trades. In addition, the Bureau of the Census has initiated a current service trade receipts program to provide annual data for 1962. Annual data on the operating receipts, profits, inventories, etc., of service trades are now available for the first time through the U.S. Business Tax Returns series of the Internal Revenue Service.

Using 1954 Census of Business records, a probability sample of merchant wholesalers has been substituted for the "large establishment" sample that had been used earlier. As a consequence, it has been possible for Census to publish estimates, based on the sample, of the dollar volume of sales and inventories of merchant wholesalers and more reliable estimates of percent change for these items. Sales estimates are published by Census for all merchant wholesalers and for about 50 kinds of business; inventories estimates are published for all merchant wholesalers and for about 20 kinds of business. A new probability sample, based on the 1958 Census of Business records, is now being introduced.

After considerable exploratory and experimental work, the Census Bureau has started collection of data on intentions of consumers to buy major durable goods items. This survey, conducted in conjunction with the current population survey, has been financed by the Board of Governors of the Federal Reserve System.

Directions for improvement

Retail trade.—Funds were made available to the Census Bureau, beginning in fiscal year 1962, for development of the Census retail trade program along three lines: first, a national weekly series of total retail trade and of total GAAFF sales (general merchandise, apparel, appliances, furniture and furnishings); second, a monthly series on total retail trade sales and total GAAFF sales for Census geographic regions and divisions; and third, a monthly series of total GAAFF sales for about 20 standard metropolitan statistical areas. Publication of the national weekly series of total retail trade and of total GAAFF sales has already begun, and publication of the regional and local area data will begin soon. In addition to furnishing needed data, these improvements will establish a sound foundation on which to build other major improvements. One such major improvement that is needed is merchandise line data nationally and for large local areas. The feasibility of collecting these data is being tested now by Census. Better inventory data are needed, as are data on the sales and inventories of selected consumer items. Total GAAFF sales data, and total retail sales data, will be needed for a larger number of local areas. Gross margin data (or, alternatively, value added data) on retail trade are needed, preferably annually and not less frequently than quinquennially, for improving the national accounts. Improved data on the consumer credit granted by retail trade organizations during each month are needed to complement the accounts receivable data now published by the Census Bureau.

Service trades.—Appropriations for 1962 provided for a survey to produce annual estimates of the operating receipts of personal service trades establishments, with separate estimates for about five broad kinds of service trades. In the 1963 budget funds were requested to put this program on a monthly basis. Monthly data will improve the estimates of personal consumption expenditures that are developed in conjunction with the national accounts and also provide information on current business activity in the personal service trades sector of the economy.

Wholesale trade.—The industrial coverage of the Census current wholesale trade statistics program should receive early consideration. The program covers only merchant wholesalers now. First, the question should be resolved as to whether to initiate direct data collection from agents and brokers, farm assemblers, and petroleum bulk stations of others than refiner-marketers. Secondly, if at all feasible to do so, the current Census programs should be made consistent with the quinquennial programs in wholesale trade and manufacturing and with the planned revision of the monthly industry survey of manufacturers' sales, inventories, and orders. This could be done by obtaining separate data on the sales and inventories of manufacturers' sales branches and sales offices and of petroleum bulk stations of refiner-marketers.

Other aspects of our current wholesale trade statistics also require attention: specifically, the quality of the estimates of inventories needs to be improved; sales and inventory data on selected important commodity lines would be of considerable value in appraising current business conditions; regular gross margin data (or alternatively, value added data) on wholesale trade are needed, preferably annually and not less frequently than quinquennially for improving the national accounts; and current statistics for Census regions and divisions, and possibly some local areas, will be needed.

Consumer buying intentions.—Reliable and more comprehensive data on this subject are of great potential value to both Government and business. Federal Government activity in this field up to the present has been limited to the work at the University of Michigan and the Bureau of the Census financed by the Federal Reserve Board. Further experience is required to tell how good this information will be in providing a basis for projections of a large component of consumer spending. Additional research is needed on question wording and interview techniques, and continuous testing and evaluation of the validity and usefulness of the results, but more important, new and broader analytical approaches to better use of these data are required.

FOREIGN TRADE AND OTHER INTERNATIONAL TRANSACTIONS

Statistics are collected on the quantity and value of thousands of individual classes of commodities exported, by country of destination, and imported, by country of origin. Basic data are published monthly and annually, with additional quarterly summaries. More detail is shown on machine tabulation sheets available for examination in certain cities. These data are used by Government agencies concerned with trade policy, by private business groups engaged in foreign trade, and by research workers. They supply a major component of the balance of payments, and in turn enter into the income and product accounts.

Associated with the foreign trade data as components of the balance of payments are a variety of current series covering services purchased or sold abroad, travel expenditures, international donations, security and other capital transactions.

Recent developments

Much of the effort in recent years in the foreign trade program has been directed to recovering lost ground and preventing further retrogression resulting from increasing workload in the face of resource limitations. Processing procedures and sampling ratios have been modified to improve reliability of the data. The program has been transferred to the electronic computer, with some immediate gains—including the facility with which demands for special tabulations may be met—and a considerable as yet unrealized potential for future gains.

New procedures have been inaugurated to review and verify the primary source documents for imports. A systematic study has been underway during the last year directed toward improving the accuracy of the export data. Significant improvements have also been made in revised classifications and in new summaries cross-classified by commodity group and geographic area; and monthly seasonal adjustments have been developed.

A new program of air cargo statistics is being launched, and a survey of the geographic origin of exports has been completed. Other areas of the balance of payments have been improved, notably through improved reporting of capital movement data and through recent benchmark surveys of foreign investment.

Directions for improvement

Efforts currently directed to reexamination of processing procedures and improving the accuracy of the data should be continued until these problems are clarified and resolved. This will entail determinations as to feasible limits of detail within reasonable costs and in the face of ever-increasing workload. The potentialities of the computer for faster, more efficient processing and for meeting varied tabulation needs should be further exploited.

The classifications used in tabulating foreign trade statistics should be modified for greater comparability with those used for industrial production. Funds to initiate this task were requested in the 1963 budget.

