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3 Operation of the Federal Statistical System

Preceding sections have dealt with the framework, the statutory bases, and the costs of the Federal statistical system. We now examine its workings, describing successively the operations of an important public purpose agency and a major administrative agency, relations among statistical agencies, the appropriations process, and instruments of statistical coordination.

The Statistical Process within a Public Purpose Collection Agency: The 1947 Census of Manufactures

With dozens of agencies gathering multiple varieties of statistics ranging from the production of artichokes in California to the average hourly wind velocity in Mobile, it is not easy to select operations that are typical. The problems that beset the Census Bureau in collecting, processing, and presenting data on employment in manufacturing differ markedly from those that worry the Bureau of Labor Statistics in estimating employment in construction; and a still different set of problems faces the Interstate Commerce Commission in compiling and presenting statistics of railway operation.

Nevertheless, a general procedure characterizes a considerable body of statistics and although the problems often vary in detail, their nature and the devices for solving them remain reasonably standard. We may best describe the operation of a public purpose collection agency, and the mechanisms developed to lubricate and synchronize it, by analyzing an important activity recently concluded: the Census of Manufactures for the year ended December 1947.

PLANNING THE CENSUS

This census covering the full year 1947 could not begin until 1948 and was still in progress in mid-1948. Its advance planning, however, went back to 1946 and relied heavily on the census of manufactures conducted in 1939 and on cen-

suses planned for 1944 and 1946 but not taken because of the war. The planning for the census of manufactures, as for any major census, is a far flung and time consuming undertaking. In this case a staff was organized in 1946 to plan for the 1947 census, which was to begin in early 1948.

The first problem in advance planning was to decide what information to collect. The decision involved conflicting considerations. At all times, of course, the Census Bureau is bombarded with requests to gather data of every kind. The National Income Division of the Department of Commerce may urge it to gather statistics on construction expenditures by manufacturing firms. Marketing, research, and advertising firms may press upon it to collect data on the number and circulation of weekly newspapers by counties or on the materials used in children's games and toys. These special pressures determine, to some extent, what statistics are collected. But a major reason why data often lack unity and purpose is practical circumstance. No information can be gathered if it does not exist on the books or is not available to the management of the firms that will fill out the Census questionnaires. Moreover, the schedule the Census Bureau can request the manufacturer to fill out is definitely limited in size. It is true that the Census Bureau has mandatory power to force manufacturers to answer the questions, but far more important than getting an answer from the firm is getting the answer from its books. For accurate information the Census Bureau is at the mercy of the goodwill of its business respondents and the adequacy of their bookkeeping systems.

The second problem was classification. It is useless to know that brooms manufactured in 1947 were double the output in 1939 if the recent figure should include brushes and the 1939 figure should exclude them. Similarly, it is necessary to determine with precision where the product of one industry ends and the product of another begins. Classifications must be worked out and widely agreed upon, for they affect not only the internal and historical comparability of census compilations; they also affect their comparability with data of the

Social Security Administration and the Bureau of Labor Statistics, which gather employment information from the same manufacturing establishments; in addition they influence the usefulness of the data to the National Income Division which must add wages and salaries of factory workers to those of domestics and farm laborers. These classifications are developed by the Census Bureau with the cooperation of inter-agency groups manned by people from practically every interested activity in the government and benefiting from the advice of business firms and labor unions.

A third phase of the initial planning involved the framing of definitions and the construction of questionnaires. In preparation for the 1947 Census of Manufactures committees were set up under the sponsorship of the Division of Statistical Standards to formulate definitions that would enable the Census Bureau to decide, for example, whether a firm manufacturing and erecting prefabricated houses is a factory or a construction establishment, or whether carpenters employed by the Chrysler Corporation are in manufacturing or construction.

With these definitions established, the Census Bureau put appropriate questions into the schedules and prepared instructions to guide factories in recognizing their intent. But, in order to translate these definitions into effective and comparable classifications, it was necessary to plan not merely the construction of the questionnaires but also the editing and the tabulating of the data after the questionnaires should have been returned to the Census Bureau.

In connection with the 1947 Census of Manufactures it was necessary to select from the tens of thousands of individual commodities a manageable number on which specific statistics were to be collected. More than two years of consultation within the government and with approximately 10,000 persons in private industry finally produced a balanced list of 6,500 individual commodities distributed among the almost 500 industries into which manufacturing is compartmentalized. To present these requirements clearly to the

respondents, appropriate product lists were developed for 210 schedule forms.

As a fourth step the number of establishments to be queried was determined and their ability to answer the questions put to them considered. This step was necessary in order that the sheer volume of work, and therefore the cost of collection might be estimated and that questions might be adapted to the circumstances of collection. To handle these details the Census Bureau set up a task group for each of 18 industrial categories: iron and steel, printing and publishing, automobiles, tobacco, and so on. Each group was composed of specialists from such agencies as the Bureaus of the Census and of Labor Statistics and the Division of Statistical Standards. Subcommittees of these groups, after consultation with industry representatives, recommended the content and form of the preliminary schedules for given industrial sectors.

The fifth problem in advance planning was pretesting the schedule. The task groups of the Bureau of the Census, the representative firms, the trade associations and the trade newspapers—none of these proved in the final analysis to have enough detailed knowledge of the way books are kept in all establishments to assure the Census Bureau that the general sections of the questionnaires were usable and were not excessively burdensome. In the end, the Bureau had to go through a process increasingly utilized in large scale surveys. This step is known as pretesting. In 1947 it carried out four pretests—two in cooperation with the States of Massachusetts and Pennsylvania, a third with the Bureau of Labor Statistics, and a fourth independently.

Parts of the questionnaires were sent to firms with a request for answers as well as for comments on whether the firms could supply the data and, if so, how accurate and complete they would be. On the basis of this pretest (which did not cover the entire manufacturing schedule but only certain doubtful items) the Census Bureau decided to include employment and payroll information for one pay period, man-hour data by quarters, and capital expenditures in some de-

tail. With respect to each of these types of data the question was asked: Could at least 80 percent of the firms supply book figures or carefully prepared estimates? On this basis, the Census decided not to ask such questions as how much of the employees' pay was in the form of room and board, the cost of the containers used, the transport cost, the weight of shipments, or the property account. It omitted also requests for certain detailed information on inventories in process.

COLLECTION

The collection process involves getting and checking names, addresses, and the industrial classifications of all the factories, mailing the schedules, keeping after the factories by mail follow-up to send in their returns, familiarizing the permanent field staff with the special problems of the particular census, hiring and training the temporary enumerators, rounding up delinquents by follow-up telephone calls or personal visits, checking the questionnaires as they come in, and sending back poorly answered returns for clarification (e.g., distinguishing between machine tools and forging equipment).

A mailing list of manufacturing firms is easier to assemble than a complete list of service establishments, such as radio repair shops or Turkish baths. Nevertheless, the task is difficult and the collection agency is never certain that the list is complete. The Census Bureau supplements the existing list by consulting such sources as trade journals and business directories. The most important source of new names is now the business population records of the Bureau of Old-Age and Survivors Insurance.

The Social Security Administration has in Baltimore a National Bookkeeping System with a file covering nearly three million employers in all industries covered by the old-age and survivors insurance program, including nearly all manufacturing establishments. Each quarter the Bureau of Old-Age and Survivors Insurance gets reports, through the Treasury Department, from firms that pay their quarterly

taxes toward the old age pensions of their employees. It adds new firms, and strikes from the list firms that go out of business (Table 6).

One difficulty in getting factory mailing lists from these data arises from the difference in industrial classifications. The Census Bureau classifies manufacturers by establishment or plant; for example, it puts plants of the General Motors Frigidaire Division in the refrigerator rather than in the automobile industry. So also does the Bureau of Old-Age and Survivors Insurance, to the extent that its reports permit. Each uses the Standard Industrial Classification, but the evidence on which classification is based may not be the same for the two agencies.

Despite all care, the mailing lists are probably never fully accurate or complete. In the middle of 1948 the Census Bureau found itself sending out thousands of questionnaires to manufacturing firms that should have had them in January, simply because it had just received from the Social Security Administration lists of new manufacturers or of firms reclassified as manufacturers.

The second aspect of the collection process, the hiring and training of mailing clerks, enumerators, editors, and verifiers, is an administrative job for which the Census Bureau is well equipped because of its nucleus organization and wide experience. No other governmental statistical agency has such a far flung field organization under its direct control or such a large staff of experienced statistical clerks in the home office as the Census Bureau. Because of its large scale operations and the rapid turnover inherent in the fluctuating work load, the Bureau must make good use of relatively unskilled persons who cannot be given broad training.[1] The field staff is expanded and supervised through a permanent organization of between 60 and 70 offices located throughout

[1] One plan under consideration for the 1950 Census, possibly to be tried in a few States, is to employ school teachers as enumerators. The advantage is that teachers are better educated, have more prestige in their communities, and would be expected to be more conscientious than other, and often politically selected, enumerators.

the country and is coordinated in area offices, each having a full-time staff of not more than six. The present staff, which does the actual house to house enumeration or the follow-up of the mail questionnaires for the sample surveys of population, the current business surveys, and the census of manufactures, is made up of 1,000-1,500 employees, most of whom work part time or intermittently. By means of these persons the Census Bureau must ask questions, and compile and check answers.

The third aspect of collection is editing the returns to ensure that they answer the questions adequately. The manufacturing schedule contains questions about the distribution of factory employees among production, force account construction,[2] clerical, and all other employees; the cost of materials and fuels used in the plant and the cost of contract work; expenditures for new construction as distinguished from outlays for new machinery or from expenditures for used machinery; the chief products, and other products, of the factory; the value of scrap and salable refuse; and receipts for repair work. Constant and expert supervision is necessary to obtain satisfactory answers and to ensure that those of one factory have the same meaning as those of its neighbor.

TABULATION

It is sometimes charged that governmental agencies are less efficient technically than private enterprises. This criticism cannot be leveled at the mechanical aspects of Census statistical processes. The Census was the first large agency to use the card punch system (1890), by which complex combinations of information about a single family or business can be punched on a small card by a relatively unskilled girl.[3] The perforated cards are fed into machines which sort out and extract from

[2] Construction by business firms using their own work force rather than outside contractors.

[3] Two Census employees, Hollerith and Powers, made their initial inventions in order to expedite census tabulations. At present the Census Bureau is participating in the design and construction of tabulating and computing equipment which will operate electronically.

millions of cards in a few hours or even minutes such detailed information as the value of monuments and tombstones manufactured in Cuyahoga County in 1939. Operating by hand, dozens of clerks would have to thumb through thousands of questionnaires, a task which would not only be costly and time consuming but would limit the production of detailed data. The Census Bureau centralizes all its tabulating work in one machine division, a procedure that permits a scheduling of the work to obtain maximum use of staff and machines. This is augmented by work on current programs and by service work for other agencies.[4]

PRESENTATION

After the machines have sorted and tabulated the data in the desired classifications, the clerical staff transcribes them into tables for publication. In publishing its results, the Census Bureau is, in increasing degree, accompanying them with evaluations of error; in the case of estimates based on sample surveys it indicates how closely the estimate may be expected to fit the true figure. For the 1947 Census of Manufactures, a theoretically complete enumeration, the intention is to present the results of a check to determine how complete the coverage turns out to be.

Not to be overlooked are the analytical factors that form part of the process of publication. All tabulations are carefully reviewed to ensure that no extraneous factors have entered into the collection or compilation of results. Since the number of possible tabulations for a broad, general purpose inquiry usually greatly exceeds publication resources, good judgment is required to bring out results that will be of most general use. Although the selection is usually made at an early stage, the plans and the resulting tables must be reviewed to ensure clear and adequate presentation. Finally, we note the necessity for review to make sure that no operations of an individual respondent are disclosed, either directly or through subtraction. Since tabula-

[4] The Bureau of Labor Statistics follows a similar plan.

tions are on a plant basis, while ownership may comprehend many plants in a single company, and since numerous tabulations are involved, this checking for disclosure is a technical, time consuming, and expensive operation.

The Statistical Process within an Administrative Agency: The Bureau of Old-Age and Survivors Insurance

No administrative or regulatory agency is typical of the generality of such agencies. Each has been set up by Congress to carry out a function for which statistics are merely ancillary or from which they flow as an administrative byproduct. In one sense, however, the statistical process of the Bureau of Old-Age and Survivors Insurance in the Social Security Administration has something in common with that of many other administrative and regulatory agencies. This process takes accounting information as it emerges from an act of administration and converts it into statistics having uses within and without the Social Security Administration. We examine first the procedure by which the accounting data are created, then the steps by which they become statistics (Table 6).

TABLE 6

Statistics as a Byproduct of the Accounting Work of the Bureau of Old-Age and Survivors Insurance

A EMPLOYER TAX REPORT

The employer files this tax report quarterly with his Collector of Internal Revenue

Form SS-1a Employer Identification No. 52-0123456

Name XYZ MANUFACTURING COMPANY

Address 2552 LIGHT STREET, BALTIMORE, MARYLAND

Date quarter ended December 31, 1947

Number of workers in pay period of December 15, 1947 145

Number of workers in quarter 138

Amount of taxable wages in quarter $29,508

Employee No.	*Employee Name*	*Wages*
212-12-1605	John Doe	$300.20
212-16-5266	Jane Doe	250.10

Accounting operations for establishing and maintaining records

Every three months the Bureau punches a card for each firm or branch covered by its insurance, showing *inter alia,* the industry and location of

the employer, the number of employees, and his taxable payrolls during the quarter. Nearly three million such cards were punched for early 1948.

