

**THE STATISTICAL WORK OF THE  
NATIONAL GOVERNMENT**

## **THE INSTITUTE FOR GOVERNMENT RESEARCH**

Washington, D. C.

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THE INSTITUTE FOR GOVERNMENT RESEARCH  
STUDIES IN ADMINISTRATION

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THE STATISTICAL WORK  
OF THE  
NATIONAL GOVERNMENT

BY  
LAURENCE F. SCHMECKEBIER, PH. D.

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## PREFACE

A complete examination of the organization and operations of a government with a view to determining wherein the administration can be made more efficient and economical requires the prosecution of two classes of studies: those dealing with the government as an institution; that is, the manner in which the government is organized and the methods of procedure employed by it in maintaining and operating itself as an institution; and those dealing with the activities of the government for the performance of which it is maintained and operated. In both classes of studies, two distinct steps have to be taken; first, the determination and orderly presentation of the facts regarding existing conditions, activities and processes; and, second, the critical examination of these facts for the purpose of determining wherein existing conditions or practices are satisfactory or the reverse; and, when deemed to be unsatisfactory, the action that should be taken to correct such conditions or practices.

The present volume gives the results of a study representing the first step in an inquiry falling in the second of the two classes of studies that have been enumerated. It has for its purpose to make known in as clear, and in as comprehensive manner as circumstances permit, what the National Government has done, and is doing, in the way of collecting and publishing information of a statistical character. It deals with the past, as well as the present, since it is hoped that the volume will, not only furnish the essential information needed in order to evaluate the work of the government in this field and to determine the action that should be taken to make such work of greater value and to improve the organization and methods employed in performing such work, but also serve as a guide or source of information to the public in determining what statistical information is available in the publications of the National Government and the particular documents in which such information may be found.

It is hoped that this volume may be followed by one or more other volumes having for their purpose the taking of the second step of the inquiry. These volumes will have to handle such questions as: the extent to which the National Government is meeting the obligation of collecting and publishing the statistical data which

it is desirable should be undertaken by it; the extent to which it is performing work in this field the value of which is doubtful, or is performed at a cost disproportionate to its value, or which preferably should be performed by other agencies; the extent to which the statistical output of the National Government may be improved from the technical standpoint; the extent to which the methods of collecting, compiling and presenting the statistical data may be improved from both the technical and economic standpoint; and, finally, the extent to which the whole cost of collecting, compiling, and publishing statistical data may be more efficiently and economically performed through the reallocation of the specific statistical activities among the several statistical and other services of the government, the concentration of statistical work in a fewer number of services or its further distribution with a view to having it performed by those services having to do with the subject matters to which the statistics relate, and the situation clarified by the creation of a central statistical agency which will at least have the function of advising in respect to the coördination of the statistical work of the government and serving as a central bureau of information regarding work in this field.

All of these are matters which must be thoroughly inquired into if the statistical work of the government is to be improved and be more economically performed. In such inquiries, the opinions and advice of those for whose use the statistical data are primarily intended must be sought as well as by those concerned with the production of the data. Not the first approach to such a consideration can be had, however, until full information is available regarding what the government has done and is now doing. This information, it is the purpose of the present volume to provide.

Though the work is essentially a fact statement, with no deliberate intention to subject the statistical material described to critical comment, it has been thought wise to include certain observations having for their purpose to make known the extent to which the data described represent facts which may be taken at their face value or are subject to limitations as regards their completeness, accuracy or legitimacy of use for certain purposes. Especially has this been done when the statistical publications themselves point out the limitations that should be observed in using the figures reproduced.

W. F. WILLOUGHBY.



# CONTENTS

CHAPTER	PAGE
I. INTRODUCTION . . . . .	I
II. GENERAL SUMMARIES . . . . .	8
Weekly . . . . .	8
Crops and Markets . . . . .	8
Monthly . . . . .	8
Federal Reserve Bulletin . . . . .	8
Survey of Current Business . . . . .	9
Monthly Labor Review . . . . .	10
Annual . . . . .	10
Statistical Abstract of the United States . . . . .	10
Commerce Yearbook . . . . .	11
Agriculture Yearbook . . . . .	12
Decennial . . . . .	12
Abstracts and Atlases of the Census . . . . .	12
Early General Summaries . . . . .	13
III. POPULATION IN GENERAL . . . . .	15
General Review . . . . .	17
Method of Collecting Statistics . . . . .	17
Area Included in Enumerations . . . . .	19
Scope of Reports of Fourteenth Census . . . . .	19
Units of Tabulation . . . . .	22
Classification of the Population . . . . .	25
Number . . . . .	25
Color or Race, Nativity and Parentage . . . . .	28
Sex . . . . .	31
Age . . . . .	34
Marital Condition . . . . .	39
School Attendance . . . . .	42
Illiteracy . . . . .	47
Inability to Speak English . . . . .	54
State of Birth of Native Population . . . . .	55
Country of Birth of Foreign Born Population . . . . .	58
Country of Origin of Foreign White Stock . . . . .	60
Mother Tongue of Foreign White Stock . . . . .	62
Citizenship of Foreign Born . . . . .	64
Year of Immigration of Foreign Born . . . . .	66
Dwellings, Families and Home Ownership . . . . .	67
IV. NEGROES, INDIANS, CHINESE, AND JAPANESE . . . . .	71
Negroes . . . . .	71
Indians . . . . .	73
Chinese and Japanese . . . . .	76

CHAPTER	PAGE
V. DEPENDENTS, DEFECTIVES AND DELINQUENTS . . . . .	78
Paupers . . . . .	78
Benevolent Institutions . . . . .	79
Insane and Feeble Minded . . . . .	82
Blind and Deaf . . . . .	84
Delinquents . . . . .	85
VI. IMMIGRANTS AND EMIGRANTS . . . . .	87
Reports of Bureau of Immigration . . . . .	87
Annual Statistics . . . . .	88
Monthly Statistics . . . . .	93
Reports of Immigration Commission . . . . .	95
Ninth Special Report of Commissioner of Labor . . . . .	103
Census Reports . . . . .	104
Passenger Movement . . . . .	104
VII. OCCUPATIONS . . . . .	106
VIII. BIRTHS . . . . .	115
IX. DEATHS, DISEASES, AND ACCIDENTS . . . . .	118
Deaths . . . . .	118
Decennial Compilations . . . . .	118
Annual Statistics . . . . .	119
Decennial Mortality Rates . . . . .	124
Weekly Statistics . . . . .	126
Special Compilations . . . . .	126
Army and Navy . . . . .	129
Diseases . . . . .	129
Physical and Psychological Conditions . . . . .	131
Accidents . . . . .	132
Railroads . . . . .	132
Industrial Accidents . . . . .	135
Coal Mine Accidents . . . . .	135
Metal Mine Accidents . . . . .	136
Quarry Accidents . . . . .	136
Coke Oven Accidents . . . . .	137
Accidents in Metallurgical Works . . . . .	137
X. MARRIAGE AND DIVORCE . . . . .	138
XI. RELIGIOUS BODIES . . . . .	140
XII. EDUCATION . . . . .	143
XIII. LABOR AND WAGES . . . . .	146
Wages and Hours of Labor . . . . .	146
Manufacturing and Mining . . . . .	146
Early Reports . . . . .	146
Bureau of Labor Statistics . . . . .	147
Tariff Commission . . . . .	152
Bureau of the Census . . . . .	152
Railroads . . . . .	155
Interstate Commerce Commission . . . . .	155
Railroad Labor Board . . . . .	162
Eight-Hour Commission . . . . .	162