The publication program should provide for a resumption of the annual summary volume last published for 1946, and the shipping statistics should be published in adequate detail. Funds for this were requested in the 1963 budget.

Continued interest in measuring the geographic impact of foreign trade will justify further work on the origin of exports and destination of imports. Work toward the valuation of imports on a c.i.f. basis should be started. Data on new orders for goods to be exported, mentioned above in the discussion of industry statistics, are also needed. Seasonal adjustment, now available only for aggregate series, should be developed for component series.

The large item designated "errors and omissions" in the balance of payments is evidence of considerable work yet to be done in improving the quality and coverage of the estimates, although solution of this problem is by no means simple. The past program of gradual improvement of the balance of payments should be continued with particular immediate attention to improved reporting of capital movement.

Some aspects of the foreign trade program overlap with the area of transportation statistics discussed below.

TRANSPORTATION, PUBLIC UTILITIES, AND COMMUNICATION

Current statistics on transportation, public utilities, and communication are collected and published primarily by regulatory and operating agencies in conjunction with their administrative responsibilities. These data are, therefore, generally limited to the portions of these industries with which such agencies are concerned. They are useful not only as economic indicators for the particular activities and analysis of changes or shifts, say, between mode of transportation, but for analysis of relationship to other economic processes, such as manufacturing.

Recent developments

Following extensive tests of the survey procedures used, the Census Bureau conducts, under trust-fund arrangements on a very limited

scale, "shipper surveys" in which data are obtained on the tonnages, regions of origin and destination and mode of transportation used in shipping the products of a number of manufacturing and agriculture industries. The Census Bureau also undertakes special tabulations of existing data and surveys to produce new data on other aspects of transportation, such as retabulations of ICC waybill sample data, and automobile use surveys.

Other important special purpose studies which have been undertaken include: CAB and FAA forecasts of airline passenger traffic, an FAA study of the use of airways, a CAB study of the characteristics of turbine-powered aircraft, and Department of Agriculture studies of the transportation of agricultural products. In addition, ICC, CAB, and Maritime Administration have installed new equipment and procedures for the purposes of publishing their regular and special statistics more quickly. Other developments are the current use of a continuous 10 percent random sample by CAB to survey the origin and destination of domestic airlines passengers and the initiation of an international air cargo statistics program.

Directions for improvement

Most of the needed developments lie within the general area of transportation. Reports of several committees and study groups during the past year or two emphasize the inadequacies of our current and benchmark statistics in this field. Specific recommendations on the Census of Transportation are contained in the section on economic census programs.

Important current data needs are:

- (a) Origin and destination statistics on commodity shipments by truck.
- (b) Statistics on the origins and destinations of commodity shipments by air, with separate statistics for domestic and international shipments.
- (c) More detailed statistics on international passenger travel.
- (d) Statistics on freight revenue, by commodity, received by for-hire carriers other than rail.
- (e) Statistics on costs of transporting commodities, by mode of transportation and by commodity.
- (f) Transportation volume statistics (i.e., tons, ton-miles, etc.) for other than ICC-regulated motor carriers and for other types of carriers for which data are not now available.
- (g) A combined index of weekly rail and truck loadings.

CONSTRUCTION AND HOUSING

This area encompasses both economic and social data. Construction accounts for some 60 percent of gross private domestic investment and about one-sixth of gross national product. The quantity, quality, location, and cost of housing all touch the daily lives of the entire population.

A monthly series on the value of work put in place is the primary construction series currently produced. Data are shown for private and public construction and by a number of construction types: residential and nonresidential, and subdivisions of the latter such as

industrial, commercial, educational, public utilities, military facilities, and highways.

Value of construction activity goes directly into the product side of the national economic accounts. More important for analytical purposes than the overall data are the individual breakdowns. Relative movements of construction activity in residential, industrial, and commercial categories are significant in analyzing the state of the economy. Materials manufacturers also make wide use of the construction activity data to check the rate of materials utilization.

Annual data on expenditures for additions, alterations, repairs and maintenance by construction types are currently being published. Present estimates place these expenditures at about one-third as much as new construction.

Building permit information is collected annually from some 10,000 permit issuing jurisdictions. Data are obtained on the number of new housing units authorized and their value according to the building permit. Monthly data come from a sample of 3,500 jurisdictions which account for more than 90 percent of total permit-authorized residential construction. In addition to the information on residential building the monthly reporting sample also provides data on value of additions and alterations and the value and structure type classification of nonresidential construction.

Not only are these data used in preparing estimates of total construction volume but also they represent the principal source of local statistics on construction activity.

Of great current interest is the monthly publication of the estimate of housing starts. This estimate is broken down by public and private ownership, type of structure, farm and nonfarm, inside and outside standard metropolitan statistical areas and four major geographical areas. It is widely used, in connection with other series, to compare the net additions to the housing supply with the formation of new households.

Vacancy data are published quarterly. Gross vacancy and vacant "available" units are shown separately for rental and for sale units by inside and outside standard metropolitan statistical areas and for major geographical areas.

Characteristics of vacant units are reported: number of rooms, duration of vacancy, plumbing facilities, rental or sales price asked. Data on vacancies are important tools of the housing analyst since they, in a sense, sum up the supply and demand factors in the housing market.

Most of the remainder of widely used housing data comes from the periodic or intermittent housing censuses. The decennial census of housing furnishes the principal body of national and local data. Statistics on individual city blocks and census tracts are used as guides for a wide variety of purposes including: planning, determination of renewal areas, assessment surveys, commercial locations, market studies, and determination of sampling units. Data on housing conditions, rent, household size and composition form the primary basis for public programs.

The components of change program carried on thus far only in the National Housing Inventory of 1956 and the Housing Census of 1960 gives new information on the changes in the housing inventory due

to demolitions, conversions, mergers and new construction. Through this program it is also possible to obtain data on changes in condition, rental and value of identical units, all significant for adequate analysis of the housing market.

Recent developments

Since July 1, 1959, responsibility for construction statistics has been concentrated in the Bureau of the Census. With an increased budget and consolidated management the Bureau of the Census has been able to make some needed improvements and to initiate others.