Every three months the Bureau punches an additional card for each worker who received wages, showing the amount, industry, and location of the plant. Forty million workers were employed in the first quarter of 1948 but, because many workers received wages from more than one employer, 47,000,000 cards had to be punched and the duplications later sorted out.

Converting records to statistics

For the first quarter of each year machines sort these cards to derive figures on the number of establishments, employment in mid-March, and first quarter taxable payrolls, classifying them by State and county, industry, size of firm, and size of establishment.

From cards the Bureau selects a sample of employees to obtain their annual earnings, number of employers, and their existing and most recent State and industry of employment. It selects another sample to reveal the number of years employed in covered industries, earnings since the program began, and whether workers are insured.

Examples of uses of data

BUSINESS POPULATION: The Department of Commerce uses them to estimate the number and types of businesses in operation and to tell prospective businessmen whether the outlook is dim or bright. The Census Bureau uses them to fill out its mailing lists.

MARKETING RESEARCH: The Department of Commerce publishes the number of establishments, wages, and employment, by industry, size, and location. Private organizations use them as guides to the market and to advise businesses how to plan sales and advertising quotas.

EMPLOYMENT AND WAGE BENCHMARKS: The National Income Division uses employment and payroll data to round out its estimates in areas where small firms are important. The Bureau of Labor Statistics combines the employment figures with data it gathers for noncovered industries to round out its estimates of all nonfarm employment.

ANNUAL EARNINGS: The Bureau of Labor Statistics uses them in wage mediation to determine which industries show the largest wage increases.

EMPLOYMENT AND WAGE HISTORIES: The Bureau of Old-Age and Survivors Insurance uses data on length of employment and amount of wages to estimate the protection its program affords, future tax income from workers, and future benefits it will have to pay them.

B BUSINESS BIRTH CARD

The employer files this application for an employer number with his Collector of Internal Revenue

Form SS-4 Employer Identification No. 52-0123456

1. Name XYZ MANUFACTURING COMPANY
2. Class Individual Partnership
   Corporation Other
4. Address 2552 LIGHT STREET, BALTIMORE, MARYLAND
5. Number of employees 16
6. Date established Nov. 1, 1947
9. Reason for application Started new business
   ___ Purchased going business
   ___ Other
10. Nature of business Textile Manufacturing

TABLE 6 (concl.)

Accounting operations for establishing and maintaining records

A card, punched for each new firm applying for an identification number, shows the industry, the number of employees, and whether the firm is a new or purchased enterprise. Six hundred thousand new cards were punched for 1947.

Converting records to statistics

Every three months machines sort these cards to reveal new businesses, their industries, States where they applied for a number, their sizes, and the circumstances underlying the births.

Examples of uses of data

BUSINESS BIRTHS: The Bureau of Labor Statistics uses the lists of new firms to select a sample of new contractors from whom to collect construction data.

C BUSINESS DEATH CARD

The Collector of Internal Revenue submits a card for the employer who has ceased to report taxes under old-age and survivors insurance.

E.I.No. 52-0123456

1. Name XYZ MANUFACTURING COMPANY
2. Address 2552 LIGHT STREET, BALTIMORE, MARYLAND
3. Reason for discontinuance
   ___ Liquidation ___ Change in organization
   ___ Business transferred to successor
   ___ Discharged all employees but continued business
   ___ Moved to other IND ___ Other ___ Unknown

Accounting operations for establishing and maintaining records

Every three months a card comes to the Bureau from the Collector of Internal Revenue for each business that has ceased to pay social security taxes. This card specifies the name and address and what has happened to the business. The Bureau adds to this form information on when the business started, its industry, and size before death. For 1947 a half million such cards were prepared.

Converting records to statistics

Machines sort these cards to reveal the number of discontinued businesses by industry, size, location, and reason for discontinuance.

The life spans of enterprises are estimated from special information on when the business was born and died.

Examples of uses of data

BUSINESS DEATHS: The Department of Commerce uses the data to estimate the number of concerns going out of business and to ascertain the causes of their demise. It uses data on births and deaths to measure business turnover.

BUSINESS LIFE SPAN: The Department of Commerce plans to use the data to set up life expectancy tables for businesses of various sizes and characteristics.

Prepared with the aid of the Division of Program Analysis, Bureau of Old-Age and Survivors Insurance, Social Security Administration.

Every employer in industries covered by old-age and survivors insurance is required by law to report each quarter year the wages of all employees on his payroll during that quarter. Form SS-1a on which he sends this information, known as the Employer Tax Return, may be seen (in simplified version) in Table 6 A. This form, which goes first to the Collector of Internal Revenue along with the withholding tax Form W-1 and the check for withheld taxes, shows the individual earnings of each worker, his name, and the social security account number given him by the BOASI at the time of his original application for a number. When the worker applies for an account number, the number he receives indicates the State where he started to work. He keeps the same number wherever he moves. The employer's number, however, obtained when he applies for an identification number on Form SS-4 (Table 6 B), changes when he moves to a new revenue collection district.

The Collector of Internal Revenue records the receipt of the check and the form against his control list and retains the upper summary section of the return. (The BOASI and the BIR carry out a joint program of education and enforcement to ensure that each covered employer files a tax return. At present there is little delinquency, except possibly in certain industries such as construction and rooming houses; but any extension of social security to agriculture and domestic employment may increase the problem of enforcement.) The detailed section of the quarterly Employer Tax Return goes to the BOASI which uses it in the accounting phase mainly as a basis for determining whether the employee is eligible to receive insurance benefits and how much those benefits may amount to. In general, he is potentially eligible to receive benefits if he has received wages of $50 or more for at least half of the quarters elapsing since 1937, or age 21. The BOASI then makes sure that wage totals reported by the employer are correct, checks for incorrect or incomplete names and account numbers, and when

information seems to be wrong or ambiguous writes to the employer for further facts.

The BOASI next punches a card for each worker associated with a given employer. The cards for each individual worker are assembled and arranged in numerical sequence in order to record the worker's earnings in each quarter. These are posted on an annual listing and at the same time are summarized with the preceding year's summary card, to provide a new current summary card reflecting accumulated wage and employment data for each worker. This posting is done once a year; for purposes of clerical efficiency, the covered workers are divided into four groups and the posting is staggered over a posting cycle of a year. This marks the end of the accounting phase, which is summarized in Table 6.

STATISTICAL OPERATION

After the annual posting operation, two types of punch card become available for statistical purposes—the individual, or wage item card, and the preceding year's cumulative summary card. The wage item card (it will be recalled that there is a separate card for each employer from whom the worker received earnings each quarter) provides information on industry, State, number of employers for whom the employee has worked, and the pattern of employment, e.g., whether he was continuously employed or suffered employment interruptions. From the summary card, the Bureau derives information about the year of birth, sex, and race, and the fact of any earnings in preceding years.

Wage item cards are the chief source of statistical information on employees. The four posting groups into which the workers were divided are designated Groups A, B, C, and D. For example, all workers whose account number has a sixth digit of 2 or 7 go automatically into posting Group A, and all cards for a worker in this group for the year are bunched together. This automatically gives a random 20 percent sample of all workers for a calendar year. A further 2½ percent sample of all workers is selected from this 20 percent

sample, on the basis again of certain combinations of account numbers. The numbers are further broken into two groups: a 1 percent sample of all workers registered with the Social Security Administration, and a 1½ percent sample. The 1 percent sample is processed further for all statistics concerning all employees. The 1½ percent sample is used to provide additional detail in subsequent studies.

From this 1 percent segment of all workers with BOASI account numbers (something less than one million) emerge the following varieties of statistical information. First, from the individual wage item cards are tabulated statistics that give the annual earnings of the worker in each industry during the year (for example, in 1948 a worker might have earned $500 in construction and $1,000 in manufacturing). Second, these cards for a given worker are summarized and the information punched onto a summary card containing a worker's entire earnings and employments for the year assigned to the last industry in which he worked. The information from this card is added to the work history card which carries a statistical summary of earnings in preceding years. Each year a new continuous work history card is prepared and the old cards are put into storage. In addition to serving the statistical uses of outsiders (of which examples are given in Table 6 A) this continuous work history card on employment and wages provides the administrative statistics needed to determine how many workers are potentially eligible for old-age and survivors insurance benefits and how much they would get, as well as to determine the need for legislative changes in the program.

In addition to data on earnings and employment of workers employers' returns yield valuable information on the business population, including records of business births and deaths (Table 6 B and C). The business birth card contains information obtained at the time the employer applies for a social security identification number. From this report a card is prepared that tells the nature of the firm's business (industry) and the county in which it is located. (The nature of business

is coded from information the employer has given at the time of application regarding the products he makes and the percentage division of his total production among these products. Industry codes are not maintained currently but are revised from time to time; for example, after the reconversion from World War II all manufacturing firms were asked to refile their nature of business information.) The business birth cards are tabulated quarterly to give statistics on the number of new employer numbers issued, by State, industry, size of firm, and reason for taking out the new number.

The information from Form SS-4, or business birth card, is also punched into a master employer file containing one card for each employer. This file is the source of statistics on the covered business population, the number of their employees, and the localities in which they operate. It serves many uses for private business and market research and provides the most important source of new firm names for the Census Bureau in working up its mailing lists for censuses of manufactures and other industries. The entries are tabulated by industry, State, county, and size of firm as measured by total workers employed and total taxable wages paid. The latter two facts aid in setting up employment and wage benchmarks (Table 6 A).

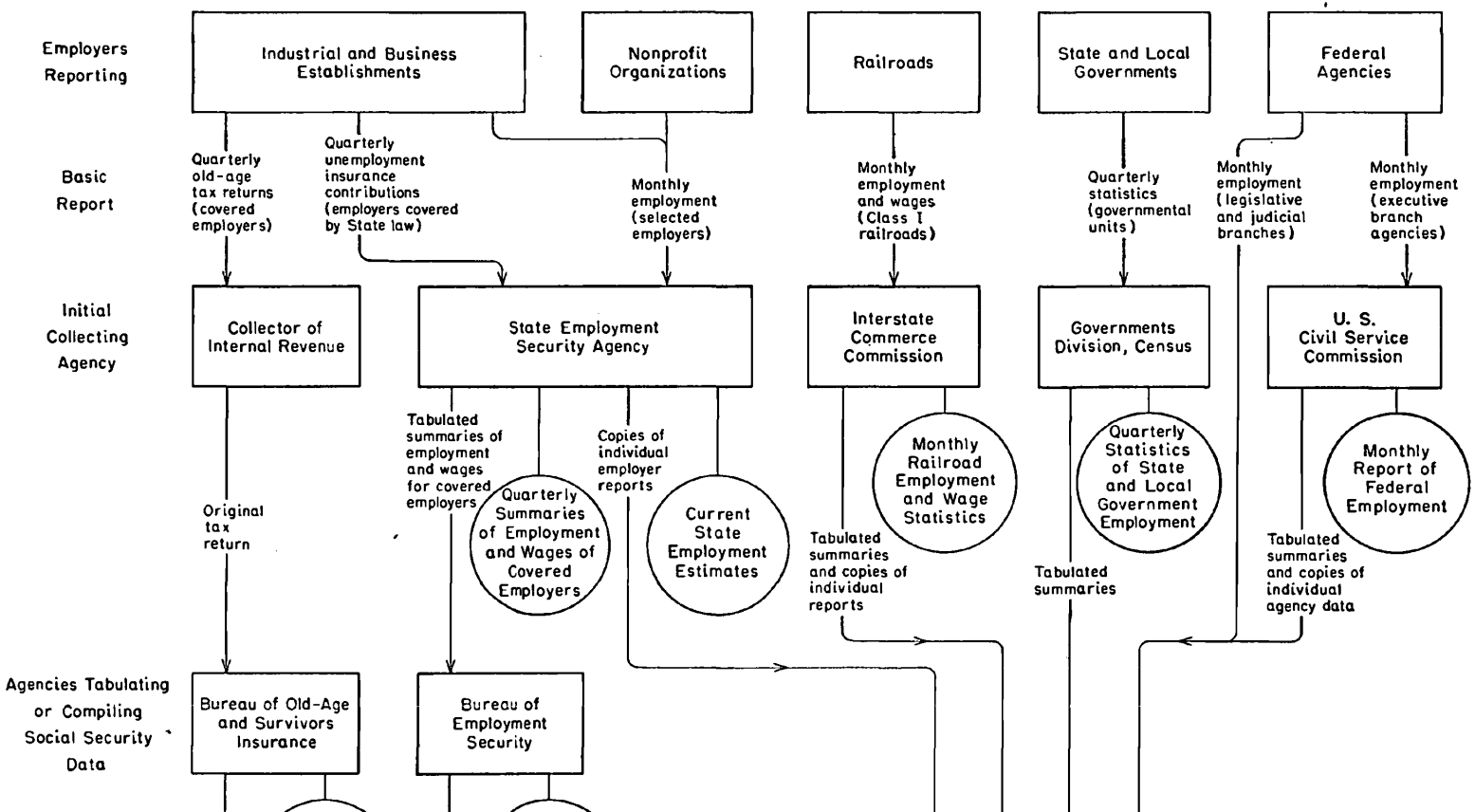
Relationships among Statistical Agencies