# CONTENTS

xi

CHAPTER	PAGE
<b>XIII. LABOR AND WAGES—Continued.</b>	
Employment . . . . .	164
Strikes and Lockouts . . . . .	164
Farm Labor . . . . .	166
Prison Labor . . . . .	167
<b>XIV. WOMEN AND CHILDREN . . . . .</b>	
Bureau of the Census . . . . .	168
Bureau of Labor Statistics . . . . .	169
Railroad Administration . . . . .	174
Interstate Commerce Commission . . . . .	174
Women's Bureau . . . . .	175
Children's Bureau . . . . .	176
<b>XV. GENERAL AGRICULTURAL CONDITIONS . . . . .</b>	
Farms and Farm Property . . . . .	181
Farm Tenure . . . . .	182
Size of Farms . . . . .	185
Race and Nativity of Farm Operators . . . . .	186
Sex of Farm Operators . . . . .	187
Age of Farm Operators . . . . .	188
Years on Farm . . . . .	188
Farm Experience . . . . .	188
Farm Mortgages . . . . .	189
Farm Expenses . . . . .	190
Coöperative Marketing and Purchasing . . . . .	190
Farm Facilities . . . . .	190
Irrigation . . . . .	191
Drainage . . . . .	195
<b>XVI. PRODUCTION OF CROPS . . . . .</b>	
Decennial Census Statistics . . . . .	197
Department of Agriculture . . . . .	202
Discrepancy Between Statistics of the Bureau of the Cen- sus and of the Department of Agriculture . . . . .	214
Annual Statistics of the Bureau of the Census . . . . .	217
Cotton . . . . .	217
Tobacco . . . . .	219
<b>XVII. LIVESTOCK . . . . .</b>	
Decennial Census Statistics . . . . .	221
Annual Livestock Estimates of Department of Agriculture	226
<b>XVIII. LIVESTOCK PRODUCTS . . . . .</b>	
Decennial Census of Agriculture . . . . .	228
Census of Manufactures . . . . .	230
Meat Production Estimates of Department of Agriculture	232
Other Statistics of Department of Agriculture . . . . .	233
Other Sources . . . . .	233
<b>XIX. PRODUCTION OF MINERALS . . . . .</b>	
Annual Statistics on all Minerals . . . . .	234
Weekly and Monthly Statements: U. S. Geological Survey.	239
Gold and Silver . . . . .	240
Coal Distribution, 1918-1919 . . . . .	242
Decennial Statistics on Mineral Industry . . . . .	242

CHAPTER	PAGE
XX. PRODUCTS OF FISHERIES . . . . .	251
Bureau of the Census . . . . .	251
Bureau of Fisheries . . . . .	253
XXI. PRODUCTION OF MANUFACTURED ARTICLES . . . . .	257
General Statistics of the Census of Manufactures . . . . .	258
Scope of the Census . . . . .	261
Method of Collection . . . . .	262
Classification of Industries and Products . . . . .	262
Establishments . . . . .	263
Capacity . . . . .	264
Value . . . . .	264
Material . . . . .	264
Value Added by Manufacture . . . . .	264
Character of Ownership . . . . .	264
Size of Establishments . . . . .	264
Hours of Labor . . . . .	265
Persons Engaged in Manufacturing Industries . . . . .	265
Power . . . . .	267
Consumption of fuel . . . . .	267
Capital . . . . .	268
Expenses . . . . .	268
Limitations of the Statistics . . . . .	269
Annual and Other Statistics of the Bureau of the Census . . . . .	270
Wool Manufacturing . . . . .	270
Cotton Spinning . . . . .	271
Textile Products . . . . .	271
Leather and Leather Products . . . . .	271
Iron and Steel Products . . . . .	272
Wheat Flour . . . . .	272
Fats and Oils . . . . .	272
Paint and Varnish . . . . .	273
Sulphuric Acid and Acid Phosphate . . . . .	273
Farm Equipment . . . . .	273
Clay and Refractory Products . . . . .	274
Glue and Gelatin . . . . .	274
Lighting Fixtures . . . . .	274
Forest Products . . . . .	274
Other Periodic Reports . . . . .	280
Dyes and Coal Tar Chemicals . . . . .	280
Explosives . . . . .	281
Petroleum Products . . . . .	282
Articles Subject to Internal Revenue Taxes . . . . .	282
Special Reports . . . . .	285
Shipbuilding . . . . .	286
Census of War Commodities . . . . .	286
XXII. SURVEYS OF INDUSTRIES . . . . .	288
Grain, Grain Products, and Grain Trade . . . . .	290
Articles Affected by Emergency Tariff of 1921 . . . . .	298
Agricultural Staples . . . . .	299
Sugar . . . . .	301

# CONTENTS

xiii

CHAPTER	PAGE
<b>XXII. SURVEYS OF INDUSTRIES.—Continued.</b>	
Livestock and Livestock Products . . . . .	304
Tobacco . . . . .	307
Canned Goods . . . . .	308
Potato Products . . . . .	309
Textiles . . . . .	309
Petroleum and Petroleum Products . . . . .	310
Coal . . . . .	312
Iron and Steel . . . . .	313
Minerals . . . . .	313
Fertilizers . . . . .	315
Barytes, Barium Chemical and Lithopone Industries . . . . .	316
Acids . . . . .	316
Incandescent Gas Mantles . . . . .	317
Glass . . . . .	318
Furniture . . . . .	318
Stoves . . . . .	319
Farm Implements and Machinery . . . . .	319
Surgical Instruments . . . . .	319
Paper . . . . .	320
Brushes . . . . .	320
Buttons . . . . .	321
Wood-using Industries . . . . .	321
Cost of Production . . . . .	323
 <b>XXIII. IMPORTS AND EXPORTS . . . . .</b>	 <b>326</b>
Terms Used and Limitations of the Statistics . . . . .	326
General Current Statistics . . . . .	343
Annual Statistics . . . . .	343
Foreign Commerce and Navigation . . . . .	343
Trade of the United States with the World . . . . .	349
Statistical Abstract of the United States . . . . .	350
Quarterly Statements of Exports . . . . .	353
Monthly Statistics . . . . .	354
Monthly Summary of Foreign Commerce. . . . .	354
Advance and Special Statements . . . . .	358
Federal Reserve Bulletin and Survey of Current Business . . . . .	359
Limited Statistics . . . . .	359
Minerals . . . . .	359
Agricultural Products . . . . .	360
Water Borne Exports and Imports . . . . .	360
General Compilations . . . . .	362
Trade with Various Countries . . . . .	362
Imports, 1867 to 1918 . . . . .	364
Exports, 1697 to 1893 . . . . .	366
Imports and Exports, Fiscal Year 1905, Production, 1904 . . . . .	366
Dictionary of Tariff Information . . . . .	367
Summary of Tariff Information . . . . .	367
Tariff Information Surveys . . . . .	368
Commodity Compilations . . . . .	369
Imports of Dyestuffs . . . . .	369
Imports of Chemicals Other than Dyestuffs . . . . .	369