After nearly a year and a half of preparatory work a new series on housing starts was released in May 1960. The new series covers farm housing and some seasonal housing, and low valued structures not previously included, and has generally more complete coverage than the series it replaced.

The new series is designed to show the volume of construction actually initiated during the month. The former series depended upon "phasing patterns" of building permits and was thus insensitive to weather conditions, strikes or other factors which might delay construction after a building permit is issued.

Another major improvement is a continuous check upon permit coverage. A sample of newly started units is taken each month and checked to see whether a permit was issued.

In July 1960, Census adjusted the level of the former construction activity series to compensate for the change in level in the new housing starts series. At the same time an adjustment was made to include Alaska and Hawaii. This is regarded as an interim change pending a thorough revision of the entire series. The need for changes has been the subject of a number of reports.

In December 1960, the census introduced a progress reporting system for private nonresidential construction projects. If it is feasible to obtain such reports regularly, a major improvement can be made in the series. At this time, estimates of the value of work put in place are derived from construction "phasing patterns," some of them dating back to the 1940's. Thus, the series may fail to reveal significant changes at critical periods.

A new quarterly series on residential additions, alterations, maintenance and repairs, and replacements was first published in June 1961 by the Bureau of the Census. This series covers all types of residential properties, publicly and privately owned, single family and multi-family structures, renter and owner occupied.

The Housing and Home Finance Agency received funds in its 1962 appropriation to initiate a monthly series on the sales prices of new homes by contract with the Bureau of the Census. In addition to sales, this series will provide information on the price distribution and size of the unsold inventory. It will also yield data on the time lapse between start and completion, and completion and sale, with adjustment for sales prior to start or completion. Information will also be made available on the type of financing, the amount of downpayment and the amount of the mortgage. A severe limitation of the use of the series is the lack of an applicable price index. Month to month changes in sales price distributions could be due either to price change or to changes in size, quality, equipment, etc. of the houses being

produced and sold. To interpret fully the data provided by the sales price survey a construction price index (recommended below) is needed.

Funds were appropriated to the Housing and Home Finance Agency in 1962 also to finance special tabulations of data from the 1960 Census of Population and Housing on the characteristics and housing conditions of families and individuals in the older age brackets; to develop techniques for measuring family displacement by public improvement programs, and to undertake a study of the credit factors in mortgage foreclosures.

Directions for improvement

A principal objective of a construction statistics program for the 1960's is to consolidate and perfect the significant advances that have recently been made. Statistics on housing and related urban development subjects must be expanded to meet the requirements of the many important governmental programs in these areas.

The new housing starts series should be consistent with changes in the housing inventory. Although it is recognized that only a limited comparison can be made, as soon as possible the level of the new series should be checked with applicable data from the components of change portion of the 1960 Census of Housing.

Of necessity, seasonal adjustment of the current housing starts series is based upon seasonal factors derived from the old series. New seasonal factors by geographic areas should be computed as soon as feasible. Pending the development of new seasonal indexes for housing starts, the possible seasonality of time between building permit and actual start should be investigated. If a seasonal relationship exists, then some of the seasonal movement, presently based upon building permits rather than housing starts, can be better explained.

Improvement of the value of work in place series involves three major areas: (1) Development of better reporting sources and more accurate basic information (funds to collect better data quarterly on construction expenditures by State and local governments were requested in the 1963 budget), (2) better timing of reporting to reflect actual work accomplished rather than what would be done under "normal" circumstances, and (3) better integration of the construction activity series into the framework of the concepts of the national economic accounts by including many items of capital cost which are now omitted. Consideration should be given to the possibility of providing some limited geographic breakdown of the value in place series when the national series is on a firm basis.

There is a major need for the development of adequate construction costs or price indexes for various types of construction. These are required as deflators of the dollar volume series to compute changes in physical output and are also needed as an operational facility of the Federal Government in connection with the financing of Federal public works projects. Studies of the conceptual problems and developmental work on the preparation of construction cost or price indexes are now being done and funds to take further steps in initiating a price index of new single-family residences were requested in the 1963 budget.

Production of a series on residential additions, alterations, repairs and maintenance is now part of the regular work program of the

Census Bureau. Since the character of labor and materials going into nonresidential construction is almost indistinguishable from that involved in residential, it is believed that a completely rounded series on total repairs and maintenance should be given a high priority in the construction statistics program. Funds were provided to the Census Bureau in fiscal 1962 for developmental work in the nonresidential area.

In order to better understand the effects of construction on the economy it is necessary that interindustry and flow of funds tables be prepared. Although some work has been done on the former, the latter has been largely neglected. We need to know the source of the capital funds for construction and how they are distributed.

Data on characteristics of new housing have been provided in the past at intermittent intervals. For general purpose use, the series initiated by the Housing and Home Finance Agency on the sales price of new housing should be continued and expanded to cover rented housing and to provide data on such basic factors as type and size and on characteristics of purchasers or renters. Information is also needed on the materials going into new construction, data which in the past have been provided sporadically. Availability of these data, covering both residential and nonresidential structures, would contribute substantially to the interindustry study already recommended. It is recognized that producers of specific products may wish to have a finer materials breakdown than is needed for more generalized purposes. If they should wish to obtain these data through a Government survey then the incremental cost of obtaining the greater detail should be borne by private industry. In the interest of economy, efficiency, and most meaningful use of the data, the surveys on these various subjects should be consolidated or integrated as closely as possible.

There is a widespread demand for more current data on the housing market. The only current series is one on vacancies provided quarterly for the country as a whole and for four major geographic areas. This series should be expanded to provide information on a limited number of standard metropolitan statistical areas. These should be selected in number and geographic distribution with a view to their usefulness in analyzing and understanding national and regional averages and trends rather than meeting purely local needs. However, procedures should be developed and technical assistance provided for localities wishing to make local vacancy surveys.