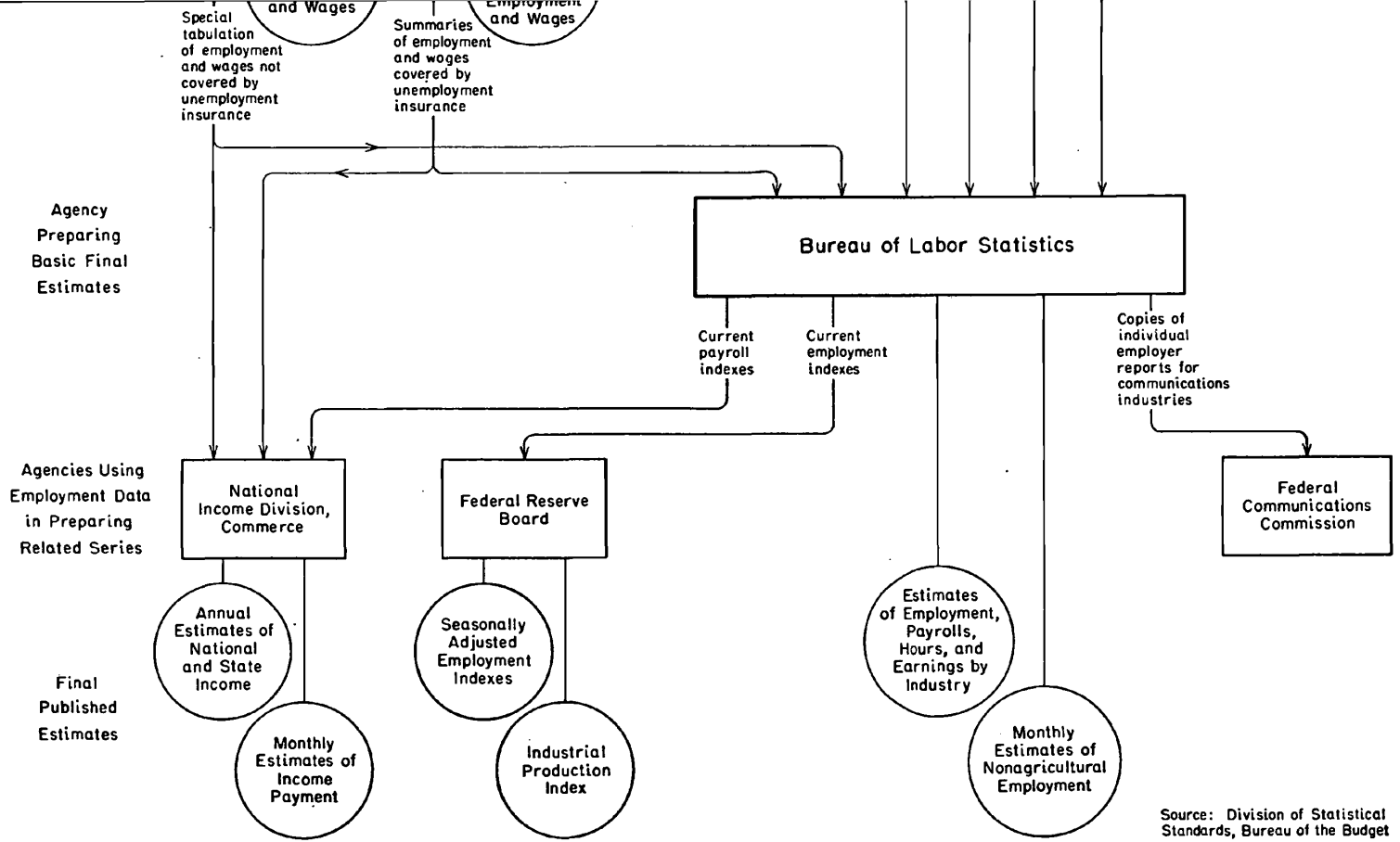
A study of the statistical processes within agencies leads to an examination of the relationships among them. Although every Federal statistical agency has one area or more in which its interest is known to be mainly concentrated, neither the most far sighted lawmakers nor the most amiable administrators could prevent those interests from clashing and overlapping. From the discussion of statutes it is clear that Congress never made any pretense of setting up one statistical world in the Executive Branch. Recent years have brought a marked tendency for the statistical agencies to work together in order to save money and improve their output. But not

CHART 1

Principal Flows of Employment Data from Nonagricultural Employers

Agencies Shown in Rectangles, Published Statistics in Circles





Source: Division of Statistical Standards, Bureau of the Budget

all relations among statistical agencies are cooperative. The spirit of competition persists: agencies pursue their independent interests and compete vigorously for particular types of work.

COOPERATION

In view of the broad and overlapping statistical functions for which the agencies derive authority from their statutes, it is gratifying to find abundant evidences of cooperative relationships. Not the least noteworthy is the fact that Federal agencies are among the leading consumers of each other's statistics. Statistics flow from one Federal agency to another over a thousand networks. The Bureau of Labor Statistics gathers employment data from employers and from State agencies and combines them with employment data from the Social Security Administration, the Railroad Retirement Board, the Office of Education, the Census Bureau, and a dozen other collectors of statistics in the government, in order to present each month comprehensive estimates of employment. This particular set of relations is illustrated in Chart 1, which traces the flow of employment data through the Federal system.[5]

The Department of Commerce combines the statistics of scores of agencies into estimates of national income. Chart 2 illustrates this type of inter-agency use by showing the typical sources of data used in estimating national income and national product. Still other agencies, such as the Council of Economic Advisers and the Fiscal Division of the Budget Bureau, make no basic estimates of their own but use the raw or finished statistics of other agencies to form conclusions about the pattern of economic behavior or the outlook for business.

The types of cooperative relations among agencies with overlapping frontiers are four, indicated in the order of an

[5] This chart does not show all the channels along which employment data flow. Operations of the United States Employment Service, e.g., are not depicted.

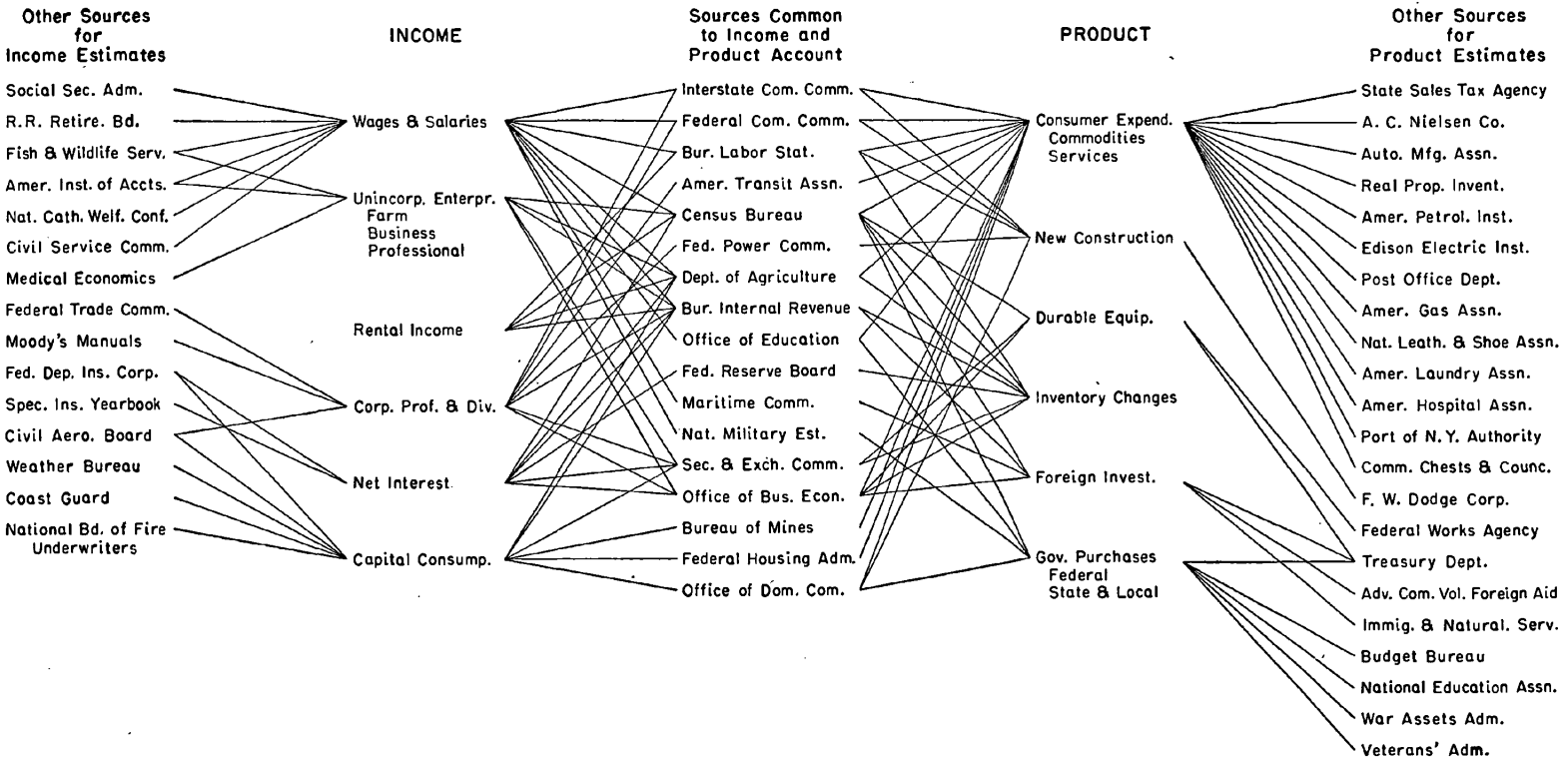
increasing degree of cooperativeness. First, exchange of information or of consultative and technical services; second, arbitrary apportionment of jurisdiction or territories; third, dovetailing of data; and fourth, division of labor.

Instances of cooperation on the consultative and technical level include exchange of experts in sampling or enumeration and consultation on means by which data of one agency may best fit the needs of others. Exchange of technical services is exemplified by the performance of machine tabulations for other agencies by the Bureaus of the Census and of Labor Statistics. Few of the smaller agencies have large or steady enough flows of tabulating to justify the maintenance of machine units. Other agencies, even those with machine tabulating units, may at times overflow with work. The heavily mechanized Bureaus of Labor Statistics and of the Census, on the other hand, sometimes have slack periods between the peaks of tabulating loads, and find it advantageous to perform tabulating services for the smaller agencies on a reimbursable basis.

Since Federal agencies are among the principal users of Federal statistics, it is essential that those providing considerable quantities of statistics, such as the Social Security Administration or the Bureau of Labor Statistics, should know the uses to which their data will be put by other agencies in the government. One of the largest producers of statistics is the Bureau of Internal Revenue, the source for personal and corporate income data. Each year this Bureau plans the recording of items from the tax returns of the following year, taking account of the needs of the Division of Tax Research in the Treasury Department, the Bureau of Home Economics in the Department of Agriculture, the National Income Division in the Department of Commerce, and of other agencies making heavy use of Treasury data. It then lays out the guide charts and coding devices and circulates them among staff members of the Division of Statistical Standards and other interested persons.

CHART 2

Typical Sources Used in Estimating National Income and Product



Based on information supplied to the National Bureau of Economic Research by the National Income Division, Department of Commerce.

Suggestions of users are taken into consideration in phrasing the questions for income tax returns.

Cooperation in defining jurisdictions is illustrated by the retail price indexes of the Bureaus of Labor Statistics and of Agricultural Economics. The Bureau of Labor Statistics is directed by Congress to collect statistics on prices paid by consumers. The Bureau of Agricultural Economics is required to collect statistics on the prices paid by farmers, in order to construct an index of parity prices. Neither Bureau wishes to give up its authority to gather price statistics. In compliance with the law as written neither one could very well do so. Under a cooperative arrangement, each continues to collect and report price statistics, but abides by a fairly clear working program concerning regions and cities to be covered. This is an example, it is true, of limited cooperation, for the resulting price indexes of the two agencies differ significantly in concept and in the character of their basic commodity specifications.

The harmonizing and dovetailing of statistical compilations and of published measurements represents a third important type of cooperative relationship. A notable instance in which agencies have agreed to fit their data together, to lessen the burden on respondents and to unify the results, is the program of the Bureau of Labor Statistics, the Social Security Administration, and the State employment security agencies in gathering employment statistics. By virtue of its position in the Department of Labor and the broad authority granted it by Congress the Bureau of Labor Statistics has the main focal interest in employment. The Social Security Administration, on the other hand, needs employment and payroll information in crediting earnings of workers to their individual accounts for payment of claims for old-age and survivors insurance and also to carry out its responsibility for supervising State employment security agencies handling unemployment compensation payments. The State agencies must themselves collect employment and payroll statistics in the process of collecting taxes, crediting accounts, and

paying benefits under the various State unemployment compensation laws.