CHAPTER	PAGE
<b>XXIII. IMPORTS AND EXPORTS—Continued.</b>	
Imports of Crude Botanical Drugs . . . . .	370
Imports of Cotton Yarn . . . . .	370
Imports and Exports of Seeds . . . . .	371
Imports and Exports of Lumber and Wood Products . . . . .	372
<b>XXIV. LAND TRANSPORTATION AND COMMUNICATION . . . . .</b>	<b>373</b>
General Statistics on Railroads . . . . .	373
Early Reports and Summaries . . . . .	373
Interstate Commerce Commission . . . . .	375
Annual Reports . . . . .	375
Quarterly Reports on Commodity Movements . . . . .	382
Monthly Reports . . . . .	385
LIMITED STATISTICS ON RAILROADS . . . . .	390
Freight Rates . . . . .	390
Block Signals . . . . .	394
Train Operation . . . . .	395
Locomotive Boilers . . . . .	396
Private Car Lines . . . . .	396
Other Common Carriers . . . . .	396
Pullman Company . . . . .	396
Express Companies . . . . .	396
Electric Railroads . . . . .	399
Pipe Line Companies . . . . .	401
Roads and Automobiles . . . . .	402
Telegraph . . . . .	403
Telephones . . . . .	405
<b>XXV. SHIPPING. . . . .</b>	<b>408</b>
<b>XXVI. DOMESTIC COMMERCE . . . . .</b>	<b>415</b>
Early Treasury Department Reports . . . . .	415
Bureau of Statistics . . . . .	416
Reports of Chief of Engineers, War Department . . . . .	419
Bureau of the Census . . . . .	420
Industrial Commission . . . . .	422
Inland Waterways Commission . . . . .	423
National Waterways Commission . . . . .	424
Bureau of Corporations . . . . .	426
Department of Agriculture . . . . .	427
Shipping Board . . . . .	434
<b>XXVII. WATER POWER AND ELECTRIC POWER . . . . .</b>	<b>435</b>
<b>XXVIII. PRICES . . . . .</b>	<b>441</b>
Wholesale Prices . . . . .	441
Aldrich Report of 1893 . . . . .	441
Bureau of Labor Statistics . . . . .	443
Bureau of Foreign and Domestic Commerce . . . . .	444
Industrial Commission . . . . .	445
War Industries Board . . . . .	446
Department of Agriculture . . . . .	448
Bureau of Corporations and Federal Trade Commission . . . . .	449
Tariff Commission . . . . .	450
Retail Prices and Cost of Living . . . . .	450

# CONTENTS

XV

CHAPTER	PAGE
<b>XXIX. FINANCES OF THE NATIONAL GOVERNMENT</b> . . . . .	453
General Material . . . . .	453
Receipts, Appropriations, and Expenditures . . . . .	453
Public Debt . . . . .	473
<b>XXX. PUBLIC FINANCES OTHER THAN NATIONAL</b> . . . . .	476
States . . . . .	476
Cities . . . . .	478
Minor Civil Divisions . . . . .	483
<b>XXXI. GENERAL STATISTICS OF CITIES</b> . . . . .	484
<b>XXXII. MONEY AND BANKING</b> , . . . . .	489
Treasury Department . . . . .	489
Federal Reserve Board . . . . .	492
Joint Commission of Agricultural Inquiry . . . . .	495
National Monetary Commission . . . . .	495
Exchange Rates . . . . .	503
Interest Rates . . . . .	503
Building and Loan Associations . . . . .	504
<b>XXXIII. INCOME AND NATIONAL WEALTH</b> . . . . .	505
Income . . . . .	505
National Wealth . . . . .	508
<b>XXXIV. NONCONTIGUOUS TERRITORY</b> . . . . .	511
Alaska . . . . .	511
Hawaii . . . . .	512
Porto Rico . . . . .	514
Philippine Islands . . . . .	515
Panama Canal and Canal Zone . . . . .	516
Virgin Islands . . . . .	517
Guam . . . . .	517
<b>XXXV. FOREIGN COUNTRIES</b> . . . . .	518
Reports of Existing Organizations . . . . .	518
Bureau of Foreign and Domestic Commerce . . . . .	518
Federal Reserve Board . . . . .	521
Department of Agriculture . . . . .	522
Bureau of Labor Statistics . . . . .	524
Public Health Service . . . . .	525
Geological Survey . . . . .	525
Tariff Commission . . . . .	526
Bureau of the Census . . . . .	526
Reports of Discontinued Organizations . . . . .	527
Bureau of Statistics . . . . .	527
Food Administration . . . . .	527
National Monetary Commission . . . . .	528
Senate Commission of Gold and Silver Inquiry . . . . .	534
Miscellaneous . . . . .	535
<b>XXXVI. MISCELLANEOUS</b> . . . . .	536
Government Employees . . . . .	536
Election Returns . . . . .	538

CHAPTER	PAGE
XXXVI. MISCELLANEOUS— <i>Continued.</i>	
Industrial Combinations . . . . .	539
Commercial Failures and Depressions . . . . .	539
Prices and Sales of Stocks and Bonds . . . . .	540
Insurance . . . . .	542
Newspapers and Periodicals . . . . .	543
Forests . . . . .	543
Disasters to Vessels . . . . .	544
City Slums . . . . .	545
Liquor Problem . . . . .	545
INDEX . . . . .	547



# THE STATISTICAL WORK OF THE NATIONAL GOVERNMENT

## CHAPTER I

### INTRODUCTION

The statistical work of the National Government is as old as the government itself, as the Constitution provided for an enumeration of the inhabitants within three years after the first meeting of Congress and every ten years thereafter for the purpose of apportioning representatives among the several states. Though originally devoted only to the enumeration of the population, the decennial census has steadily expanded in scope until it now embraces many of the more important features of the economic and industrial life of the nation, and is of a scope not equalled by corresponding undertakings in any other country. Immediately upon the organization of the government the Treasury Department began the collection and publication of statistics relating to the national finances and foreign trade, although definite provision for the publication of trade statistics was not made until 1821. Until after the close of the Civil War the import and export statistics of the Treasury Department and the work of the decennial censuses included practically every statistical activity of the government. In later years, not only has the Bureau of the Census, which was made a permanent bureau in 1902, been entrusted with the periodical collection and publication of a wide range of statistical data, but other bureaus which have been established primarily for the study of economic, social, and scientific problems have to an increasing extent published statistical data dealing with matters under their jurisdiction.

At the present time the statistical output of the United States government compares favorably, both in extent and quality, with that of any government in the world. In the field of manufactures, especially, there is nothing in the work of foreign governments that can be compared with our biennial statistics.

As the purpose of this book is to indicate what statistics are available and where they may be found, the general arrangement of the material is by topics. The topical arrangement naturally has given rise to some difficulties, as some statistics might be discussed under two chapters. For instance, the statistics on the wages of railroad employees might be placed under "Railroads" or under "Labor and Wages." In such cases the discussion has been somewhat arbitrarily placed in one chapter with appropriate cross references in other places.

While topical headings have been used wherever they were applicable, it has seemed desirable in places to subdivide further and to use as headings the names of publishing offices or of specific publications. The use of such names has been governed largely by the character of the subject matter.

In some cases several publications are in the same general field as indicated by the main topical headings, with certain differences in scope or detail. As it is not possible to indicate these differences briefly and topically, recourse has been had to the use of the titles of the publications or the names of the publishing bureaus, whenever it seemed desirable to make sharp distinction between two series. On the other hand the names of publications or publishing organizations have been omitted where the text discussion is fairly brief and the additional headings did not appear to facilitate the use of the book.

If only one publication is discussed under a particular topic, it is manifestly useless to insert an additional heading giving the title of the publication. Again, in some cases a series of publications relates to a single topic, and the use of all the titles in one subhead would result in a heading in bad form typographically and so long that it would be of no use for quick reference purposes.

As most publications cover only one general topic, each publication is as a rule mentioned once, the minor features from the point of view of classification being discussed after the description of the main subject matter, with appropriate cross references. Occasionally, however, a publication covering a variety of subjects is discussed under several headings; that is particularly true of the general summaries discussed in Chapter II. By means of the index the reader will have no difficulty in locating all references to the several publications and topics.

The bulk of the volume is devoted to current statistics, but an endeavor has been made to give a brief outline of the history of each class of data with sufficient bibliographic references to enable the reader to locate the publications. There have been included special compilations and series no longer published which are of outstanding value, but no attempt has been made to list every special report of a statistical character. The documents and reports of the Senate and House of Representatives include many volumes containing statistics, but as a rule the data published in these special reports are compiled from the publications herein described. Generally the Senate and House documents and reports deal with pending legislation, and contain only such statistical data as are supposed to bear upon the particular subject under discussion. The hearings on tariff bills also contain many tables, but the official data are almost without exception taken from the regular reports on imports, exports, and manufactures. There is injected in the testimony considerable statistical material derived from unofficial sources; this must be accepted with considerable caution and with due allowance for bias on the part of the witness.