A components of change survey, similar to those taken in 1956 and in connection with the 1960 census, should be conducted in 1965. Data from such surveys are invaluable in measuring both gross and net changes in the housing inventory and changes in the characteristics, value, rent, and occupancy of houses that remain in the inventory. This information becomes more useful for analytical purposes as the number of observations increases. In the 1965 components of change survey about 25 standard metropolitan statistical areas should be covered. Nine areas were covered in 1956 and seventeen in 1959. The survey should also obtain significant data separately for the central cities and for the metropolitan areas outside the central cities; it is almost certain that there are sharply divergent movements in these

two entities which should be analyzed both independently and in relationship to one another.

There are a number of other items which should be considered in a current data program to assist in the interpretation and analysis of the housing market: income and age groups of families buying and renting both new and existing housing, together with their present and immediately previous rent or housing expense; data on the "life cycles" of families relative to their housing experience, e.g., the proportions renting or buying or living with relatives immediately after family formation, elapsed time to first purchase, circumstances of any second purchase, proportions continuing to rent, transition from rental to sale, etc., all of this related to age, income and change in family composition. Such data would greatly assist the market analyst in estimating demand from a population of a given tenure, age, and income distribution. Data are needed also on the "filtration" of houses in order to determine the effect of new construction on the market and the successive steps that occur when a housing unit, either for rent or for sale, changes hands; information on the effect of the journey to work and transportation costs upon housing demand and satisfaction; studies of the effect of land prices upon housing costs leading, if feasible, to the establishment of a land price index.

Consideration should be given to the possibility of including much of the above within the framework of an expanded Current Population Survey. To the extent that this is not possible it will be necessary to develop new forms of surveys.

PRICES

Price statistics include the preparation of price indexes which indicate changes in average prices over time and actual published average prices for specified commodities in specified areas. Statistics of both kinds are published currently by Federal statistical agencies. Four major indexes are published monthly, the Consumer Price Index and the Wholesale Price Index of the Department of Labor and the Indexes of Prices Received and of Prices Paid by Farmers of the Department of Agriculture. Each of these series has important uses apart from its overall value as a broad economic indicator.

The Consumer Price Index is widely used in collective bargaining; its most frequent application probably being its general use as part of the factual background to labor-management negotiations. A significant specific use of the index is in escalation clauses which provide, within contractual conditions, that wages will be adjusted as prices rise or fall. Approximately 2,800,000 workers are now covered by such wage-escalation contracts in the United States. Separate indexes are also compiled for major individual cities and these are frequently used locally in the same contexts as the national index.

The Wholesale Price Index is calculated with many subindexes for groups of commodities. Apart from the use of the overall index in economic analysis the subindexes are also widely used. Contracts for the future production of manufactured goods frequently incorporate escalation features based on the wholesale-price indexes for specified commodity subgroups. Similarly indexes of various components are used for deflating industry product estimates for the national product and income accounts and for other purposes.

The Indexes of Prices Paid and of Prices Received by Farmers, in addition to their value in analysis of the economic status of farmers, have important special uses. The Index of Prices Paid by Farmers is used in the computation of parity prices for agricultural commodities. The ratio of the index of prices received to the index of prices paid is known as the parity ratio and is frequently an important determinant in the formulation of the Government's agricultural policy.

There are numerous other data which form a part of the field of price statistics. The implicit price deflator constructed by the Office of Business Economics, Department of Commerce, is an example which is widely used in economic analysis; the export-import indexes of the Bureau of International Programs of the same Department have important uses in the field of foreign trade; and there are a number of price indexes of specialized types prepared by other Federal agencies.

The actual price averages in dollars and cents have many uses as basic economic information. National averages of agricultural commodity prices enter directly into parity-price computations. The Department of Agriculture also publishes regularly a large number of State commodity average of prices paid and prices received by farmers. The Department of Labor releases consumer prices and wholesale prices for a large number of individual items. These data are widely used in economic and market research and furnish explanatory and corroborative information to supplement the published indexes.

Budget studies are closely related to the price area. The Department of Labor through the Bureau of Labor Statistics publishes budget data indicating the amount necessary for specified groups of persons to live modestly but adequately. The Department has computed two budgets of this type relating to an average city worker's family, and to a retired elderly couple.

Recent developments

Within the past few years notable improvements have been made or improvement programs begun in each of the four major series.

1. In January 1959 the Index of Prices Paid by Farmers was revised to incorporate weights relating to the year 1955. The new weighting pattern was based upon two surveys in which probability-sampling designs were utilized. At the same time the commodity content of the index was modernized and expanded. About 50 commodities were dropped and more than 120 new items were added.

2. In January 1959 the Index of Prices Received by Farmers was also revised to incorporate a new weighting pattern relating to the period 1953-57 and based upon official estimates of farm production, marketing, and sales.

3. A research project looking toward further improvements in the two farm indexes was instituted in fiscal 1959 with a special study of price-collection methods, known as the Ohio price enumeration project. This study is expected to furnish information leading to improvements in the pricing methods of both indexes.

4. Two recent revisions have been made in the Wholesale Price Index. The first revision introduced new weights based upon 1954 production data; the second, recently completed, again revises the weights on the basis of 1958 data.

The sample of commodities priced for the Wholesale Price Index has been expanded during the past 2 years. The number of commodities covered has been increased by $2\frac{1}{2}$ percent and the number of price quotations collected by 6 percent.

5. In 1959 a 5-year project to revise the Consumer Price Index was begun. Plans call for an expenditure survey of about 16,500 families, both urban and rural. The samples of commodities and outlets will also be revised.

In 1959 certain improvements were made in the index which were not directly a part of the revision project. The list of commodities priced was augmented by about 8 percent and the samples for some important categories, particularly medical care services, were greatly increased.

6. The City-Worker Family Budget and the Elderly Couples' Budget were revised in 1959 on an "interim basis," keeping the same basic concepts and approach, but incorporating new quantities and, in some cases new items, based on up-to-date statistical criteria. The budgets were priced in 1959. The last previous pricing had been in 1951.