Several agencies have, thus, strong vested claims on the gathering of current employment and payroll information from employers and the issuing of these data. The cooperative statistical program, worked out by the agencies and authorized (though not fully financed) by Congress, constitutes an attempt to improve statistical comparability, reduce the duplication of effort and the burden on business firms, and coordinate and improve employment statistics. Dovetailing of employment statistics was greatly facilitated when a uniform payroll reporting period (the period nearest the 15th of the month) was adopted by all governmental agencies for all employment and payroll information. Another step toward dovetailing (not fully completed) was the adoption of a standard industrial classification.

At present, the Bureau of Labor Statistics gathers current employment and payroll data each month from 70,000 respondents covering 110,000 establishments in manufacturing and other industries (excluding agriculture, self-employed workers, domestic service, contract construction, government, water transportation, and railroads). In some States the Bureau gets monthly data directly from employers, in others indirectly through the State agencies (usually the State employment security agency, a part of the social security system).[6] The Bureau of Labor Statistics stations an employee, or provides financial assistance, in each of 40 cooperating State agencies to help process schedules for State and national estimates and to prepare State employment statistics. It maintains employment analysts also in four principal cities to give technical assistance to the States.

To convert these monthly samples into estimates of total United States employment, the Bureau of Labor Statistics needs a framework, or set of benchmarks. These benchmarks,

[6] The schedules go through the employment security agency in 29 States, the State Department of Labor in 8 States, the State university in 1 State, and the Federal Reserve Bank in 2 States.

obtained from the Social Security Administration, consist of quarterly and annual data of the Bureau of Employment Security, by State, and by industry within each State. These data, which provide essential industry detail, are indispensable to accurate and complete employment estimates. But sole reliance cannot be placed upon them. Because they cover so many employers and are collected through so many State agencies they do not become available for six months or more after they have been reported and must therefore be supplemented by the current BLS data gathered on a quick sample basis. In few States, moreover, do they cover small employers. To serve even as benchmarks for the covered industries they should be supplemented by the quarterly employment data of the Bureau of Old-Age and Survivors Insurance which include returns from all employers in covered industries but are believed by some not to supply satisfactory State and industry detail. Furthermore, they do not cover employment in industries to which the social security system does not apply: agriculture, self-employed workers, domestic service, government, water transportation, railroads.

To round out its statistics for some of these uncovered industries, the Bureau of Labor Statistics gets employment data from the Interstate Commerce Commission, Railroad Retirement Board, Maritime Commission, Office of Education, Bureau of Mines, Civil Service Commission, and various State agencies. By arrangement with the Federal Communications Commission telephone and telegraph employment is reported also to the Bureau of Labor Statistics, on the same schedule. Despite all these cooperative arrangements to dovetail data, employment estimates of the Bureau of Labor Statistics are still inadequate in certain economic areas (notably domestic and personal service, construction, and the self-employed).

We refer later to still another source of employment statistics, the monthly labor force survey of the Census Bureau. These statistics are of a different sort, largely because

they come from the worker (or his wife) rather than the employer. Some effort is made to reconcile them through inter-agency committees and joint conference appraisals; but these steps can hardly be said to have integrated the employment estimates of the Bureaus of the Census and of Labor Statistics. Nevertheless, the multi-agency program for gathering employment statistics represents important mill-work in dovetailing statistics of agencies with widely different responsibilities, lightening the reporting burdens of business, and improving the statistical product.

The highest type of cooperation among statistical agencies with overlapping authorizations is represented by planned and coordinated division of labor. We note two varieties: services performed on a reimbursable basis and joint sponsorship. The reimbursable variety of division of labor was exemplified by the services performed by the Bureau of Labor Statistics in compiling price statistics for the Office of Price Administration during the war. Here was no exchange of functions; one agency gave up jurisdiction and paid the other to collect its statistics. In 1948 the Bureau of Labor Statistics was conducting studies on the cost of living in two production centers on a reimbursable basis for the Atomic Energy Commission. Joint sponsorship is exemplified by many cooperative arrangements between the Bureaus of the Census and of Agricultural Economics. These two agencies recently adopted a plan for joint sponsorship of a proposed annual census of agriculture (with divided functions) and joint publication of the results. Some of the data obtained from the quinquennial census of agriculture are organized and published jointly by both Bureaus. Other cooperative arrangements between the two agencies include a formal agreement, recently adopted, whereby the Census will supply the Bureau of Agricultural Economics with information needed on cotton ginnings from its larger monthly collection of information from all cotton gins. This arrangement has eliminated the duplication that existed for many years in the collection of cotton ginning statistics.

A similar division of labor in the collection of financial statistics of corporations was arranged by the Federal Trade Commission and the Securities and Exchange Commission. This joint plan, only partly carried out because of inadequate funds, provides that the Securities and Exchange Commission shall report financial statistics for all those corporations—generally large—whose securities are listed on the Exchanges, while the Federal Trade Commission reports financial statistics from a sample of medium size and small unlisted corporations.

In the past, agencies that have adopted joint plans for dividing their functions, in order to eliminate duplication and close gaps, have had limited success in getting appropriations to finance them. The disapproval of Congress has stemmed in part from the fact that the joint programs called for additional expenditures and therefore constituted expansion of activities that Congress was unwilling to finance. It is probably true, also, that from the viewpoint of Congress the purposes to be served by the joint programs, and their contributions to statistical intelligence, have not been made fully clear.

COMPETITION

The gathering and dissemination of general statistics for public use are proper functions of government; but the relations among the governmental agencies that produce these statistics provide a lesson to anyone who imagines that in an industry run by government competition disappears. There may be disagreement as to whether rivalry among governmental agencies is good or bad. There is none as to its existence.

An example of competition between two agencies is provided by the monthly survey of the labor force, started under the Works Progress Administration and now operated by the Bureau of the Census as part of its current population surveys. This series, based on monthly interviews covering about 30,000 households, was the first to give estimates of

total employment and unemployment in the United States. Its inauguration amounted to a major event in the history of statistics. Indeed, other countries (e.g., Canada) are copying it.

When the WPA was due to dissolve, the Bureau of Labor Statistics put in a strong claim for the labor force survey. It argued then (and still does, App. B) that the monthly survey of the labor force belongs in the Department of Labor as the agency that has an official interest in employment and unemployment and already collects employment and payroll data from business firms. The Census Bureau claimed the undertaking on the ground that the monthly survey of the labor force was merely, on a small scale, what the Bureau had been doing every ten years for the population and labor force of thirty or forty million households, and that since the monthly sample would have to be fitted into this ten-year framework, the current and census surveys of population and labor force should be conducted by the same agency.

The decision of the Division of Statistical Standards in 1942 to allot the WPA survey to the Census Bureau doubtless influenced the subsequent allocation of responsibility for current surveys in general. Indeed in 1948 Congress passed a law giving the Bureau of the Census authority to make current surveys in any field in which it already had authority to make complete enumerations.[7] It thus placed that agency firmly in the current survey business.

The competition for the WPA survey of the labor force has long since been decided. So has the competition over the National Office of Vital Statistics, which gathers data on births, deaths, sickness, marriage, and divorce. Here the Census Bureau lost out to the Public Health Service to which the National Office of Vital Statistics has recently been transferred as a Division. Other statistical areas, however, are battlegrounds still.

A field of conflict, closely related to competition, is that of

[7] Public Law 671, 80th Congress, 2d Session, Ch. 502.

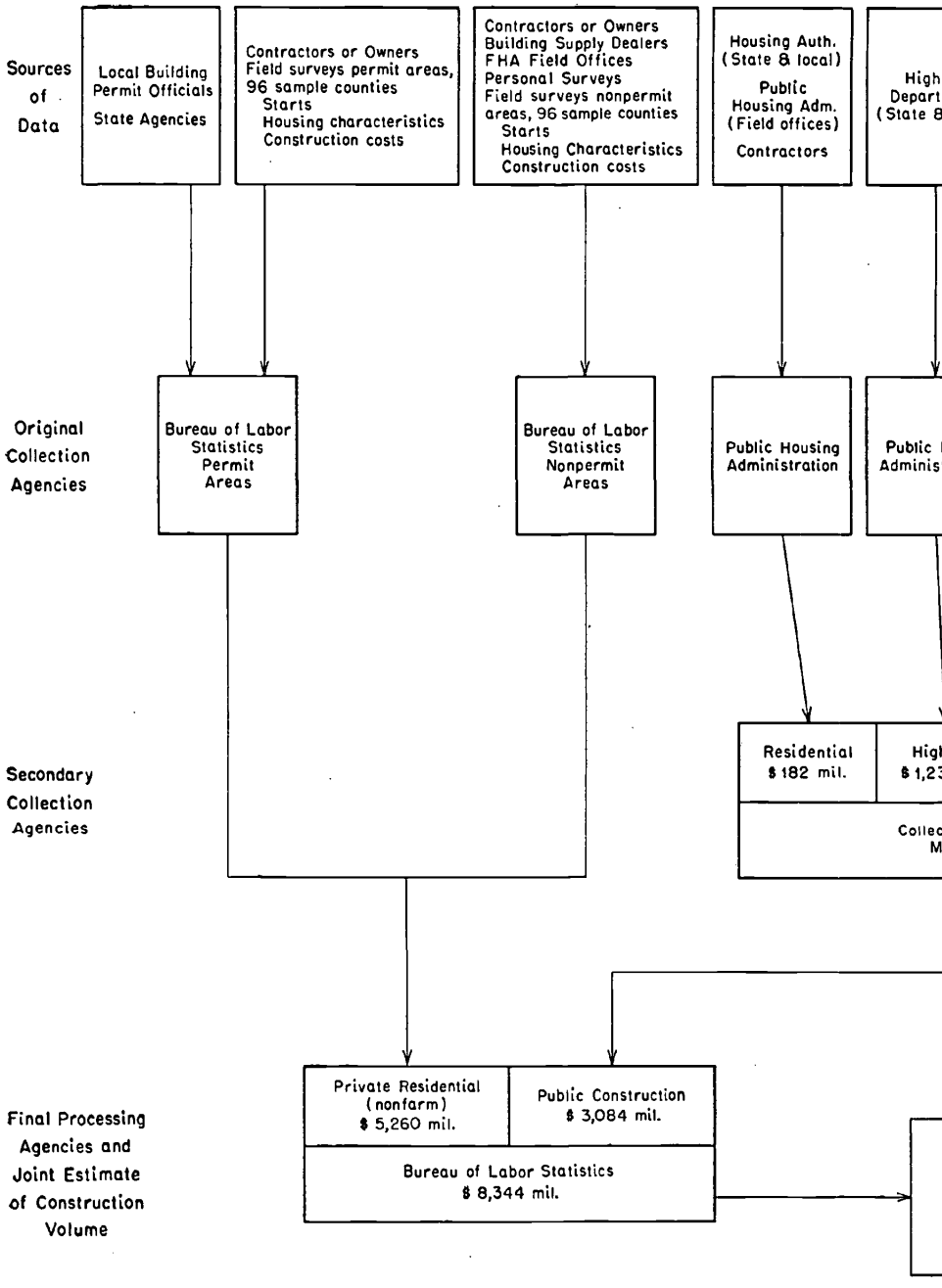
divided responsibility. This kind of difficulty is exemplified in the estimates of construction volume (Chart 3). A number of agencies contribute estimates relating to parts of the field; and final responsibility is divided between two agencies. The Bureau of Labor Statistics did the first work in this area, when it began decades ago to collect building permit statistics from city building inspectors. In recent years this Bureau has been assigned the task of gathering statistics on housing outside cities and on public construction. The Department of Commerce, on the other hand, is responsible for estimates of construction volume for stores, office buildings, hotels, and other commercial and industrial construction for nonresidential use, as well as for estimates of all repairs and maintenance. Figures on farm construction are provided by the Bureau of Agricultural Economics.

The difficulties in obtaining adequate estimates of construction volume, however, arise not primarily from divided responsibility but from technical problems of collection. Construction takes place on widely scattered sites and is carried on by tens of thousands of small contractors and by persons doing their own building and repair work—from the bookkeeper who adds a fireplace to his house in the evenings and on weekends to the United States Steel Corporation which may build a plant with its own maintenance staff. Except possibly for public utilities there are no satisfactory figures on plant and equipment construction by business firms which use their own work force, not outside contractors.

Means of improving construction data are at present under study by a committee representing the most important private and governmental users of the estimates. The development of good statistics in this area would probably require the expenditure of much more money than is now spent on their collection and estimation. But it is true also that until the present diffusion of responsibility for these data is replaced by clearly defined central responsibility or jurisdiction, construction will continue to be regarded as a major problem area in the field of governmental statistics.