No attempt has been made to pass judgment on the accuracy of the statistics, as this would involve a detailed study of methods. However, there have been included comments on the scope of each work in order that the reader may fully understand the meaning of each classification and may not assign to the figures a significance which they are not intended to possess. Too much emphasis cannot be laid upon the danger of taking a few figures from a table without fully comprehending the limitations of the statistics. Many of the reports, particularly the later ones of the Bureau of the Census, contain introductory matter which outlines the method of collection and the probable margin of error. The introductory discussion should always be consulted.

The discussion in this volume applies to the latest issue in each series, although notes are occasionally made of some special features of the earlier reports. In a series of reports extending over many years it would be manifestly impracticable to describe in detail variations from year to year. The latest report may be taken as a guide to the contents of the earlier ones, with the reservation that many of the recent reports are in more detail than those published previously.

With the exception of the reports on finances, this volume does not treat of any statistics dealing with the operations of the administrative activities of the government. As these are given in the annual reports of the various departments or bureaus it is not necessary to comment upon them.

In this volume the references are altogether to the complete reports and no attention is paid to reprints of chapters or other portions. To list material of this character would result in adding references to material which is generally not available in separate form. For instance, the publications of the Thirteenth Census (1910) include 379 bulletins containing the reprints or advance statements of material that appeared in the general reports. The results of the Fourteenth Census (1920) were also issued as separate bulletins containing statistics on the more important industries or on the population, industries, etc., of the several states. By means of these bulletins the results for particular topics or areas are made available in advance of the complete report.

The discussion is limited to the tables which give basic information, no attention being paid to the derivative tables showing percentages, comparisons with previous years, etc. The census reports particularly are rich in derivative tables giving percentage distributions and data for earlier years. Almost all the reports give data for at least two years.

In the case of monthly or annual reports which give also figures for earlier periods, use should be made of the latest report which gives statistics for the earlier period, as frequently errors are discovered after the first report goes to press and the corrected figures are printed in the later report.

Practically all the statistical publications of the government give quantities and values for the actual numbers as shown by the returns, that is, the figures are not rounded to the nearest thousand or hundred thousand. This should not be taken as indicating that the statistics are correct to the last figure, as in the compilation of the thousands of items that make up the totals it is impracticable to avoid omissions, duplications, and errors in classification.<sup>1</sup> In the

<sup>1</sup> In one recent government report the statement is made that the production of a commodity in a certain state according to the report of a state official amounted to 13,580,000 barrels. A footnote states that the production as reported to the government organization by the producers amounted to 13,583,006 barrels. The purpose of this footnote is not clear. If the author intended to convey the idea that the figures of the government office

reports of the decennial census, especially, it is inevitable that there be errors in the details of the schedules returned by the enumerators as a result the varying degree of care exercised by different enumerators and of the attitude of the individual to the questions asked. In the financial statements of the government only are the statistics correct to the last figure, because here there is a definite and conclusive check through the various audits.

While the statistics that involve a large number of items or a large number of transactions are not correct to the last figure, the margin of error is generally not great enough to affect the reliability of the statistics. Moreover, the essence of statistics is their comparability, and, as it may be generally assumed that the error is a constant one, the statistics for different periods, different areas, or groups may be safely compared.

The reader of this book will probably be impressed by the number of separate government organizations that issue statistical material, and will wonder whether economy and efficiency would not be secured by the centralization of the statistical work in one large organization. At various times proposals to this effect have been made and have been given serious consideration. It is the almost unanimous opinion of men experienced in governmental statistical work that a great consolidated statistical office will result in neither economy nor greater accuracy; in fact it is generally agreed that there will be less accuracy than under the present system. The collection of statistics involves much more than the mere tabulation of the figures on the separate schedules. The proper supervision of the collection of statistics must be exercised by a person who has a thorough knowledge of the subject matter and its ramifications. A person eminently qualified to collect statistics on minerals would probably be a failure in the field of lumber or leather. The preparation of the schedules, the visé of the returns, and the interpretation of the results are best done by men who are in constant and sympathetic touch with the industry or subject under investigation. In answer to the contention that a central bureau could

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were more nearly accurate than those of the state office, his footnote is misleading. It is evident that the producers made the same reports to both organizations, and that the state officer rounded his figures. The margin of error is unquestionably greater than the difference between the two figures given above, and either one may be accepted as the measure of the production.

build up a staff of experts along various lines, it may be said that statistical work alone in a purely statistical office does not offer sufficient inducement to attract the highest type of specialist. Such a man works at his best when he has the stimulus of an organization which is dealing with all phases of a particular subject.

As most government statistics are collected through the voluntary coöperation of the public, the best results are obtained if the work is done by an organization with which the citizen is acquainted and which is in a position to render other services than the supplying of statistical reports.

While it is believed that the centralization of statistical work is not advisable, there is undoubtedly a need for an agency that would coördinate the work of the several organizations in the statistical field. It should be the duty of this agency to keep track of all statistical activities, to prevent duplication, and give advice when needed on schedules and methods of compilation.

The statistical work of the government, like its other activities, has been a growth of years, and it is not unlikely that the work will be extended in the future.

The best way of keeping in touch with the statistical publications of the national government is through the use of the "Monthly Catalogue of Public Documents," which may be obtained from the Superintendent of Documents for fifty cents a year. In this catalogue is listed every publication issued by the various branches of the government, but many of the current monthly statements are issued in mimeograph form and are not listed in the "Monthly Catalogue" or in any other publication. To obtain this material it is necessary to keep in touch with the bureaus that are compiling it.

Many of the departmental publications cited were also published as documents of Congress, and, in some libraries may probably be found in the set of Congressional Documents instead of under the subject heading. In the case of individual publications the document number has generally been noted, but this has been omitted in the case of serials, as to include the document numbers for serials would involve the insertion of lengthy lists. For publications issued up to 1909 the document numbers may be obtained from the "Check List of United States Public Documents, 1789-1909"; for later years they may be found in the "Document Index" issued

for each session or in the "Document Catalogue" issued for each Congress.

Many of the statistical reports are distributed free, but a considerable number may be obtained only through purchase from the Superintendent of Documents. The following price lists issued by that office contain prices on statistical publications.

No. 25. Transportation.	No. 59. Interstate Commerce Commission Publications.
No. 28. Finance.	No. 62. Commerce and Manufactures.
No. 33. Labor.	No. 67. Immigration.
No. 36. Government Periodicals.	No. 70. Census.
No. 37. Tariff.	

Many of the older reports are no longer available for distribution, although some may be purchased from the Superintendent of Documents. The most nearly complete sets of government publications are to be found in the Library of Congress and the library of the Office of the Superintendent of Documents. The libraries of the departments, bureaus, and independent establishments generally have complete sets of the publications dealing with the subjects with which they are concerned. Throughout the country are depository libraries<sup>a</sup> which are entitled to receive one copy of every government publication, but complete sets will be found only at the larger and more important institutions.

<sup>a</sup> A list of the depository libraries is given in the "List of Publications of the Department of Commerce Available for Distribution," published annually by the Division of Publications of the Department of Commerce.

## CHAPTER II

### GENERAL SUMMARIES

The publications discussed in this chapter are those which present statistics on a number of subjects. Some of these are referred to on subsequent pages in connection with particular topics, but it is deemed advisable to bring them together here in order to indicate the general publications which cover a broad field.

#### WEEKLY GENERAL SUMMARIES

**Crops and Markets.** Statistics relating to the production, movement, and prices of farm products are published in "Crops and Markets," issued by the Bureau of Agricultural Economics of the Department of Agriculture. There is also a monthly supplement which is devoted entirely to statistics and which contains much material not given in the weekly issues. A monthly statistical bulletin under various titles has been issued by the Department of Agriculture since 1863.<sup>1</sup> The weekly was issued under the title "Weather, Crops, and Markets" in 1922 and 1923, and under the title "Crops and Markets" since 1923.