Directions for improvement

A major revision of the Consumer Price Index is proceeding as scheduled in a 5-year program. This project entails the collection, tabulation, and analysis of consumer expenditures data, determination of the market basket and the weighting factors for the revised index, full-scale collection of price and rent data and the computation of test indexes preparatory to the publication of the CPI on the revised basis in January 1964. A survey of consumer expenditures by rural nonfarm and farm families is coordinated with the survey of urban families.

In 1959 the Bureau of the Budget contracted with the National Bureau of Economic Research to make a broad study of the Federal price statistics program and to formulate recommendations. The National Bureau appointed a Price Statistics Review Committee of distinguished economists and statisticians, under the chairmanship of Prof. George J. Stigler of the University of Chicago to carry out such a review. The committee's report was transmitted to the Bureau of the Budget on November 30, 1960.

The report is a comprehensive one containing many recommendations for the improvement of the major price series and pointing out areas of economic importance in which more adequate price information needs to be developed.

Included in the latter are the provision of more adequate detailed price data for the deflation of national accounts, the development of better construction price or construction cost information; the construction of price indexes for various tangible assets of economic importance, such as producer durable goods and land; the expansion of the number of price indexes in the field of transportation rates, and the further development of export and import price indexes.

In its report the committee's recommendations aimed at improving the quality of the price indexes which were summarized as follows:

I. For all indexes:

1. Schedules of periodical revisions of weights should be adopted.

2. Probability sampling should be used, so that the precision of the index can be measured.

3. New commodities should be introduced more promptly.

4. The price collection agencies should be given funds for research divisions. The development of methods of coping with quality changes (some of which are discussed in the report) should be a major task of such divisions.

II. Consumer Price Index:

1. The present index should be extended to include single persons as well as families, and the index should cover rural non-farm as well as urban workers.

2. A more comprehensive index for the entire population, not only the wage and salary earners, should be made.

III. Wholesale Price Index:

1. The structure of the overall index should be revised to reflect the prices of a condensed input-output table for the commodity-producing industries.

2. The individual product prices should, where feasible, be collected from buyers (not from sellers, as at present) to get more information on actual transaction prices.

IV. Indexes of prices received and paid by farmers:

1. The statutory prescriptions of the obsolete base (1910-14) and the inappropriate use of interest and taxes per acre, which are not prices, should be reconsidered.

2. The coverage of the indexes (particularly that of prices paid for living) should be increased.

3. The indexes for farms as production units should be segregated from the index for farms as consumer units.

4. The method of pricing should be shifted over to "specification pricing," and enumerative methods of collecting data should be adopted at least for commodities difficult to specify.

Shortly after completion of the committee's report, the Subcommittee on Economic Statistics of the Joint Economic Committee held hearings to bring out public views as to the manner in which the recommendations contained in the report should be implemented, and with what priority. The Price Statistics Review Committee's own recommendations and the views expressed in the hearings will form the basis for successive steps toward improvement of the price statistics program over a period of several years. First steps for which funds were requested in the 1963 budget include, for the CPI, extension to include the suburbs of local areas in which are located the stores from which price data are collected, the use of probability-based methods of sampling stores and items, and increasing the number of stores, items, and quotations for items other than food. They also include provisions for price and index number research urgently recommended by the committee related to problems of quality changes, introduction of new items, handling seasonal items, and making seasonal adjustments and other technical problems.

With respect to the Wholesale Price Index, improvements contemplated in the 1963 budget are initiation of a system of output price measures classified and computed by industry sectors, and a beginning in extending the WPI to cover industrial services.

Research in methodology and data collection problems peculiar to areas of prices paid and received by farmers is directed to the development of plans for an improvement program which can be implemented in subsequent years. Steps in such a program should be designed and evaluated from the standpoint of the contribution which they make to improvement of the national indexes as rapidly as possible.

The data collection programs which provide the basis for the Consumers Price Index and the Index of Prices Paid by Farmers for consumer items should be coordinated and integrated and maximum use made of all information obtained.

FINANCE

Statistics on "finance," as the term is used here, comprise a broad and heterogeneous body of data which includes statistics of money, banking and credit, business finance, security markets, and Government finance. The principal series in these areas are listed in Statistical Services of the U.S. Government. The presentation here is necessarily selective.

These statistics provide essential background for program administration or policy determination in one or more areas of governmental responsibility. Thus, monetary and banking data are essential for determination of monetary policy. Banking data are, in part, a background for bank supervision, while corresponding data covering the savings and loan industry serve a similar purpose. Statistics on the securities market, the mortgage market, and agricultural credit serve governmental administrators in these several fields.

More broadly, banking and other financial data are used for general economic analysis. Thus data on corporate profits and on State and local government finances are used for the national income and product estimates; these and a variety of other banking and financial data feed into the "flow-of-funds" accounts. Various individual series from this area are widely used as current economic indicators.

Finally, many of these series lend themselves to fairly specific uses by businessmen interested in comparing their own experience with that of an industry or knowing more about the markets in which they deal.

Recent developments

Banking reports are subject to continuous scrutiny and appraisal in terms of changing analytical needs. Recent changes include a significant revision of the loan data provided by the call report and the weekly member bank report; modernization of the earnings and dividends data; a major revision of the money supply data; provision of a more detailed breakdown of time deposits; improved seasonal correction of data on deposit turnover, and publication of seasonally corrected data on bank debits; further refinement of statistics on bank loans by industry, and provision for converting this series to an outstanding loan basis from a measure of weekly changes only. A deposit classification has been developed and published in anticipation of the development of bank mechanization which will make possible much more detailed data. Collection of data on Federal funds transactions (mainly day-to-day interbank loans) has been inaugurated and will be continued for at least 3 years.

In the field of consumer credit a comprehensive new benchmark survey of finance companies is nearing completion, and the current series covering finance companies has been placed on a probability sampling basis. Consumer credit estimates have been strengthened by reports of credit originating through credit cards.

In the agricultural credit field data for a pioneer study of non-real-estate credit has been obtained in connection with the Census sample survey of agriculture. The Census survey of residential mortgage finance in connection with the recent housing census will supply a new benchmark similar to that from the 1950 survey and the intercensal housing survey.