Flow of
For Use in Estimates Made Jointly

(Figures sho



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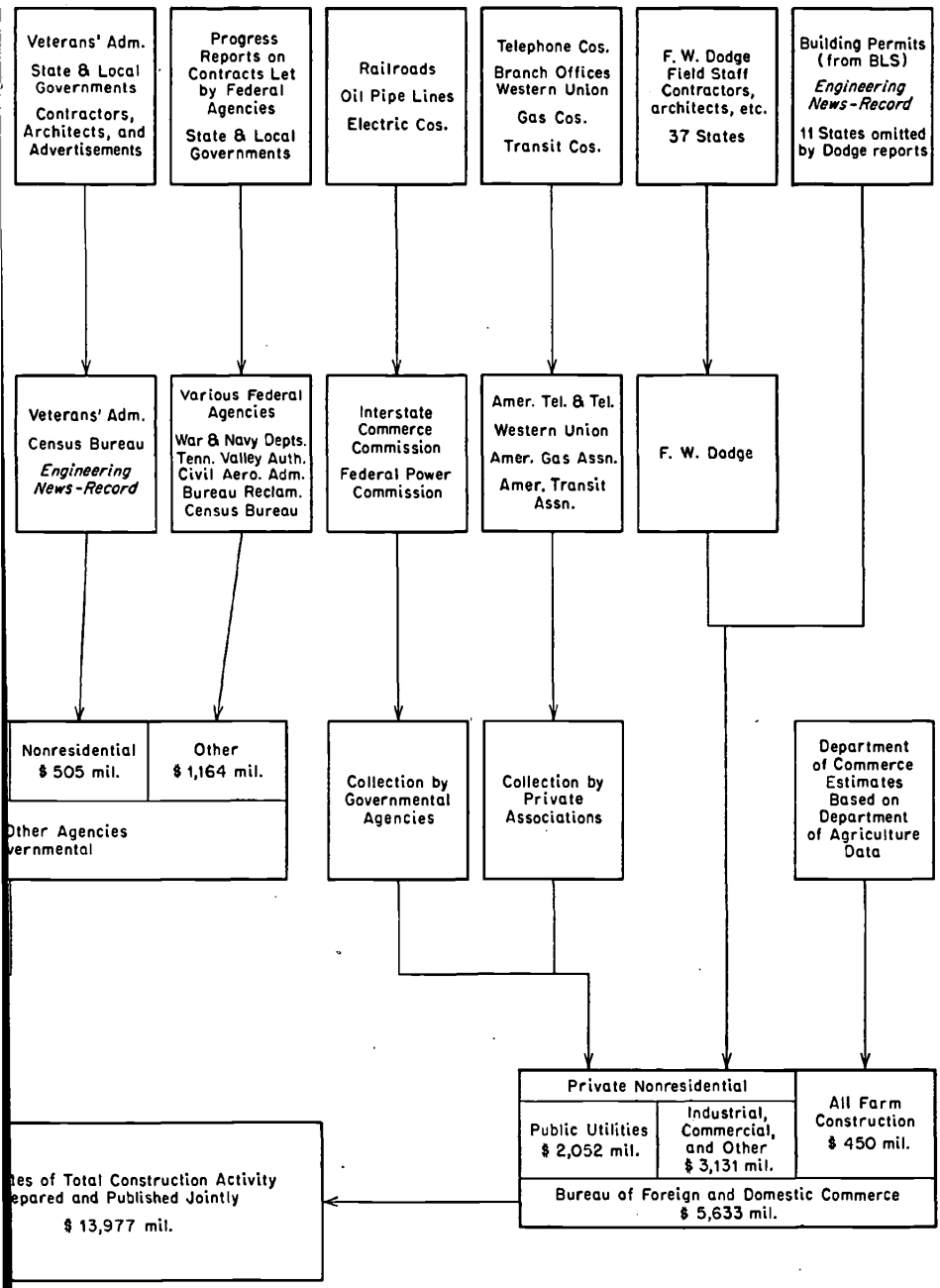

Source: Division of Statistical Standards, Bureau of the Budget

Still another subject of competitive interest concerns employment data. As we have seen, the United States Employment Service compiles statistics on employment and unemployment in various labor markets, while the Bureau of Employment Security coordinates the unemployment statistics growing out of the administration of unemployment compensation claims in the 48 States. These agencies are now in the Federal Security Agency to which the USES has recently been transferred. The Department of Labor does not conceal its desire to have these two services under its jurisdiction, basing its claim on its legitimate interest in employment and unemployment and pleading that it cannot do a good job in gathering employment statistics when most of the basic sources of employment data are in other hands. In this claim it has the strong backing of labor organizations.

The Appropriations Process

Budget making mechanisms stand at the strategic center of the statistical system of the Federal government, as they do for other types of governmental activity. There are three reasons. First, budgeting time is planning time. The agency must decide in concrete terms what it plans to do, and how and when it plans to do it. Described as an episode of concentrated decision making at all levels, budget making is also a period of great indecision. An agency may decide what it wants to do but until budgetary approval has been received there can be no assurance that the program will be carried out. The agency cannot, therefore, make definite plans. Final approval is often delayed until very shortly before, or even after, the beginning of the fiscal year. Such indecision and delay are among the more unsatisfactory features of the climate in which the statistical agencies plant and harvest their crops of data.

The second reason is related to the first: the budget is one of the most time consuming jobs of an administrator. The head of a statistical agency should have free time to make technical administrative decisions conducing to well syn-

chronized and progressive operation. If the administrator must spend a large part of his time preparing his budget, justifying it to his own department, to the Bureau of the Budget, and to the Congressional subcommittees, and obtaining political support for his program, he may have little time left for the administrative problems arising in current operations.

Third, the budget is the main battlefield on which the statistical agencies fight their wars for prestige and survival. The rivals are not only statistical agencies in other governmental departments; they are also nonstatistical agencies and programs within the same department. We shall later discuss the coordination process but here we must emphasize one thing: no aspect of coordination is more important than coordination of appropriations, nor can later activity fully correct for failure at this stage.

Certain defects in our appropriations process come to light in reviewing the steps the budget goes through, from the initial planning by the agency to the final signature of the appropriations bill by the President. In the first step the administrator estimates his expenditures for the next fiscal year. Although many statistical programs must go on for years, the appropriations are made for one year only and the agency must almost always prepare a new appropriation request each year.[8] The fact that an agency is unsure of its money beyond one year places a penalty on long run programs. Yet the programs carrying the greatest benefits are those that produce statistics comparable over several years. Indeed, if statistical series are not maintained, their usefulness is seriously impaired.

The planning stage begins ten or eleven months before the start of a given fiscal year, and as much as two years before the activity will be completed. The statistical agency starts to work on its budget request in the summer after the beginning of the fiscal year; and the department to which it belongs

[8] An exception is the decennial census for which there is usually a three-year appropriation.

must submit its request to the Budget Bureau by September 15. In such programs as the decennial census, where wages of temporary employees are involved, rapid changes in prices and wages may turn an estimate into a guess. If the project is new, the administrator will not even have past experience on which to base the technical aspects of his estimates.

The second step is to justify the request with the administrator of the department or office within which the statistical agency operates. Many agencies regard their own departmental administrators as their most difficult hurdle. Such administrators may not be familiar with the uses of statistics as tools of administration, or fully acquainted with the public purposes served by them. Moreover, statistical activities are especially vulnerable because, in many administrative and regulatory agencies, they may not be directly tied to major statutory functions. Statistics serving other agencies or meeting general national needs may, under budgetary pressures, be sacrificed first. Yet the expenditure of a few hundred thousand dollars by an agency such as the Social Security Administration may obviate the spending of much larger sums by the Bureau of the Census or of Labor Statistics.[9]

When the statistical budget has survived the blue pencil of the administrator it takes the third step, along with the whole departmental budget, to the Budget Bureau. It must arrive by September 15. At hearings held in October and November in the Estimates Division a staff representative of the Division of Statistical Standards sits in and expresses his opinions concerning the value of the statistics in his subject matter field. After these hearings the budget may be approved as it stands; it may be cut as a whole, or in some parts; it may even be sent back to the agency with the request that certain items be increased, if the original sums seem inadequate to the tasks to be performed. When the requests of the statistical agency have been reviewed and

[9] See Sec. 4, Operating problems and deficiencies (8).

approved by the Bureau of the Budget they go to the President, along with the budget of the department or office to which it belongs. Further changes may be made in the President's office.

The final budget is presented in the President's message early in January. It then goes to Congress and is reviewed, department by department, by Congressional subcommittees in formal hearings. Some hearings begin immediately after the message has been delivered (some even before, in December, as in alternate years when committees are already named).

The present appropriation machinery in Congress goes back to the early 1920's. A change in rules a few years after World War I undertook to inject unity into the appropriations system by creating one Committee on Appropriations in the House and another in the Senate. Unity has never, however, been achieved because of the subcommittee system. In the House there were in the 80th Congress twelve subcommittees of the House Committee on Appropriations, each composed of about half a dozen Representatives. Only nine of these, however, had jurisdiction over statistical agencies. Members of the whole committee usually sit on two or three subcommittees of their choice. Each subcommittee passes on the appropriations of one or several departments. There is a subcommittee for the Departments of State, Justice, and Commerce; one for the Independent Offices; another for the Labor Department and the Federal Security Agency; another for the Interior Department; and so on.[10]

The Senate still has in the 81st Congress subcommittees corresponding to those in the 80th Senate and House. However, on each Senate subcommittee a dozen or so men usually sit, each Senator serving on a half dozen subcommittees. The subcommittees of the House Committee meet separately, as do those of the Senate. Never do they conduct hearings as

[10] The number has been changed in the 81st Congress. The House now has nine subcommittees, each with five members; no individual sits on more than one subcommittee.

the whole Appropriations Committee in either chamber.[11] Thus in the 80th Congress the budgets of the various statistical agencies, which were scattered throughout the Departments, the Independent Offices, and the Executive Office of the President, were heard piecemeal among nine House and nine Senate subcommittees. At no time in the reviewing process in Congress do all the subcommittee members have opportunity to look at the complicated and intricately interrelated statistical system of the Federal government in its entirety.

When one subcommittee handles several statistical agencies (e.g., the one on Independent Offices) some coordination may be achieved. The subcommittee in charge of the Departments of State, Justice, and Commerce considers the budgets of the six chief statistical agencies in the Department of Commerce (including the Census Bureau) and those of the Federal Bureau of Investigation and the Immigration and Naturalization Service in the Department of Justice. The subcommittee in charge of the Labor Department and the Federal Security Agency surveys the budgets of the Bureau of Labor Statistics, the Public Health Service (including the National Office of Vital Statistics), the Office of Education, and the Social Security Administration. The Bureaus of the Census and of Labor Statistics, it will be noted, fall under different subcommittees. Yet here the need for coordination is probably greatest, for these Bureaus are two of the leading public purpose collection agencies. Another major agency, the Bureau of Agricultural Economics, is under the purview of the subcommittee on the Department of Agriculture. A fourth, the Bureau of Mines, is under the subcommittee on the Interior Department. Thus no two of the four main public purpose agencies are reviewed by the same appropriations subcommittee.

Some coordination results from the fact that the same

[11] Although hearings are never conducted by either appropriations committee as a whole the full committee of each house meets to report out every bill, sometimes overriding the recommendations of the subcommittees.

Senators are on many committees. In the 80th Congress McCarran was on all four subcommittees for the general purpose agencies, while Gurney and Dworshak were on three. But no Representative could be on all four of these particular subcommittees, for in the past two has been the usual number of appropriation subcommittees for a Representative. Only one Representative happened to sit on both Commerce and Labor subcommittees. Under the rules of the 81st Congress no Representative can be on more than one. However, we should note two other ways in which positive coordination is achieved. The chairman of the Committee on Appropriations gets the chairmen of all subcommittees together; and the clerks of the subcommittees, who serve as executive secretaries, work with each other also.

Not only do the subcommittees fail to coordinate their review of the appropriations to the various statistical agencies, the piecemeal review makes no provision for the Division of Statistical Standards to meet with the appropriations subcommittees and to help the executive agencies in presenting a unified program for the whole government. Under present procedures it is out of order for, say, the Securities and Exchange Commission to take a staff member of the Division of Statistical Standards to hearings of the appropriations subcommittee unless the subcommittee of Congress requests it; such a request is not customary.

An example of the inability of a specialized agency to tell its subcommittee what is going on in the whole government is found in the testimony of the relatively well informed Census officers, before the House Committee on the Census (not an appropriations subcommittee). Representative Savage asked: [12]

". . . do [you] not have other agencies . . . going out in the field to collect . . . statistics as a duplication of what you have already collected? . . ."

[12] Hearings Before the Committee on the Census, House of Representatives, 79th Congress, 2d Session on H. R. 4781, pp. 20-1.

Mr. Capt: "Not that we know of . . . You see, Mr. Chairman, . . . We have no means of knowing just what any other agency does. We assume that under the Federal Reports Act, the Bureau of the Budget does know that . . ."

Representative Cole: ". . . Then, Mr. Chairman, would it not be wise to ask someone from the Bureau of the Budget to come in and testify on that angle? I see why these gentlemen cannot testify on that phase."

The lack of coordination in the review of appropriations of statistical agencies extends not only to the subcommittees but also to the entire House itself. Each appropriations bill, as soon as it receives subcommittee approval, goes first to the full committee and then to the floor of the House where it is debated, amended, and passed without particular reference to other appropriations bills covering related statistical programs in other agencies. This piecemeal review is duplicated in the Senate, which sometimes, though rarely, subjects appropriation measures that come to it from the House to a complete rewriting. There are no constitutional or customary limits on this review, and although appropriations bills originate in the House the Senate has equal authority with the House in the final approval.