#### MONTHLY GENERAL SUMMARIES

**Federal Reserve Bulletin.** The Federal Reserve Bulletin, published by the Federal Reserve Board since 1914, contains data dealing directly with the operation of the federal reserve system, and also much material relating to general business and economic conditions. Some of the general statistical material in the Bulletin is the product of other government bureaus, while some is obtained from trade organizations and business journals. The purpose of the general material is to afford a key to the trend of economic and business conditions. To a certain extent the same material is

<sup>1</sup> For titles at different dates see page 203.



published in the "Federal Reserve Bulletin" and also in the "Survey of Current Business," issued by the Department of Commerce, but each one contains some material not in the other. In addition to the material appearing regularly there are also at times special compilations dealing with particular topics. The publication entitled "Index-Digest of the Federal Reserve Bulletin, Volumes I-VI," is an excellent guide to all the material published in the Bulletin from 1914 to the end of 1920.

**Survey of Current Business.** Beginning with August, 1921, the Department of Commerce has published a monthly supplement to "Commerce Reports," entitled "Survey of Current Business," which contains data compiled from governmental sources, commercial journals, and trade associations on the fundamental movements in trade and industry in the United States and foreign countries. Practically all the material from government sources is also issued in more detailed form by the organizations collecting the data, but the summary information is brought together in convenient form in this publication. There are also published in this series considerable data which are collected by trade associations and which are generally not available elsewhere.

For the staple commodities which furnish an index to the economic situation statistics are presented on production, prices, imports, exports, sales, orders, shipments from factories, consumption, and stocks. Information is also given on the trade and economic conditions in the principal foreign countries.

Practically all the material in the "Survey of Current Business" is expressed as numerical data and as relative numbers. The numerical data are the actual figures for the period, while the relative numbers indicate the percentage relation between the numerical data and the actual figures for some earlier base period, which is taken to indicate 100. Thus, the production of gasoline in September, 1921, was 416,913,000 gallons. The monthly average for 1919, which was taken as the base, was 329,821,000 gallons. The production in September, 1921, is 126 per cent of the base, and the relative number is 126. Where figures are available 1913 is used as the base year; if 1913 figures are not available some other representative year is used. In every case the base year is indicated, and it is important that this be noted.

Each issue of the "Survey of Current Business" contains data for the following periods:

**Numerical data.**

Two latest months.

Corresponding month of previous year.

Cumulative total since January 1, for current year and previous year.

Per cent of increase or decrease for cumulative periods of the current year compared with previous year.

**Relative numbers.**

Two latest months of previous years.

Four latest months of current year.

Per cent of increase or decrease.

Latest month compared with preceding month.

Latest month compared with corresponding month of previous year.

In the issues for February, May, August, and November, there are shown for many items the monthly figures for the two preceding years and the monthly averages for each year since 1913, if the figures are available. In the issue for May, 1924, (pages 27-29), will be found references to previous issues containing earlier detailed monthly figures, as well as lists of special data and data discontinued.

**Monthly Labor Review.** The "Monthly Labor Review," published by the Bureau of Labor Statistics of the Department of Labor beginning with the issue for July, 1915, is the current source of information on prices, wages, and matters relating to labor and labor conditions. A general index covering the issues up to December, 1920, has been published under the title "Monthly Labor Review, Subject Index, Vols. I to XI, July, 1915, to December, 1920."

#### ANNUAL GENERAL SUMMARIES

**Statistical Abstract of the United States.** "The Statistical Abstract of the United States," issued each year beginning with 1878,<sup>3</sup> contains general statistics on practically every subject for which data are collected by any branch of the government, as well as some figures collected by non-governmental organizations. It

<sup>3</sup> It was published from 1878 to 1902 by the Bureau of Statistics of the Treasury Department, from 1903 to 1911 by the Bureau of Statistics of the Department of Commerce and Labor, and after 1911 by the Bureau of Foreign and Domestic Commerce.

contains not only annual figures, but also statistics which may be collected biennially, decennially or at other intervals. In the case of other than annual enumerations the figures are repeated each year until new ones are available, so that each issue covers the entire field. An extensive revision of the abstract was effected in the issues for 1922 and 1923 and it is probable that some additional changes will be made in the issue for 1924. The form of tables has been changed and considerable condensation effected through the use of averages of periods of years, and by the expression of figures in thousands and in millions.

**Commerce Yearbook.** Beginning with the issue for 1922 the Bureau of Foreign and Domestic Commerce has issued annually the "Commerce Yearbook." This is primarily a review of the progress of commerce, but it also contains a large amount of summary statistical material. Practically all of the statistics are available in other publications, but the interpretation and presentation of the salient figures make the volume a convenient reference book and obviate the necessity of using a number of other reports. Statistics in this volume not readily available elsewhere are those relating to the economic situation in foreign countries.

The volume may be roughly divided into three parts relating to commodities, foreign trade of the United States, and foreign countries. The commodity statistics include data on production, stocks, prices, total imports and exports, and other material of significance to the particular industry. The review of foreign trade takes up each country separately, and gives figures on total exports and imports by the United States, the principal commodities constituting the trade being enumerated. The total and the relative value of imports and of exports from and to each country for the three latest years and the averages for 1910 to 1914 are shown diagrammatically. The foreign country statistics include figures on area, crop production, transportation, finances, currency, and imports and exports classified by principal commodities and by principal countries; there are also notes on the principal industries, statistics being given whenever they are available.

In addition to the three classes of tables mentioned the volume contains data for the United States on employment, domestic trade, prices, construction, transportation, finance, and banking.

**Agriculture Yearbook.**<sup>3</sup> The "Agriculture Yearbook," issued since 1894, is the main annual reference book for current statistics of every kind relating to the products of agriculture. It contains not only the statistics collected by the Department of Agriculture, but also much material collected by other departments having a bearing on agricultural problems, including statistics on imports, exports, and production of farm products in foreign countries. Many of the items in the Yearbook are discussed under appropriate heads on later pages.

#### DECENNIAL GENERAL SUMMARIES

**Abstracts and Atlases of the Census.** The more important summary statistics of each decennial census are assembled in one volume known during recent censuses as the "Abstract of the Census." Beginning with the Fifth Census, a general summary has been issued under the following titles:

Fifth Census: 1830. Abstract of returns of Fifth Census.

Sixth Census: 1840. Compendium of the enumeration of the inhabitants and statistics of the United States.

Seventh Census: 1850.

Statistical view of the United States—Compendium of the Seventh Census.

Abstract of the Seventh Census.

Ninth Census: 1870. Compendium of the Ninth Census.

Tenth Census: 1880. Compendium of the Tenth Census. Pts. I and II.

Eleventh Census: 1890.

Abstract of the Eleventh Census.

Compendium of the Eleventh Census, Pts. I to III.

Twelfth Census: 1900. Abstract of the Twelfth Census.

Thirteenth Census: 1900. Abstract of the Census.

Fourteenth Census: 1920. Abstract of the Census of the United States.

A statistical atlas has been issued after each census from 1870 to 1910.<sup>4</sup> For the censuses of 1870, 1880, 1890, and 1900 the material in the atlases related entirely to the results of the decennial census. The statistical atlas issued in 1914, which contains data relating to the Census of 1910, also includes material relating to special investigations that were not a part of the decennial census. These

<sup>3</sup> Prior to 1923 known as "Department of Agriculture Yearbook."

<sup>4</sup> At the present writing the Atlas of the Fourteenth Census has not been issued, but it is understood to be in preparation.

volumes present the result of the work in graphic form, either by maps of the United States and of the several states or by diagrams.