The Federal Home Loan Bank Board, in collaboration with the Federal Deposit Insurance Corporation, is initiating a new series on interest rates, fees, and charges for conventional mortgage loans made by savings and loan associations, commercial and mutual savings banks, life insurance companies and mortgage companies.

Appropriations to the Housing and Home Finance Agency for 1962 provided for a study of mortgage foreclosures, including the credit factors involved and the reasons for default.

For data on corporate profits the timelag in tabulating and publishing complete annual financial data for corporations has been reduced by the Internal Revenue Service from about 29 months to about 18 months. Selected items of financial data are available annually for corporations in all major industry groups approximately 11 months following the tax year to which they relate.

The FTC-SEC Quarterly Financial Report for Manufacturing Corporations is now published earlier than previously, and the report contains recently added data showing cross-classifications by broad industry groups and asset size.

Two of the more important achievements in economic statistics in recent years have occurred in the area of unincorporated business income. First, in its statistics of income, U.S. Business Tax Returns, IRS publishes selected items of financial data, including net profit, annually for sole proprietorships and for partnerships (as well as corporations) within approximately 11 months following the tax year to which they relate. These data are the first comprehensive annual data on the profits and financial position of unincorporated businesses. Secondly, more detailed annual financial data, including income statements and balance sheets for sole proprietorships and income statements and balance sheets for partnerships, are published somewhat later by IRS. Previously, sole proprietorship and partnerships data were tabulated only about every 6 years.

The SEC index of prices on the New York Stock Exchange has just been revised and placed on the new reference base period of 1957-59. The SEC has also recently instituted annual studies of pension funds, filling in an important gap in information on the capital markets. An SEC-sponsored study of mutual funds has been completed and plans have been developed for the collection and tabulation of financial data on securities brokers and dealers.

Another important recent improvement has been the seasonal adjustment of a quarterly Budget Bureau-Treasury series showing the Federal Government's cash receipts from and payments to the public.

In March 1961, the Federal Reserve began to publish weekly statistics describing dealer operations in the "wholesale market" for Government securities. These statistics include aggregate figures for dealer transactions, dealer positions and dealer financing arrangements. The published series go back to September 1960.

Treasury has significantly expanded the coverage of its monthly survey of the ownership of Federal Government securities.

The annual report on "Governmental Finances" covering State and local government finance was recently expanded to show State-by-State aggregates for selected revenue, expenditure and debt items. Data are based on reports for all States, large local governments and an expanded sample of smaller units.

In the area of nonbank financial institutions, the Federal Reserve has compiled on an exploratory basis quarterly data on the sources and uses of funds for a sample of fire and casualty insurance companies from information filed with the New York State Insurance Commission. Heretofore only annual data on fire and casualty insurance companies have been available and these only with a considerable time lag.

Directions for improvement

The problem for the years immediately ahead in the field of banking is one of continuing to subject the existing series to the periodic scrutiny that they have had in the past, to insure that the content is geared to current problems, and to improve quality where possible, while giving attention to developing data in areas not now covered. In particular, immediate attention should be given to evaluating the annual series on ownership of demand deposits, which has been carried on under the present arrangement for almost 5 years and is now undergoing a scheduled reexamination. Issues include reduction of sampling error.

Another early project should be review of the quarterly series on interest rates paid on business loans by bank customers, which has not been fundamentally revised since 1948, and possibly expand it to cover terms of credit.

On a longer run basis, various problems of banking statistics deserve attention, including the following: study of possibility of increasing the quality and usefulness of debits and deposit turnover series; placing the special business loan surveys, of the type already made several times, on a periodic basis; development of periodic surveys of time deposits by ownership, with some attention to measuring turnover of time deposits; development of data on term lending; study of the possibilities of statistical measurement of the "quality" of credit; and improvement in data on commercial bank real estate lending.

In other financial areas, the following items are believed to be of primary importance during the current decade.

To obtain more information on nonfarm mortgage finance, attention should be given to modernizing the recordings series of the Home Loan Bank Administration by raising the limit of coverage from the present \$20,000 to a higher figure—say \$35,000. In the longer run the feasibility of making other significant improvements in the recordings series within reasonable cost limits should be studied.

In order better to anticipate changes in the volume of residential construction it would be desirable to develop a comprehensive series

on mortgage loan commitments of major institutional lenders, now covered in full only for savings and loan associations. To be of maximum usefulness such a series should include both new commitments and those outstanding, together with a distribution by interest rates.

Improvement is needed in the data now available on discounts in the secondary market for mortgages. A test should be made of the information now being obtained through opinion surveys against data derived from actual transactions. If discounts paid for the acquisition of mortgages can be coupled with contract interest rates it would be possible to develop a series on yields on mortgage loans to financial institutions.

Attention should be given to other gaps in residential real estate financing data, such as information on the extent and terms of junior mortgage financing and the extent to which nonmortgage credit is involved in transactions.

To obtain improved data on agricultural credit, attention should be given to the current sample census data on non-real-estate debt. If experience proves satisfactory, plans should be made for similar coverage every few years. Experimentation should continue on reporting of farm loans by banks in agricultural areas, with the aim of a possible future development of a new current series.

Consumer credit data will be improved by making plans for subsequent benchmark studies of finance companies such as the one recently completed. Improvement of samples in existing series and expansion of data collection on such subjects as finance changes, revolving credit, and credit union lending should be studied.

The annual profits and financial position data for corporations available in the IRS Statistics of Income publications are quite adequate for most purposes with the possible qualification that it would be desirable to have them earlier. There is need, however, for a regular audit control study, preferably not less frequently than once every 5 years, to provide factors for the correction of the understatement of profits in the unaudited tax returns that are used in making these important benchmark tabulations.

A serious gap remains in that quarterly corporate profits and financial position data are available only for manufacturing corporations and corporations in federally regulated industries. Collection of such data should be extended to nonmanufacturing corporations, particularly those in the distribution and service trades and mining. The most urgent item not yet provided for in the area of business financial statistics is current statistics on the financial position of unincorporated nonfarm business. In Statistics of Income, U.S. Business Tax Returns, IRS provides annual information on the income of sole proprietorships and partnerships approximately 1 year after the close of the calendar year to which most of the data apply. Quarterly information would improve economic analysis at or nearer to the critical periods of turning points in the business cycle, when information is most essential. Correction factors for the understatement of profits should also be developed for unincorporated businesses.