The Senate subcommittee does not begin hearings until after the bill has passed the House; its approval sends the bill to the Senate floor for further debate, amendment, and passage. Any appropriations bill passed by the Senate may contain many changes from the House version. When this is the case the presiding officers of the two houses appoint conferees, usually including chairmen of the subcommittees, to arrange agreement. The joint version is referred for approval back to the House and Senate. Both bodies customarily give priority to appropriations bills.

The piecemeal nature of the reviews in the subcommittees, the circumstance that the statistical budgets are typically part of larger departmental requests and must await the approval of those larger budgets, the numerous steps in the approval of the budget from the time of the President's message to the date of his signing, and the fact that the size of the

budget of the United States Government almost places it beyond detailed consideration by any small group of laymen —all this complicates the administrative tasks of the heads of statistical agencies and introduces recurrent (indeed, almost persistent) elements of uncertainty into the fiscal side of statistical activities. In any given year this uncertainty —with resulting checks on advance planning and administrative preparations—may continue almost to the date appropriated funds are to be spent.

The Coordinating System and Its Operation

The statistical system of the United States is decentralized in the sense that many agencies collect and analyze statistical information. It could hardly be otherwise. A large part, perhaps nine-tenths, of Federal statistics must continue to be collected by the agencies that perform the government's administrative functions and enforce its laws and regulations. The Treasury Department must collect statistics on income and taxes, on crime and criminals; the social security system on employment and payrolls for covered employers and workers. The Bureau of Mines requires detailed information on accidents, and hours of exposure to possible accidents, relevant to its enforcement of safety laws. These and other administrative and regulatory agencies need statistics to do their jobs; they need the kinds of statistics that will guide them in performing their statutory functions, and they ordinarily get them in the course of that performance.

Each administrative agency is expert in gathering statistics in its own field. The Interstate Commerce Commission knows more about the railroads and their work rules and regulations than any public purpose collection agency, which must deal with all the industries of the nation, could be expected to know. We have referred to the fact that most of the statistics of administrative agencies are gathered as an incident to administration. The Securities and Exchange Commission must collect statistics from the corporations listed on the New York Stock Exchange, to make sure that they are

living up to the requirements of the Securities and Exchange Act. Once these statistics are gathered, it would be wasteful not to make them available to other governmental agencies and to the public. And it would be costly, to both the business firms and the Federal agencies using the data, if a second set of forms had to be filled out and tabulated.

Another reason for decentralization of these operations is that the collection of all Federal statistics would be too big a task for any one agency. This is probably true even for the 10 or 20 percent that constitute public purpose statistics. If the Bureaus of the Census, Mines, Agricultural Economics, and Labor Statistics, and the National Office of Vital Statistics were all consolidated, this single agency would face major difficulties of mass operation. In actual fact, a consolidated statistical collection agency would be centralized in name only. Administrative necessities would require that it be split into divisions. There would be an agricultural division, an employment division, a wage division, a current surveys division, and so on. This situation would involve a type of decentralization for which coordination would still be necessary. We may expect that this problem of coordination will persist and that, as our social and economic systems develop, it will become ever more insistent.

A BRIEF HISTORY OF FEDERAL COORDINATION OF STATISTICS

Attempts to coordinate statistics in the Federal government go back at least to 1908 (Table 7). The present system of coordination, which focuses in the Division of Statistical Standards, was established in 1933, with the appointment of the Central Statistical Board by Executive Order under the National Industrial Recovery Act. In 1939 Reorganization Plan No. I placed the Central Statistical Board in the Bureau of the Budget and made the latter part of the Executive Office of the President. Within the Budget Bureau the Board became the Division of Statistical Standards. When the Federal Reports Act was passed in 1942 it received strong and explicit powers to review forms and eliminate duplica-

tion. Thus our chief coordinating agency has had its present powers only half a dozen years. Nevertheless, it is a direct outgrowth of the Central Statistical Board; and the present Chief, Stuart Rice, was also head of the predecessor board for most of its life. Mr. Rice has emphasized that the coordinating agency came to the Budget Bureau "with its habits of work and its relationships with the statistical agencies defined" by the operations of the Central Statistical Board.

TABLE 7

History of Statistical Coordinating Agencies,* 1918-1948

CENTRAL BUREAU OF PLANNING AND STATISTICS
WAR INDUSTRIES BOARD, 1918-1919

Legal basis: Order of Bernard Baruch, Chief of War Industries Board.

Duties: To prepare for the President a conspectus of all war activities of the government.

Powers: None.

Staff and appropriations: Peak staff of 63 in October 1918.

Accomplishments: Issued 'Conspectus of Special War Activities'. Served as coordinating and clearing house agency by reviewing and consolidating questionnaires, issuing classified lists of statistics, providing liaison service between agencies, and helping to standardize statistical methods. Official source of economic data for delegates to the Peace Conference.

Final disposition: Ceased to function as coordinating agency when files and records were transferred to the Bureau of Efficiency.

BUREAU OF EFFICIENCY, INDEPENDENT OFFICE, 1919-1922

Legal basis: The Bureau of Efficiency existed from 1916 to 1933; it had many functions other than statistical coordination. The period shown is that of its active interest in statistics, resulting from a provision in the Deficiency Appropriation Act of 1919, Nov. 4, 1919 (41 Stat. 343).

Duties: To investigate the scope and character of statistics needed by the government and methods of collecting, compiling, and presenting them; and to submit to Congress a report of its findings, with recommendations.

Powers: To require any Federal agency to furnish information needed by the Bureau.

Staff and appropriations: For fiscal 1922, staff of about 52, and appropriations of $135,000. (No indication of proportion used in statistical survey.)

Accomplishments: Submitted to Congress on Sept. 7, 1922, its 'Report on the Statistical Work of the United States Government', containing an index of all governmental statistical activities, and recommending centralization of non-administrative statistical work in a Federal Bureau of Statistics.

Final disposition: The Bureau's report on statistics referred to the Advisory Committee on the Census, which did not recommend the proposed consolidation.

FEDERAL STATISTICS BOARD, BUREAU OF THE BUDGET, 1931-1933

Legal basis: Order of Director of the Budget at direction of the President. Budget Circular 293, April 10, 1931, under the Budget and Accounting Act of 1921 (Public Law 13, June 10, 1921), Sec. 209.

Duties: To study collection, compilation, and use of statistics, and to recommend economies and means for fuller utilization of statistics and statistical personnel.

Powers: None.

Staff and appropriations: No working staff or appropriations. Board had 16 part-time members from 11 governmental agencies.

Accomplishments: Gathered material for a subject index of statistical activities and for studying methods of collection, costs, and personnel data. Considered special problems of several agencies.

Final disposition: Abolished by Executive Orders 6166 (June 10, 1933), Sec. 17, and 6239 (Aug. 2, 1933). Files and records transferred to the Central Statistical Board.

Central Statistical Board, Independent Office, 1933-1939

Legal basis: Executive Orders 6225 (July 27, 1933), 6700 (May 4, 1934), 7003 (April 8, 1935), and 7076 (June 15, 1935); all under the National Industrial Recovery Act (Public Law 67, June 16, 1933), Titles I and II. Public Law 219 (July 25, 1935) established the Central Statistical Board and the Central Statistical Committee for 5 years. Executive Order 7287 (Feb. 10, 1936), issued under Public Law 219.

Duties: To plan and promote the improvement, development, and coordination of, and the elimination of duplication in, statistical services of the Federal government and, as far as practicable, of other statistical services in the United States.

Powers: To appraise and advise upon all schedules of governmental agencies engaged in the primary collection of statistics, and to review plans for tabulating and classifying. After 1935, to require any Federal agency to furnish the Board with information on its statistical work, except when this would violate legal requirements. (Obscure as to meaning of statistics.)

Staff and appropriations: Peak staff of about 40 and expenditures of about $175,000 in fiscal 1937. Board had full-time chairman and 13-15 members serving part time, including one from outside the government. Committee was composed of Secretaries of Treasury, Agriculture, Commerce, and Labor.

Accomplishments: (a) Reviewed about 4,000 questionnaires on plans for the Works Progress Administration, Federal Civil Works Administration, Census Bureau, and other agencies. (b) Provided liaison between agencies and served as a clearing house of statistical information. (c) Recommended allocation of work among agencies. (d) Developed a standard industrial classification. (e) Helped plan the 1940 Census. (f) Surveyed operations of the Census Bureau and recommended strengthening of personnel and more cooperation with the Department of Agriculture and Bureau of Mines. (g) Aided the Bureau of Mines in constructing an index of mineral production and the Bureau of Agricultural Economics in preparing estimates of farm income. (h) Suggested greater use of sampling techniques, standard definitions, and classifications. (i) Promoted better standards for selection and appointment of statisticians, economists, and other social scientists. (j) Issued annual directory of Federal statistical personnel. (k) Reviewed, for statistical inaccuracies and contradictions, selected publications and press releases.

Final disposition: The Board was transferred to the Bureau of the Budget and the Committee was abolished by Reorganization Plan I (53 Stat. 1423), Sec. 2 and 3, under the Reorganization Act of 1939 (Public Law 19, April 3, 1939).

Division of Statistical Standards, Bureau of the Budget, since 1939

Legal basis: In general, as part of the Executive Office of the President, utilizing powers of the Chief Executive under the Constitution and Statutes of the

TABLE 7 (concl.)

United States. In particular, the Budget and Accounting Act of 1921 (Public Law 13, June 10, 1921), Sec. 209; and Executive Order 8248 (Sept. 8, 1939), Sec. II-2 (g). Budget Circulars: 1939 to Aug. 1942, No. 351 (Nov. 1, 1939); 1940 to Dec. 1942, No. 360 (June 18, 1940); Aug. to Dec. 1942, Supplement 1 to Circular 360 (Aug. 31, 1942). Since 1942, the Federal Reports Act (Public Law 831, Dec. 24, 1942) and Regulation A, Feb. 13, 1943 (reissued as Budget Circular A-40, Oct. 25, 1948).

Duties: Until December 1942 approximately same as for the Central Statistical Board. Passage of the Federal Reports Act added duties of minimizing burden on respondents and cost to government, and of maximizing usefulness of statistics to the public and government.

Powers: Approximately same as for the Central Statistical Board. The Federal Reports Act conferred powers, under specified conditions, to designate single collecting agencies; prohibit collection of reports and statistics; require one Federal agency to make its information available to others; approve or disapprove report forms and plans.

Staff and appropriations: Peak staff of about 70 and expenditures of about $338,000 in fiscal 1946.

Accomplishments: (a) 30,000 review actions on forms since 1942, resulting in substantial modifications to make them more useful and less burdensome; about 7.3 percent disapproved, much larger number withdrawn before formal submittal. (b) Continues work of the Central Statistical Board in developing and maintaining standards, including standard industrial and commodity classifications; specifications for statistical personnel; principles of form design; standards for publication of statistical data. (c) Established uniform time periods for calculating of indexes, reporting employment data, etc. (d) Formulated integrated statistical programs for employment, aviation, business finance, consumer income, foreign trade, etc., including designation of focal agencies. (e) Initiated and organized the Reconversion Statistics Program. (f) Arranged for maximum wartime use of existing statistical facilities; standardized forms and procedures used in procurement, contract termination, surplus property disposal, etc. (g) Initiated international statistical coordination within the United Nations and provides liaison service between Federal agencies and international statistical bodies. (h) Established new pattern of consultation between government and business for joint simplification of business reporting through the Advisory Council on Federal Reports; established the Labor Advisory Committee on Statistics. (i) Allocated responsibilities to Federal agencies for internal statistical coordination by establishment of agency clearance units. (j) Sponsors use of improved sampling and other statistical techniques. (k) Periodically issues informational reports, manuals, and directories to Federal statistical and research personnel.

Final disposition: Still in operation.

* This table starts with 1918 although an Interdepartmental Statistical Committee, representing the nine existing departments and the Interstate Commerce Commission, was established by Executive Order 937 in 1908. It, however, did not have any results.

Although coordination has developed gradually, 1933 must be regarded as a turning point. We give attention, however, to several brief attempts at coordination before that year. In 1908 Theodore Roosevelt appointed an interdepartmental committee, which made a brief investigation, filed a report,

and disappeared. In World War I the Chairman of the War Industries Board, Bernard Baruch, disturbed at the sudden multiplication of the statistical agencies under the pressure of war, requested Edwin F. Gay to set up a Central Bureau of Planning and Statistics under Baruch's jurisdiction. This Bureau had 6 divisions and 57 commodity sections. Its chief function was to prepare a conspectus of war activities for the President. It had 63 members in 1918. Gay's Bureau found much duplication and overlapping, and instituted a number of measures to bring about improved and economical statistics. It erected machinery for consolidating questionnaires sent by governmental agencies to business firms and gave advice to the governmental bureaus on how to make forms simpler and clearer. It established a catalogue of governmental statistics so that users in and out of government would know what kinds of statistics were being produced and where they were available. It encouraged publicity on governmental activities. By sending contact men to the various agencies it promoted improvement in the scope and methods of statistical work. And by advising the agencies on standard definitions and methods of editing, compilation, and presentation it helped standardize statistical methods.