#### EARLY GENERAL SUMMARIES

Several general statistical compilations published during the first thirty years of the government and purchased by the government for the use of its officers, have been generally regarded as government publications. The three earliest of these were the "Statistical View of the United States," by Tench Coxe, 1794; "Statistical Manual for the United States," by Samuel Blodgett, 1806; and "Statistical View of the Commerce of the United States," by Timothy Pitkin, 1816.<sup>5</sup> These were all superseded by the "Statistical Annals"<sup>6</sup> of Adam Seybert, 1818, which contains statistics for every year from 1789 to 1818. This work contains summary statistics on every subject on which figures had been collected by the government, and in addition it contains text giving many details of interest to the student of economic or political history. It is the best general source for information on the early years of the government.

A publication along the same lines as Seybert's *Statistical Annals* is the one by George Watterson and Nicholas Biddle Van Zandt entitled "Tabular Statistical Views."<sup>7</sup> The first edition of this

<sup>5</sup> The first edition was published at Hartford in 1816. A second edition, published in New York in 1817, had the following subtitle: "Its connection with agriculture and manufactures; and an account of the public debt, revenues, and expenditures of the United States, with a brief review of the trade, agriculture, and manufacture of the Colonies previous to their independence, and a table illustrative of the principles and objects of the work." A third edition, published at New Haven in 1835, had the following subtitle: "Including account of banks, with that of revenues and expenditures, of general government." This volume contains statistics up to 1833 on foreign trade, fisheries, government receipts and expenditures, and internal commerce. The text also contains many notes of historical interest relating to the railroads, canals, trade, and industry.

<sup>6</sup> The full title is "Statistical Annals, embracing views of population, commerce, navigation, fisheries, public lands, post-office establishment, revenues, mint, military and naval establishments, expenditures, public debt and sinking fund of United States, founded on official documents, commencing Mar. 4, 1789, and ending Apr. 20, 1818."

<sup>7</sup> The full title is "Tabular statistical views of population, commerce, navigation, public lands, post-office establishment, revenue, mint, military and naval establishments, expenditures and public debt of United States."

work, 1828, gave detailed statistics on exports and imports from 1821 to 1827, and general statistics on the operation of the government from 1818 to 1827. A continuation of this publication, issued in 1833 under the same title, brought the statistics to a later date.

In the period beginning approximately with 1893 and ending roughly with 1910, a mass of statistical material dealing with general business conditions appeared in the monthly publication of the Bureau of Statistics of the Treasury Department and the Bureau of Statistics of the Department of Commerce and Labor, known after June, 1898, as the "Monthly Summary of Commerce and Finance."\* Owing to the comprehensive character of this material and to the fact that the same information was not published continuously throughout the period it is difficult to characterize it in general terms. When this publication had its widest scope it included statistics on practically every subject on which authoritative figures could be secured, the emphasis being on commercial and financial statistics, as reflecting economic conditions. The subjects included public debt, currency, government receipts and disbursements, trade of foreign countries, prices, bank clearings, interest rates, and commercial failures. From 1900 to 1912 it contained monthly reports on internal commerce, which are discussed on page 418. The student of economic conditions in the period from the early nineties to approximately 1910 would do well to consult the "Monthly Summary of Commerce and Finance" in order to ascertain whether it contains material on the particular topic in which he is interested.

\* For titles of this publication at various dates, see page 354.

## CHAPTER III

### POPULATION IN GENERAL

Statistics of population have been collected every tenth year beginning with 1790. Up to and including the Census of 1900 the organization was built up every tenth year, but since the creation of the Bureau of the Census as a permanent organization in 1902, the work has been entirely under that Bureau.

The collection of population statistics is expressly authorized by Section 2 of Article I of the Constitution, which provides that "the actual enumeration shall be made within three years after the first meeting of the Congress of the United States, and within every subsequent term of ten years in such manner as they shall by law direct." The primary purpose of the collection of population statistics, as contemplated by the Constitution, is the determination of the number of members of the House of Representatives from each state. Section 2 of Article I, before it was changed by the Fourteenth Amendment, provided that the apportionment of Representatives should be determined by "adding to the whole number of free persons, including those bound to service for a term of years, and excluding Indians not taxed, three-fifths of all other persons." For this purpose a simple count of the number of free-men and slaves would have been sufficient, but even at the first census, provision was made for obtaining the number of females and the number of white males over and under sixteen years of age. Since the middle of the nineteenth century the population schedule has gradually expanded to include a wide range of information on age, sex, color, nativity, marital condition, etc.

The titles of the reports of the several censuses giving statistics on population are as follows:<sup>1</sup>

First Census: 1790. Return of the whole number of persons within the several districts of the United States.

Second Census: 1800. Return of the whole number of persons within the several districts of the United States.

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<sup>1</sup> A volume entitled "Statistical View of the Population of the United States, 1790-1830," published in 1834 as Senate Document 505, 23d Congress, 1st session, is a résumé of statistics of the first five censuses.

- Third Census: 1810. Aggregate amount of each description of persons within the United States of America, and the territories thereof.
- Fourth Census: 1820. Census for 1820.
- Fifth Census: 1830.  
Fifth Census or enumeration of the inhabitants of the United States.  
Abstract of returns of Fifth Census.
- Sixth Census: 1840.  
Sixth Census or enumeration of the inhabitants of the United States.  
Compendium of the enumeration of the inhabitants and statistics of the United States.
- Seventh Census: 1850.  
Seventh Census of the United States.  
Statistical view of the United States—Compendium of the Seventh Census.  
Abstract of the Seventh Census.
- Eighth Census: 1860.  
Population of the United States in 1860.  
Preliminary report on the Eighth Census.  
Statistics of the United States in 1860 [Abstract].
- Ninth Census: 1870.  
Population and social statistics.  
Compendium of the Ninth Census.  
Statistical atlas of the United States.
- Tenth Census: 1880.  
Vol. I. Population of the United States.  
Compendium of the Tenth Census. Parts I and II.  
Vol. VIII. The newspaper and periodical press; Alaska; seal islands; ship-building. [Contains statistics on population of Alaska.]
- Eleventh Census: 1890.  
Population of the United States, Parts I and II.  
Compendium of the Eleventh Census, Parts I-III.  
Abstract of the Eleventh Census.  
Statistical atlas of the United States.  
Population and resources of Alaska.
- Twelfth Census: 1900.  
Vols. I and II. Population.  
Supplementary analysis and derivative tables.  
Abstract of the Twelfth Census.  
Statistical atlas.
- Intercensal publications.  
Census of the Philippine Islands, 1903.  
Population of Oklahoma and Indian Territory, 1907.  
Census of Cuba, 1907.  
A century of population growth, 1790 to 1900.
- Thirteenth Census: 1910.  
Vol. I. General report and analysis.  
Vols. II and III. Reports by states, with statistics for counties, cities and other civil divisions.  
Abstract of the Census.  
Statistical atlas of the United States.



**Intercensal publications.**

Special census of the population of Tulsa, Okla., April 15, 1915.

Special census of the population of Hamtramck, Mich., June 25, 1915.

Special census of the population of Highland Park, Mich., November 15, 1915.

Special census of the population of St. Clair Heights, Mich., November 18, 1915.

Special census of the population of Hastings, Nebr., December 13, 1915.

Special census of the population of El Paso, Tex., January 15, 1916.

**Fourteenth Census: 1920.**

Vol. I. Number and distribution of inhabitants.

Vol. II. General report and analytical tables.

Vol. III. Composition and characteristics of the population, by states. Monographs.<sup>2</sup>

Increase of population in the United States, 1910-1920, by W. S. Rossiter.

Mortgages on homes in the United States.

School attendance in 1920, by Frank A. Ross.

**Special publications:**

The woman home-maker in the city, by Bertha M. Nienburg.

Abstract of the Fourteenth Census of the United States, 1920.

The reports listed above include only those dealing with the number, distribution, and characteristics of inhabitants, the more detailed reports for each census being given first; other reports are described under appropriate headings. The abstracts, compendia, and atlases contain only condensed material. Many of the chapters of the volumes of the Thirteenth and Fourteenth censuses were reprinted separately, there being also for these censuses separate pamphlets containing statistics for the several states. The reprints and state bulletins are not listed separately, as the material contained in them is given in the final reports.