Immediate attention should be given to meeting the need, for flow-of-funds analysis, for collection and tabulation of financial data on securities, brokers, and dealers.

The current SEC-Wharton School study of mutual funds should soon furnish a basis for evaluating the need for and feasibility of a periodic reporting program covering these important financial institutions.

In the longer run, attention should be given to the possibility of statistical coverage of the over-the-counter securities market. A better judgment as to the need for and feasibility of covering this market will be possible when the results of the SEC special study of the securities markets are available. Attention should also be given to the possibilities of fundamental revisions in the approach to the stock price index to make it more comprehensive in its coverage and more closely comparable, in its industrial detail, with economic data in production and other areas.

Better, more comprehensive measures of the impact of Federal Government activities on the economy are needed. As a minimum, a current series on Federal Government expenditures should be developed showing detail on the major classes of Government durable goods purchases and on the Government's new orders for durable goods, sufficient to allow a distinction in the aggregate between Government and private purchases. A quarterly series on anticipated Federal Government expenditures is also needed.

State and local governments account for annual receipts and expenditures of over \$50 billion, constituting an important segment of our national economy. To meet the need for current information in this area funds were requested in the 1963 budget to initiate a quarterly survey to provide national estimates of State and local government revenue, expenditures, indebtedness and financial assets.

In line with developments designed to make other types of data available for States and standard metropolitan statistical areas, the Federal Government should work with State and local governments to provide data on government finances on a uniform basis at least annually.

APPENDIX

ORGANIZATION OF THE FEDERAL STATISTICAL SYSTEM

The statistical organization of the U.S. Government is "decentralized." Responsibility for statistical activities is divided among agencies according to their subject matter fields instead of being centralized in a single agency.

The statistical organization is described in Statistical Services of the U.S. Government by grouping agencies into four broad categories according to their principal statistical activities and responsibilities as follows:

1. A central coordinating agency to prevent duplication, achieve balance, and develop procedures for an integrated system of governmental statistics.
2. General-purpose statistical agencies, whose primary function is the collection, compilation, and publication of statistics in specific fields for general use.
3. Analytic and research agencies, which use statistics collected by other agencies for interpretive purposes, including preparation of composite measures.
4. Administrative and regulatory agencies, which collect statistics primarily as a byproduct of their administrative and operating responsibilities.

* * * This grouping into categories is only a convenient device to distinguish roughly among different kinds of statistical activities. The categories are not mutually exclusive, and some agencies might logically be listed under more than one. The agencies included in the category of "general purpose" may also perform important tasks in analysis and research; analytic and research agencies in some instances engage in direct collection of statistics; and the statistics collected by administrative and regulatory agencies provide many statistical series valuable for general use.

STRENGTHS AND WEAKNESSES

The decentralized character of Federal statistical responsibilities is a source of strength and efficiency on one hand and, on the other, of weakness in our statistical system.

The general-purpose statistical agencies such as the Bureau of the Census and the Bureau of Labor Statistics account for a large proportion of statistics for general use. Their size and specialization are an advantage in the development of skills and scientific techniques in the collection, processing, and publication of statistics. With respect to subject matter and the requirements discussed in a previous section—flexibility, accuracy, timing, and so forth—their programs must be responsive to the needs of users of statistics, including the analytical and research agencies such as the Council of Economic Advisers and Office of Business Economics.

A great deal of information is obtained by administrative and regulatory agencies as a byproduct of their operating responsibilities. Much of these data serve not only the administrative purposes of the collecting agency but also add to the stock of statistics useful to other

agencies and to the public. This has obvious advantages. Data are compiled close to the area of use under the direction of specialists in the subject to which they relate. The burden on persons supplying the information is minimized. A weakness is that the subject matter detail, the form of presentation, or the timing best suited for one purpose is not always the best for other purposes. Some adaptation of administrative activities and procedures may be necessary to achieve satisfactory adjustment to various types of use. This may entail some inconvenience or incremental cost over the purely administrative needs of the moment. A broad view of what is in the best interest of the public and the Government as a whole is required in all parts of the Government to handle such problems expeditiously and economically.

In order to take advantage of the strength of this decentralization and minimize the effects of the weaknesses, central coordination and planning is imperative. This is the principal function of the Office of Statistical Standards in the Bureau of the Budget. Performance of this function requires the identification of statistical needs and deficiencies. It requires decisions as to what statistics are necessary, who are the users, from what source, how and by whom should the data be gathered, and finally, provision in the budget to carry out the program.

An important part of central coordination is the development of uniform standards. Use by all agencies of standard definitions and classifications is essential to achieve comparability between statistical series. These are usually developed through interagency consultation under Bureau of the Budget direction.

RELATIONSHIP TO OTHER ORGANIZATIONS

International organizations

There are many aspects of the relationships between statistical activities of the U.S. Government and those of international organizations. These include the development of international standards of classification, participation in conferences and working sessions of international agencies, preparation of position papers and instructions to delegations concerning international statistical matters, and supplying U.S. data for inclusion in publications of various organizations in the United Nations framework.

The Office of Statistical Standards serves as the point of liaison on many of these matters. Representatives of U.S. agencies are consulted on problems in their respective fields, and participate in the work of the specialized organizations of the United Nations and other international bodies. They also engage in technical assistance programs which aid other nations in developing adequate statistical systems. These programs involve training statisticians and administrators—some sent to the United States for training here while others are helped in their own countries under the local conditions prevailing by individuals or teams of U.S. experts.

Federal-State relationships

Statistical programs of States vary widely in scope. They are generally independent of the Federal Government. In some areas, however, cooperative programs have been worked out for data col-

lection. These arrangements are particularly effective where there are joint interests in the administration of programs—unemployment insurance, for example—when States compile statistics in accordance with standards set up by the Federal agency. Fairly formal arrangements for coordinated Federal-State programs have been worked out in other areas such as vital statistics and agricultural statistics. In the case of certain activities subject to regulation, a system of reports has been developed to meet the needs of both Federal and State commissions.