The statistical system of the Federal government, at the setting up of the Central Bureau in World War I, was by modern standards a sluggish organization, and the Central Bureau administered a needed tonic. But our present system owes little to the brief existence of this Bureau, which in 1919 was absorbed by the Bureau of Efficiency. After this transfer the chief of the Bureau of Efficiency recommended that the statistical system be centralized under a Bureau of Federal Statistics based on the Census Bureau. His proposal aroused much opposition; interest in coordination lagged, and was in abeyance throughout the 1920's.

The second real attempt at coordination was the organization of the Federal Statistics Board in the Budget Bureau in 1931. Its purposes were the usual objectives of more economical collection and improved statistics. But the Federal Sta-

tistics Board was not well designed to accomplish them. Made up of representatives of the chief statistical agencies, including the Bureau of the Census, Bureau of Labor Statistics, Federal Trade Commission, and Women's Bureau, Board members could devote to statistical coordination only time that could be spared from their regular duties. Not only did the Board have no paid members; it had no staff, no powers. Indeed its activities were too short-lived to justify criticism. By the time it had collected the information for use in coordinating, it was replaced by a new body created under the stimulus of the depression emergency and in response to the recommendations of an appraisal agency set up outside the Federal government.

This outside agency was the Committee on Government Statistics and Information Services set up in 1933 under the sponsorship of the Social Science Research Council and the American Statistical Association. On the basis of a survey of statistical needs in the critical months of mid-1933, this Committee recommended the immediate creation of a Central Statistical Board to give centralized direction to the fact gathering work of Federal agencies. This Board was created in July 1933 by Executive Order.

LEGAL BASIS OF THE PRESENT COORDINATING AUTHORITY

Since 1931 the coordinating authority has had, at various times, four legal bases (Table 7). The first was the Budget and Accounting Act of 1921, the legislation the President and Director of the Budget drew upon when they set up the Federal Statistics Board under the Budget Bureau in 1931. It is still one of the legal pillars of the coordinating authority. The second of the four legal bases was the National Industrial Recovery Act, under which several Executive Orders (of which Nos. 6225 and 6700 were particularly important) provided for the Central Statistical Board during its first two years, 1933-35. The third was Public Law 219 of 1935, which not only set up the Central Statistical Board under explicit statutory authority but also provided for an adjunct organiza-

tion of Cabinet officers known as the Central Statistical Committee. This Act stipulated automatic expiration at the end of five years; but in 1939, before the end of this period, the Central Statistical Board became part of the Bureau of the Budget. The name of the coordinating authority was changed to the Division of Statistical Standards and, with the expiration of Public Law 219 in mid-1940, its legal basis was narrowed to the Budget and Accounting Act of 1921.

The fourth basis of the coordinating authority was the Federal Reports Act of 1942. Legislation and orders before 1942 gave the Division authority only to examine and advise upon reports and records of the statistical agencies, none to enforce its recommendations. As the OPA, the WPB, and other war emergency agencies multiplied their activities, business firms cried out under the heavy burden placed upon them in answering questionnaires. The Senate's Small Business Committee sponsored a law to give far greater power to the Division of Statistical Standards to ration questionnaires sent out by the Federal agencies. This law, the Federal Reports Act,[13] and the Budget and Accounting Act of 1921 form the present statutory support of the Division of Statistical Standards.

The Federal Reports Act (Sec. 5) gives the Budget Bureau four principal powers:[14] to forbid most of the Federal agencies to collect information on identical items from 10 or more respondents unless they have submitted their plans and forms to the Budget Bureau and received its approval; to designate a single collecting agency wherever it finds that more than one Federal agency needs and collects substantially the same statistical information; to decide whether data are necessary and to forbid agencies to collect information that is not; under certain specified conditions to make any agency turn over to other Federal agencies data it has collected. The Budget Bureau is authorized to issue regulations to carry out

[13] Public Law 831, 77th Congress, 2d Session (5 USC 139-139f).

[14] For a more detailed statement of these and other powers of the Budget Bureau see Sec. 2, Statutory bases of statistical activities, coordinating agency.

the provisions of the Act. Only one regulation (Budget Circular A-40) has so far been issued by the Budget Bureau. It laid down the definition of report forms, plans, and instructions, and stipulated that all plans and reports issued by agencies must have a Budget Bureau approval number. The Federal Reports Act exempts from the jurisdiction of the Budget Bureau several agencies, mostly units in the Treasury Department.

HOW THE MACHINERY WORKS

The Division of Statistical Standards is entirely a staff organization. Its internal structure is simple. It has no sections or units. Except for the few persons engaged in general administrative work, nearly every member of its staff is a form reviewer and a liaison officer, with a subject matter assignment (such as labor, banking, housing, or population). It does little clerical work; most of its thirty-five officers have fairly high professional ratings and are persons of substantial training and statistical experience in and out of government.

The Division of Statistical Standards uses four main devices in its attempt to coordinate and improve the statistical services of the Federal government: review of forms; creation of committees to set standards of definition, classification, timing, and quality; consultation with the Estimates Division of the Budget Bureau; sponsorship of new statistical programs.[15] With the third of these procedures we deal only briefly. Here it is sufficient to note that when holding hearings on a statistical agency budget the Estimates Division invites one or more staff members of the Division of Statistical Standards to be present and to advise on the importance of the statistical program and the validity of the proposed

[15] Another function of the Division, not considered in this report, is potentially of high significance. This is the duty of providing liaison between Federal agencies and the United Nations Statistical Office and other international organizations, aiding in the establishment of reporting requirements of international organizations, and coordinating Federal statistical activities with the requirements of international organizations.

expenditure. The other three devices for achieving coordination we consider below in some detail.

Review of forms

The review of forms is the keystone of the structure of coordination, as the Division of Statistical Standards sees the problem. The Division regards this review not only as the main cog in the system of coordinating devices, but also as a tremendously effective instrument in itself. Under the Federal Reports Act the Division of Statistical Standards requires all agencies subject to its authority to submit their forms to the Budget Bureau for review and approval; and it forbids any agency to request information from individuals, households, business concerns, or even other governmental agencies, without the Budget Bureau's sanction. This Act, and Budget Circular A-40 issued under it, take the broadest possible definition of forms. Defined to cover ". . . information, upon identical items, from ten or more persons . . .", forms come under the jurisdiction of the Budget Bureau whether or not the information required is statistical. The agencies cannot therefore take refuge in a familiar plea: that the information they seek is not statistics, but accounting information, or 'facts', needed for administrative purposes. Subject also to Budget Bureau approval are plans for statistical projects, including instructions to enumerators, tabulation procedures, and devices for final presentation and explanation.

Practically all Federal agencies collecting statistics submit their forms to the Budget Bureau. These include not only the general collection agencies, such as the Bureaus of the Census or Agricultural Economics, but nearly all agencies that have administrative or regulatory functions and that collect statistics as byproducts or as incidental tools. Even forms not subject to review under the Federal Reports Act are sometimes voluntarily submitted for review and advice.

Indeed, this advice which the Budget Bureau gives on forms voluntarily submitted, such as some of those from the Bureau of Internal Revenue, resembles that which the Division of

Statistical Standards and the Central Statistical Board gave all agencies before the Federal Reports Act of 1942 invested it with final authority. From 1935 to 1942 the coordinating authority was empowered to examine and advise upon the reports, plans, and statistics of any governmental department, but its actual power was no more than advisory and hortatory. However, because the Central Statistical Board was an interdepartmental agency with representatives from the leading statistical agencies, because the Central Statistical Committee set up to advise the Board was composed of four Cabinet officers, and finally because the members of the Board were men of high professional standing, their advice and moral suasion were by no means ineffective. There can be no doubt that the effectiveness of this aspect of coordination has greatly increased under the Federal Reports Act. Indeed, the criticism is often expressed that the Budget Bureau has wielded its abundant new powers of 'negative' review so extensively as to divert it from more positive work.

It is worth while, therefore, to examine the procedures in reviewing forms with some care. Most of the two or three thousand forms presented annually to the Budget Bureau are for renewal or extension. All proposals for 'new' questionnaires (never before sent out to the public) must, in general, come in automatically from the agency that desires to collect the statistics. When a form arrives at the Division of Statistical Standards, it receives a number and goes to the Clearance Officer who assigns it to one or more reviewers. If the form is simple, possibly a mere postcard on which a worker files application for a social security number, it may go to only one reviewer, for it may contain only one type of subject matter. If it is elaborate, say, the 1947 Census of Manufactures' schedule, with questions on employment, payrolls, production, manhours, force account construction, analysis of property accounts, and expenditures for plant and equipment, the questionnaire may be given to six or even a dozen reviewers.

This procedure is followed because the staff is assigned by

subject, not by agency. It is not, in the opinion of the Division of Statistical Standards, desirable for any staff member to become too closely attached to one statistical agency lest he lose his knowledge of the whole statistical scene as well as his objectivity and impartiality. More important, many subjects, such as housing or employment, are covered not by one but by several agencies and effective coordination requires that the men know something about all the agencies dealing with a given type of statistics.

If the form is significant and complicated, not only will several persons in the Budget Bureau review it; others in Washington with an interest in the fields covered will be given an opportunity to say whether the information sought meets their needs, whether the questions are properly phrased, and whether additional questions might elicit data that would supplant statistics gathered elsewhere at greater expense. In connection with a schedule for the census of manufactures, the Bureau of Labor Statistics might suggest questions or phraseology to make it more useful as a benchmark for current employment estimates; the National Income staff of the Department of Commerce might meet with the Census staff to discuss definitions of manufacturing production, distinctions between manufacturing and construction, and means of getting data on expenditures for plant and equipment.

For major subjects such as population, labor force, employment, construction, productivity, there exist interdepartmental subcommittees, presided over in most cases by a member of the staff of the Division of Statistical Standards. Such committees normally have much to say about plans for collection and wording long before the questionnaire reaches the Budget Bureau formally. Nevertheless, as part of the review, the forms might again be submitted to the committees for final approval.

Before they reach the Bureau of the Budget, many forms go through other reviews. The Division of Statistical Standards has encouraged the establishment of internal clearance offices

within the major statistical agencies. These clearance offices, which number over 30 and vary widely in degree of authority, operate as 'junior divisions of statistical standards'. The most effective of them give, from the viewpoint of the individual agency, much the same kind of appraisal, advice, and censorship received from the Bureau of the Budget in the final review. Forms found to be superfluous may never leave the Department; others may go back to the originating unit with suggestions for elimination and clarification of questions before being dispatched to the Budget Bureau.

A review of an entirely different sort takes place in the subcommittees of the Advisory Council on Federal Reports. This review by business experts, which is of great technical value, is discussed below (section on Committees outside the government). Suffice it here to note that when the form is reviewed in the Budget Bureau the staff members have usually benefited from the detailed and informed criticism of the business advisory subcommittees.

The following are typical of the questions put in these several reviews:

"Does the agency need the information?" This is not always an easy question to answer. Some need, however slight, can be advanced for practically all information. The decision of the Budget Bureau should, of course, depend upon whether the need is sufficient to justify the expense to the government of collecting and tabulating the data and the cost and annoyance to the respondents in filling out the questionnaires. Need is presumably relative. Does the government need these particular statistics more than other data now being collected, or possibly to be collected, with a similar expenditure? The Budget Bureau has never attempted to formulate objective criteria for such decisions; there is reason to doubt that it could do so.

"Are the data already collected elsewhere in the government, possibly by the agency itself?" Interdepartmental committees and consultations with other agencies help to locate duplicate data. If identical data are gathered by another

agency, disapproval of the form is easy. Most duplication, however, travels incognito. The allegedly duplicated data may have been collected in terms of a different concept, may be for a different date, or may be available only with a long time lag. If so, it may be the part of wisdom to supplant the old by the new.

"Can the form be sent to a smaller number of households or business firms and still elicit accurate and useful information?" In a few cases a 1 or 2 percent sample of firms or households will yield information almost as good as that yielded by a total enumeration—provided the agency wants no more than an over-all picture. For many purposes a small sample, with skilled enumerators questioning the respondents, is to be preferred to a complete enumeration. When more complete coverage is required the needs of the investigation may be served, and burdens and costs kept down, if only large enterprises are included. In many industries, a small percentage of firms may produce 95 percent of the output.

"How frequently should the return be made?" Would a quarterly return be just as satisfactory as a monthly? Does a return need to be sent oftener than once a year? In the case, for example, of profits which firms usually compute finally at the end of the year, would provisional quarterly returns be useful?

"How accurately do the questions fit the concepts?" A question on unemployment must be so phrased that a school teacher in the summertime is not classed as unemployed merely because he is not working, and yet is not classed as employed merely because he is a school teacher. A retired person should not be classed as unemployed because he gives the colloquial response to the enumerator that he is 'unoccupied'. It is becoming increasingly apparent that the form in which questions are put may be a major source of statistical inaccuracy. In 1945, a slight change in the wording of the monthly questionnaire on the labor force resulted in an upward revision in the number of people believed to be

employed and in the labor force by two million. Before then a woman reporting that she was a housewife was in many cases classed forthwith as not employed and not in the labor force; she was not asked whether she might also be a gainful worker. The change in the questionnaire was a slight alteration in the order of questions and the introduction of an additional question that ran something like this: "In addition to being a housewife, did you work or seek work in the preceding week?"