**GENERAL REVIEW**

**Method of Collecting Statistics.** In order to obtain information regarding every person, the country is divided into supervisors' districts, which in turn are subdivided into enumeration districts, the count in each enumeration district being made by a designated enumerator. At the Census of 1920 the enumerator used a large sheet with space for data for fifty individuals, there being twenty-eight columns to be filled in, of which three were for purposes of

<sup>2</sup>The following monographs have been announced but have not been published as this volume goes to press: Immigrants and their children, by Niles Carpenter; Marital condition, by William F. Ogburn; Farm population, by Leon E. Truesdell.

identification and twenty-five were statistical inquiries, the headings of the sheet being substantially as follows

**Place of abode.**

1. Street, avenue, road, etc.
2. House number or farm.
3. Number of dwelling house in order of visitation.
4. Number of family in order of visitation.
5. Name of each person whose place of abode was in this family.

**Relation.**

6. Relationship of person enumerated to head of the family.

**Tenure.**

7. Home owned or rented.
8. If owned, free or mortgaged.

**Personal description.**

9. Sex.
10. Color or race.
11. Age at last birthday.
12. Single, married, widowed or divorced.

**Citizenship.**

13. Year of immigration to the United States.
14. Naturalized or alien.
15. If naturalized, year of naturalization.

**Education.**

16. Attended school any time since September 1, 1919.
17. Whether able to read.
18. Whether able to write.

**Nativity and mother tongue.**

**Person enumerated.**

19. Place of birth.
20. Mother tongue.

**Father of person enumerated.**

21. Place of birth.
22. Mother tongue.

**Mother of person enumerated.**

23. Place of birth.
24. Mother tongue.

**Ability to speak English.**

25. Is person enumerated able to speak English?

**Occupation.**

26. Trade, profession, or particular kind of work done.
27. Industry, business or establishment in which at work.
28. Employer, salary or wage worker, or working on own account.

While the enumeration extends over several weeks the census is taken as of a particular date, all persons dying between the census date and the actual enumeration being counted and all born in the same period being disregarded. The census dates at the several censuses were the first Monday in August from 1790 to 1820; June 1 from 1830 to 1900; April 15 in 1910; and January 1 in 1920.

**Area Included in Enumerations.** The census of 1890 was the first one which made a complete enumeration of the area now comprised within the boundaries of the forty-eight states and the District of Columbia. As the primary purpose of the census was to determine the representation in the House of Representatives, the territories and unorganized district were omitted from the earlier censuses. These, however, were sparsely settled. The areas over which the United States exercised jurisdiction at the several censuses, but which were not covered by the enumeration were as follows :

- 1790. Northwest Territory (comprising Ohio, Indiana, Illinois, Michigan, Wisconsin, and parts of Minnesota and North Dakota), Alabama, and Mississippi.
- 1800. Alabama and Mississippi, except southern portion which comprised the territory of Mississippi.
- 1810. The portion of the Louisiana purchase not included in the present states of Louisiana, Arkansas, and Missouri.
- 1820. Florida and the portion of the Louisiana purchase not included in the present states of Louisiana, Arkansas, and Missouri.
- 1830. Portion of Louisiana purchase not included in present states of Louisiana, Arkansas, and Missouri.
- 1840. Portion of Louisiana Territory not included in present states of Louisiana, Arkansas, Missouri, Iowa, Minnesota, and parts of North and South Dakota.
- 1850. Arizona, portion of Oregon Territory embraced in Idaho and parts of Montana and Wyoming, and the portion of the Louisiana purchase not included in the present states of Louisiana, Arkansas, Missouri, Iowa, Minnesota, and parts of North and South Dakota.
- 1860, 1870, and 1880. Oklahoma, then Indian Territory.

For noncontiguous territory the enumerations were made for the first time as follows: Alaska, 1880; Hawaii, 1900; Porto Rico, 1910; Guam, American Samoa, and Panama Canal Zone, 1920.

In using the earlier statistics it must be borne in mind that the areas of many of the territories were much larger than the present states of the same names.<sup>3</sup>

**Scope of Reports of Fourteenth Census.** The discussion below refers to the Fourteenth Census (1920). Practically the same information is given in the reports of other recent censuses, but the

<sup>3</sup>For an account of the changes in the boundaries, see Bulletin 689, U. S. Geological Survey, Boundaries, areas, geographic centers, and altitudes of the United States and the several states, by E. M. Douglas.

earlier volumes give much less detail,<sup>4</sup> and the arrangement is materially different.

Volume I of the Fourteenth Census contains much material that was scattered through Volumes II and III of the Thirteenth Census. It contains statistics of the number of inhabitants by states, counties, cities, and minor civil divisions, without regard to sex, age, race, or other classifications. The person who desires population figures only will find in Volume I of the Fourteenth Census all the data except those relating to the outlying possessions, which are given in Volume III.

Volume II of the Fourteenth Census, which corresponds in general with Volume I of the Thirteenth Census, contains analytical tables showing the composition and character of the population, with the exception of the outlying possessions, treated in Volume III. The topics in Volume II are indicated by the chapter headings, which are as follows :

1. Color, race, nativity or parentage.
2. Sex distribution.
3. Age distribution.
4. Marital condition.
5. State of birth of native population.
6. Country of birth of foreign born population.
7. Year of immigration of foreign born population.
8. Citizenship of the foreign born population.
9. Country of origin of the foreign white stock.
10. Mother tongue of the foreign white stock.
11. School attendance.
12. Illiteracy.
13. Inability to speak English.
14. Dwellings and families.
15. Ownership of homes.
16. General statistics of population by counties.

Volume III is divided into separate sections relating to the Continental United States, each state, the District of Columbia, and each of the outlying possessions. The section on the Continental United States is divided as follows :

Table 1. Color or race, nativity, parentage, and sex for the United States and urban and rural population, 1920, 1910, and 1900.

Table 2. School attendance, for the United States and urban and rural population, 1920 and 1910.

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<sup>4</sup>The inquiries made at each census from 1790 to 1890 are given in the volume entitled *History and growth of the United States Census*, by Wright and Hunt, issued as Senate Doc. 104, 56th Congress, 1st Session. The author has no knowledge of any publication showing the methods of classifying the data in the reports of the several censuses.

- Table 3. Age, for the United States and urban and rural population, 1920 and 1910.
- Table 4. Illiteracy, for the United States and urban and rural population, 1920 and 1910.
- Table 5. Population 21 years of age and over and population 18 to 44 years, by sex, class of population, and citizenship, for the United States, 1920 and 1910.
- Table 6. Country of birth of the foreign-born white, for the United States, 1920 and 1910.
- Table 7. Color or race and nativity, with parentage and sex for the native white population, for divisions and states, 1920.
- Table 8. Total, native white, foreign-born white, and negro population, with decennial increase, for divisions and states, 1920 and 1910.
- Table 9. Age, for divisions, 1920 and 1910, and for states, 1920.
- Table 10. Composition and characteristics of the population, for divisions and states, 1920.
- Table 11. Composition and characteristics of the population, for cities of 100,000 or more, 1920.
- Table 12. Country of birth of the foreign-born white, for divisions and states, 1920.
- Table 13. Country of birth of the foreign-born white, for cities of 100,000 or more, 1920.