In some other areas, the Federal agencies obtain from State or local governmental bodies reports growing out of their administrative processes with little knowledge of how the information is compiled, its accuracy, or comparability with reports from other States with which they are combined. In other instances, a Federal and a State agency may ask for reports from individuals or organizations on the same subject. Much greater attention needs to be given to removing these deficiencies, to the advantage of all concerned.

Private groups

The Federal Government uses and republishes with other related data a great deal of statistics compiled by business organizations and trade associations. Duplicate collection programs are avoided when the data available from private sources meet the necessary Government criteria of accuracy, completeness, and timeliness.

Government and private statistical and research groups derive mutual benefits from research in statistical methods and analysis. The work of educational institutions and research foundations on the development of new concepts and analytical techniques leads to improvements in the data collecting and processing activities of Federal statistical agencies. These groups have also made substantial contributions in the development of historical series which must be based on organization and analysis of data already available.

DIRECTIONS FOR IMPROVEMENT

The goals of the program of Federal statistics from the standpoint of subject matter content and efforts to make improvements to meet the requirements of statistics are described in previous chapters. Certain other features of the organization and functioning of statistical activities which require attention are discussed here.

Respondent burden

The Federal Reports Act of 1942 declares, as a policy of the Congress, that information needed by Federal agencies should be obtained with a minimum burden upon business enterprises and other respondents.

The extent of burden imposed on individuals, businesses, and other organizations by the necessity to file reports with Federal agencies is always considered in relation to the importance of the uses to be made of the information. While there is no mechanical rule by which these two factors can be related, the objectives of minimizing the burden and maximizing the use require constant attention. This principle applies both to the development of plans for new surveys and the periodic re-examination of existing data gathering operations.

Utilization of administrative reports

Administrative reports were mentioned above as a source of statistics. Techniques and procedures need to be developed to permit greater exploitation of this source where feasible and where an independent survey would duplicate the information already available on the records, without interfering with the administrative uses for which the reports are required. This is difficult when only Federal agencies are involved and even more so when a State or local agency gets the reports. However, efforts toward this end should be directed to selected areas which promise the most beneficial returns.

Techniques and standards for local surveys

The interest in local data as part of the Federal statistical program was discussed in the preceding section. Except for data made available in the periodic census, it is recognized that the Federal Government cannot be expected to supply a full range of statistics about every locality in the Nation. However, it could provide technical materials, manuals, etc., and set up standards to guide local groups in making their own surveys and studies. This would facilitate the meeting of many local needs and at the same time provide a greater body of local data of satisfactory adequacy and comparability which would be useful in analyzing the national data.

Uniform classification of reporting units

A major obstacle to consistency between statistical series which are based on independently collected data is uniform classification by industry of the business units reporting. Even when two series ostensibly use the same reporting unit, there may be some difference between collecting agencies in the application of standard definitions. Another difficulty arises in the case of reports with different frequencies. A current monthly report classified according to the principal product of the establishment at the beginning of a year may not be the same as a report classified on the basis of a year-end report.

A more significant and troublesome source of difficulty stems from differences in concepts of the reporting unit. The nature of the source of the data and the way business records are kept may require this. For example, profits data may be available only on a company basis while production is reported by establishments. Or, in the case of a large multi-establishment organization, the scope of a particular establishment's payroll records may not coincide with the inventory records and these may both differ from the cost accountants' reports.

There are some five different concepts of reporting units or levels or aggregation of parts making up a large business organization in different Federal reporting requirements, namely: establishment, division, liable employer under social security, Federal income tax unit, and company. When reports are made for one type of unit, the results may not be combinable into group summaries based on reports for another type of unit.

Various attempts have been made during the past 20 years to resolve these problems of classification, ranging all the way from building "statistical bridges" between series based on different reporting units to case-by-case examinations to assure coordinated data. All of these efforts have fallen short of the goal, but experience has provided more

understanding and definition of the problem. Respondent objections to repeated "nature of business" inquiries from different agencies give more impetus for its resolution.

Interagency agreement must be reached on identification of the smallest reporting unit—the establishment—and the grouping of these units which make up the other reporting units described above. Agencies which cannot use the establishment as a reporting unit because the information they seek is not available for such units, must then use some other recognized and defined unit. This may require the development and maintenance of a central file of industrially classified units showing their identification, location, industrial activity, and size. In order to develop such a file or directory it will be necessary to solve the problem—through appropriate legislation, if necessary—of confidentiality which now restricts the use of individual agency records. A major, coordinated effort must be made to achieve this goal in the next year or two.

Methodological research

Facilities and resources of the principal statistical agencies should include provision for technical staff to engage in methodological research and feasibility studies. They should be concerned with measuring statistical accuracy, improving techniques for collecting and tabulating information, and exploring and evaluating new sources of information. An area of exploration which is particularly important is that of the ability of the respondent to furnish the data requested. The results and findings of this work, while directed primarily to increasing efficiency of operation of individual surveys, should be organized and documented so that the experience may be applied to other surveys and in developing plans for new surveys throughout the Government. The technical staff should not be completely isolated from current operations, but neither must they have such operating responsibility that they are unable to perform their primary job.

Analysis in relation to collection

Analysts using statistics must be familiar with sources, definitions, and methods of collection in order to use and interpret the data intelligently. By the same token, in order to provide meaningful statistics which are appropriately reliable to serve the purpose for which they are intended, the statistician must have a thorough understanding of the uses made of the statistics which he produces. Unless those who collect and prepare the statistics understand how the data are used, there are dangers that the statistical series will degenerate into meaningless numbers or be refined to an unnecessary degree of accuracy.

Participation by people familiar with the details of collection in the analysis and interpretation of the data is the best way to avoid this. Resources of statistical agencies should be sufficient to provide some staff, close to but not completely preoccupied with operations, who would be able to evaluate and analyze the data and to plan and adapt survey procedures in keeping with uses of the data.