"Does the information exist?" Do most business firms keep their books in a way that will yield the information desired? Can a small firm obtain this information from its records without hiring extra help, or will it be tempted to fabricate the information? In the case of small businesses it is particularly important that the questions be simple and clear, and easily answerable from the records. No Washington reviewer would be likely to know enough about the psychology and the bookkeeping systems of businessmen to decide whether the questions would elicit accurate information. Great aid has been rendered to the Budget Bureau by the Advisory Council on Federal Reports, and by many specialized subcommittees. These committees, staffed from cooperating business organizations largely for self-protection, seem to have been highly successful. The Division of Statistical Standards reports that about four-fifths of the suggestions of the Advisory Council for simplifying and improving questions are accepted by the Division and the statistical agencies.

The time required to review forms varies widely. Most forms are approved or disapproved within several days. Simple forms or repeat forms already renewed many times may require no more than five minutes of the reviewer's time. More complicated forms, especially if they are new, may require hundreds of hours. Review of the financial report form of the Federal Communications Commission, with its hundreds of separate schedules, took six months.

When approved, the form receives a Budget Bureau number, which is printed on every copy. Any form requiring

Budget Bureau clearance that does not carry such a number is branded as 'bootleg'. Business firms have become alert for a Budget Bureau number, and are increasingly indisposed to fill out unauthorized questionnaires. Their alertness is due almost entirely to publicity sent out by trade associations and by the Advisory Council on Federal Reports.[16]

Committees in the government

The second device of the Division of Statistical Standards for coordinating statistical services is that of committees of experts. These committees may be divided into two broad classes: one made up of governmental personnel, and another manned from business, labor, or professional organizations. Those of the first type, staffed by statistical officers of both general and byproduct collection agencies, are called interagency committees. About 20 in number, they are of three main classes.

The one committee in the first class is the Federal Committee on International Statistics, set up in 1946. Its staff is drawn from the agencies that collect or analyze statistics on international trade and finance of this country and on the internal affairs of foreign countries. This committee convenes to advise the United States Delegate before each meeting of the United Nations Statistical Commission. It might consider how to make United States statistics on exports to Great Britain comparable with British statistics on imports from the United States. It might advise on differences in the definition of the labor force in Great Britain, the USSR, and the United States.

Specialized committees, such as the Committee on Forecasting Methods, the Committee on Income Distribution, and the Technical Committee on a Standard Industrial Classifica-

[16] "Business men reading this report should bear in mind the fact that the Bureau of the Budget is charged by . . . . Congress to protect them against an undue burden of reporting information to Federal agencies, and that under the Federal Reports Act no request for information . . . . may be issued by the agencies without approval of the Bureau of the Budget." *An Account of the Activities of the Advisory Council on Federal Reports 1947-1948*, p. 19.

tion, constitute the second type of inter-agency body. Their purpose is usually to bring about some standard procedure among the various agencies in defining a farm, a manufacturing industry, or a skilled occupation.

The third and principal class of committees inside the government includes the many subcommittees of the Federal Committee on Economic Statistics. This large committee is made up of Bureau and Division chiefs, or their representatives, of most of the leading statistical agencies in the government. Its chairman is the head of the Division of Statistical Standards. It has no authority and makes no decisions in its own name. It meets infrequently, on call; most of its work is done through a dozen or so subcommittees set up along subject lines, dealing with banking statistics, consumer income statistics, productivity statistics, needs for financial data, etc.

Although the work of each subcommittee of the Federal Committee on Economic Statistics is generally directed toward the improvement of statistics in a given area, the exact functions vary. The Subcommittee on Transportation Statistics, for instance, examined the adequacy of the government's data on motor, railway, air, and water transport and recommended means of filling important gaps. The Subcommittees on Consumer Income and Savings and on Consumer Expenditures are now concerned primarily with the review of forms for collecting data in these fields, to see that they serve the purposes of all agencies concerned. The Subcommittee on Needs for Financial Data developed the coordinated program for collecting business financial statistics. Another subcommittee is aiding the Census Bureau in formulating definitions to measure housing adequacy in the forthcoming decennial census.

An outstanding example of a successful subcommittee is the Technical Committee on Labor Supply, Employment, and Unemployment Statistics. Many of the subcommittees, however, have achieved meager results. The obstacles that block them in eliminating duplication and filling gaps have

been largely financial. A subcommittee can often achieve a workable solution on a technical level, but this solution may break down in the budgeting and appropriation stages because it involves the transfer of functions to an agency which, however well equipped in staff and experience, is unable to get the requisite funds.

Committees outside the government

The outside agencies that advise on the government statistical services are of several main classes. Not all have a direct relation to the Division of Statistical Standards. Some are staffed with professional statisticians from private organizations dedicated to nonprofit research. The Census Advisory Committee of the American Statistical Association, operating since 1919, meets about four times a year to consult with the Director of the Census Bureau on matters of policy. Several technical committees are at present advising on the 1950 Census concerning population, housing, economic statistics, and agriculture. The Conference on Productivity is an important body of professional statisticians. Sponsored by the Bureaus of the Budget and of Labor Statistics, it contains both governmental statisticians and representatives of labor and management organizations. It deals with concepts of productivity, and with techniques for measuring productivity in industry, in the professions, and in government; it appraises statistics on production and employment and suggests modes of improving their comparability.

Other committees represent the viewpoint of organized labor. These committees, representing the CIO, AFL, and independent unions, advise both the Division of Statistical Standards and the Bureau of Labor Statistics. The labor committees work mainly toward more adequate governmental statistics for use in collective bargaining and in research relating to the economic position of labor. They are particularly concerned that governmental statistics be adequate in the industrial and occupational details needed by labor representatives in wage and hour negotiations. The broaden-

ing interests of labor in such negotiations are clearly manifest in their recommendations. A problem of particular concern to the Labor Advisory Committee of the Bureau of Labor Statistics has been the consumer price index. The committee has pointed out that the index is too restricted in scope to measure changes in the cost of living of all labor and shows a smaller rise in recent years than does the Department of Agriculture index of prices paid by farmers.

A third type of committee performs an analogous role with respect to the interests of business. The Bureau of Labor Statistics has a Business Research Advisory Committee. The Census Bureau has a committee from the American Marketing Association to advise on marketing statistics; a committee of retail trade representatives to advise on statistics needed by retail associations from the census of business; and a committee of agricultural publishers to present the needs of farm publications for census data. The most important committee of business representatives is the Budget Bureau's Advisory Council on Federal Reports, at one time called the Advisory Committee on Government Questionnaires.

One objective of the Federal Reports Act of 1942 was to ease the burden put on business by the avalanche of questionnaires originating in the war agencies, especially the OPA and the WPB. This Act gave the Budget Bureau power to review the thousands of questionnaires governmental agencies were sending out, mainly to business enterprises. Such reviews of questionnaires usually call for detailed knowledge of accounting practices in large and small business. The Budget Bureau soon realized that a small staff of experts in Washington could never acquaint themselves with the diverse and technical operations of thousands of subindustries. Business practices vary enormously; men with special knowledge of a particular industry, or a small section of it, can give useful advice on reporting procedures. In recognition of this, the Budget Bureau requested some of the leading business or-

ganizations to set up an advisory committee on government questionnaires.

The present Advisory Council on Federal Reports has an executive staff and many committees. Sixteen were active in 1947, dealing with bituminous coal, the census of manufactures, motor carrier accidents, etc. The Council met four times as a whole in that year for the discussion of such problems as duplication in construction statistics and overlapping in the collection of data by government and by private trade associations.

Both the Advisory Council and the Bureau of the Budget are well satisfied with the results of these operations over the half-dozen years of the Council's existence. The Council has not been much concerned with the over-all adequacy of governmental statistics. One reason given by both the Budget Bureau and the Advisory Council for its success is that it has refrained from interfering in policy and has confined its efforts to advising governmental agencies on the technical aspects of business: e.g., how to design reports to elicit the desired information from the accounting records; how to consolidate into a standard report for one agency questionnaires sent out by different agencies; how to determine the desirable coverage of an investigation as between large and small firms.

New statistical programs

The fourth aspect of the operations of the Division of Statistical Standards, and its predecessor, the Central Statistical Board, is the sponsoring of new activities. In discussing the review of forms and the work of committees in and out of government, we have tended to stress the cost-reducing or negative aspect of the work of coordination. We now discuss this more positive aspect. New statistical programs are of two types. The first cuts across the work of several statistical agencies and is intended primarily to improve the quality of existing work. Instances are the Standard Industrial Classification developed under the Central Statistical Board, and

improved under the Division of Statistical Standards; a coordinated program of business financial reports, involving the collaboration of the Securities and Exchange Commission and the Federal Trade Commission; the redefinition of the responsibilities of the Bureau of Labor Statistics and the Office of Domestic Commerce in estimating the volume of construction; the establishment of a uniform reporting period for employment and payroll statistics.

In contrast to these coordination programs of limited scope, designed primarily to improve existing statistics, we cite one example of a major program, aiming at reorganizing the system of statistical reports on economic processes. In 1944 President Roosevelt called for a statistical program adequate to the country's needs during the coming reconversion. The need for this program, known as the Reconversion Statistics Program, had been suggested by the Division of Statistical Standards. Armed with the President's request, the Division called an interdepartmental conference in September 1944; this was attended by representatives of every important peacetime statistical agency and also of the War Production Board, the War Manpower Commission, the Smaller War Plants Commission, and other war emergency agencies. As a result of the conference the Division set up the Interdepartmental Committee on Reconversion Statistics (later the Federal Committee on Economic Statistics) and subcommittees, under the chairmanship of staff members of the Division of Statistical Standards. Each subcommittee had the task of programming for a broad field of statistics—wages and wage rates, employment and unemployment, census of manufactures, census of business, consumer income, and consumer expenditures and savings.

The purpose of the Reconversion Statistics Program, the cost of which was estimated to be approximately $12,000,000, was to supply government, business, organized labor, and others with the basic intelligence for making economic adjustments when war contracts were canceled, including planning for full employment and maximum use of industrial

plant and formulating sound labor and fiscal policies. The statistics of the reconversion program were to answer specific questions. How had war changed the nature of manufacturing activity and the places where workers in industry are employed? What changes had occurred in channels of distribution? How severe was transitional unemployment? What types of worker did it affect? Where did they live and work? What were the trends in wages and wage differentials? How was purchasing power distributed among workers in different occupations and areas?

The program projected a census of manufactures for 1944, to be taken in 1945, a sample census of business, and a quarterly expansion of the monthly report on the labor force to obtain details for war production centers. These studies would be the tasks of the Bureau of the Census. In addition, it proposed that current estimates of employment in industrial establishments by States be made by the Bureau of Labor Statistics, which was to link its sample of employment to benchmark data from the State unemployment compensation agencies and other State or Federal agencies. The Bureau of Labor Statistics was also to collect statistics on wage rates from 33,000 nonagricultural establishments, including straight time rates in ten to fifteen key occupations in each industry.

Another project for the Bureau of Labor Statistics was a study of work histories of five or six thousand workers. Its purpose was to discover what happens to the wages and jobs of typical workers over a period of time. Such studies bring out information usually buried in general averages for all workers.

Nonagricultural wage statistics were to be supplemented by improved farm wage data collected by the Bureau of Agricultural Economics. The improved statistics would come from a quarterly mail questionnaire to 100,000 farmers selected from the Department of Agriculture master sample.

Still another project sponsored by the program was a survey of consumer incomes, to be made by interviewing a

national sample of 300,000 households. This survey would discover how income was distributed among families living in different parts of the country, in large cities as compared with small, in skilled as compared with unskilled occupations, among workers in manufacturing industries as compared with farmers and workers in retail trades. It would reveal also the number of wage earners in families. The other side of the consumer story was to be told by a study of consumer expenditures and savings to be conducted by the Bureaus of Agricultural Economics and of Human Nutrition and Home Economics in the Department of Agriculture, and the Bureau of Labor Statistics.

The Reconversion Statistics Program was presented to Congress by the President in November 1944. After detailed hearings before the Subcommittee on Deficiencies of the House Committee on Appropriations, a unanimous and favorable report was submitted to the House. An unusual aspect of these hearings was that the head of the Division of Statistical Standards appeared with the heads of the various statistical agencies supporting the program. On the floor of the House all parts of the program except the wage rate collections and the State employment records were removed on points of order. Hearings were held before the Senate Appropriations Committee, but they resulted in no restorations. The program was modified and resubmitted by the President at the end of January 1945. The Deficiencies Subcommittee of the House Committee on Appropriations again held hearings and recommended adoption of the program, but the recommendation did not lead to favorable action. This effort, the outcome of which was of course affected by the state of war in existence when the program was proposed, represents the only instance in which a reasonably comprehensive and unified program of statistical activity has been put before Congress.