Each of the sections on the states contains the following tables prepared according to a uniform plan :

- Table 1. Color or race, nativity, parentage, and sex, for the state and urban and rural population, 1920, 1910, and 1900.
- Table 2. School attendance, for the state and urban and rural population, 1920 and 1910.
- Table 3. Age, for the state and urban and rural population, 1920 and 1910.
- Table 4. Illiteracy, for the state and urban and rural population, 1920 and 1910.
- Table 5. Population 21 years of age and over, by sex, class of population, and citizenship, for the state, 1920 and 1910.
- Table 6. Country of birth of the foreign-born white, for the state and principal cities, 1920.
- Table 7. Indians, Chinese, and Japanese, for counties and cities, 1920, 1910, and 1900.
- Table 8. Age, for cities of 10,000 or more, 1920.
- Table 9. Composition and characteristics of the population, for counties, 1920.
- Table 10. Composition and characteristics of the population, for cities of 10,000 or more, 1920.
- Table 11. Composition and characteristics of the population, for places of 2500 to 10,000, 1920.
- Table 12. Country of birth of the foreign-born white, for counties and for cities of 10,000 or more, 1920.
- Table 13. Composition and characteristics of the population, for wards of cities of 50,000 or more, 1920.

The details shown in each volume are indicated in the schedules of statistics on each topic given on later pages of this chapter.

In addition supplemental detailed tables are given in Volume III for the Indians in Arizona, California, Idaho, Michigan, Montana, Nebraska, Nevada, New Mexico, North Dakota, Oklahoma, Oregon, South Dakota, Utah, Washington, Wisconsin, and Wyoming and for the Chinese and Japanese population in California, Oregon, and Washington. An analysis of the special statistics relating to these races is given in Chapter IV.

At the end of Volume III are the sections relating to the outlying possessions—Alaska, Hawaii, Porto Rico, Guam, American Samoa, and Panama Canal Zone. In general, the statistics in these sections are similar to those for the states, although there are variations owing to the peculiar conditions in each one. Analyses of these statistics are given in Chapter XXXIV.

The census reports prior to those of 1920 contained considerable analytical and interpretative text in the volumes containing the statistics. The reports of the Census of 1920 giving statistics of population contain the tables only, the analysis of the figures being contained in the monographs listed on page 17.

As a rule the total figures apply only to the Continental United States and do not include the outlying possessions and territories of Alaska, Hawaii, Porto Rico, Guam, Samoa, and the Panama Canal Zone. Some of the general tables on the number of inhabitants contain figures for Alaska, Hawaii, and Porto Rico, but generally statistics for these territories are given only in the separate tables relating to them. Statistics on the Philippines have never been collected by the decennial census.

**Units of Tabulation.** The primary classification which is applied to all census statistics is geographic, figures being given for divisions, states, counties, urban and rural districts, metropolitan areas, cities and adjacent territory, incorporated places of 2500 population or more, minor civil divisions, and wards of cities having 500 population or over. No definition is needed for states, cities, counties, and wards, as these terms have their usual significance. Geographic divisions, which are referred to in this volume as divisions, embrace groups of contiguous states, which are for the most part fairly homogeneous physically as well as in the charac-

teristics of their population and in social and economic conditions, the states in each division being as follows :

New England.	West North Central—	West South Central.
Maine.	<i>Cont'd</i>	Arkansas.
New Hampshire.	North Dakota.	Louisiana.
Vermont.	South Dakota.	Oklahoma.
Massachusetts.	Nebraska.	Texas.
Rhode Island.	Kansas.	Mountain.
Connecticut.	South Atlantic.	Montana.
Middle Atlantic.	Delaware.	Idaho.
New York.	Maryland.	Wyoming.
New Jersey.	District of Columbia.	Colorado.
Pennsylvania.	Virginia.	New Mexico.
East North Central	West Virginia.	Arizona.
Ohio.	North Carolina.	Utah.
Indiana.	South Carolina.	Nevada.
Illinois.	Georgia.	Pacific.
Michigan.	Florida.	Washington.
Wisconsin.	East South Central.	Oregon.
West North Central.	Kentucky.	California.
Minnesota.	Tennessee.	
Iowa.	Alabama.	
Missouri.	Mississippi.	

In the census statistics the urban population is that living in cities and other incorporated places having 2500 inhabitants or more, and in towns of that size in Massachusetts, New Hampshire, and Rhode Island. The population residing in other places is classed

STATISTICS OF FARM POPULATION IN REPORTS OF FOURTEENTH CENSUS

Classification	Volume V	Abstract
Race, color, and nativity.		
Native white .....	×	×
Native parentage .....	×	×
Foreign parentage .....	×	..
Mixed parentage .....	×	..
Foreign and mixed parentage.....	..	×
Foreign-born white .....	×	×
Colored .....	×	×
Negro .....	×	..
Indian .....	×	..
Chinese .....	×	..
Japanese .....	×	..
Age.		
Under 10 years.....	×	×
10 to 20 years.....	×	×
21 years and over.....	×	×
Sex .....	×	×

as rural. It should be borne in mind that the figures for the rural population do not indicate the persons living on farms, as the rural population in the census statistics includes persons in towns and villages with a population of less than 2500. At the Fourteenth Census for the first time a count was made of the persons actually living on farms. In that year out of a total rural population of 51,406,017, only 31,614,269, were reported as living on farms; these figures include persons of all ages regardless of whether they were actually engaged in the farm work or not. Volume V of the Reports of the Fourteenth Census ("Agriculture: General Report and Analytical Tables") and the "Abstract of the Census" contain statistics of farm population by states according to the classification on the preceding page.

Minor civil divisions comprise the units into which counties or equivalent divisions are divided, and which are known as towns, townships, precincts, districts, etc. Incorporated places include those communities which have defined boundaries and which have been made municipal corporations under general or special state laws. Incorporated places include cities, although in the census reports special tables are given for the larger places to which the term city is usually applied.

Other classifications relating to the characteristics of the population are the following:

- Color or race, nativity and parentage.
- Sex.
- Age.
- Marital condition.
- School attendance.
- Illiteracy.
- State of birth of native population.
- Country of birth of foreign-born population.
- Year of immigration of foreign-born.
- Citizenship of foreign-born.
- Country of origin of foreign white stock.
- Mother tongue of foreign white stock.
- Inability to speak English.
- Dwellings and families.
- Ownership of homes.

The several classifications relating to characteristics are used in connection with the geographic classification and in connection with one another. On succeeding pages each of the classifications relating to characteristics is discussed under an appropriate heading and the combinations of the several classifications are indicated.



## CLASSIFICATION OF THE POPULATION

**Number of Inhabitants.** All of the figures showing the geographic distribution of the population without regard to their characteristics are given in Volume I of the reports of the Fourteenth Census, but the other volumes contain many tabulations which will serve the purpose of many students. The schedule below indicates the distribution of the statistics of number of inhabitants through the several volumes.

SCHEDULE SHOWING STATISTICS OF NUMBER OF INHABITANTS IN THE SEVERAL VOLUMES OF THE FOURTEENTH CENSUS.\*

Classification	Vol. I	Vol. II	Vol. III	Abstract	Monograph-I
United States.					
Total .....	X	X	X	X	X
Per square mile.....	X	:	:	X	X
Urban and rural.....	X <sup>b</sup>	X	X	X	X
Urban.					
Aggregate of cities of over 25,000. ....	..	..	..	..	X
Aggregate for each of the following classes of communities: 2,500 to 25,000; 25,000 to 100,000; over 100,000 .....	X	..	..	..	..
Aggregate for each of the following classes of communities: 2,500 to 5,000; 5,000 to 10,000; 10,000 to 25,000; 25,000 to 100,000; 100,000 or more .....	X	..	..	X	..
Aggregate for each of the following classes of communities: 2,500 to 10,000; 10,000 to 25,000; 25,000 to 100,000; 100,000 to 500,000; 500,000 and over .....	..	X	..	..	..
Aggregate for each of the following classes of communities: 2,500 to 5,000; 5,000 to 10,000; 10,000 to 25,000; 25,000 to 50,000; 50,000 to 100,000; 100,000 to 250,000; 250,000 to 500,000; 500,000 to 1,000,000; 1,000,000 or over.....	X	..	X	..	..

\* Rural subdivided into those in incorporated places and these in unincorporated places.

<sup>b</sup>The classification items in the schedules in this volume are not the table headings, as some of the items are shown in several tables. Thus in Volume III, the statistics of incorporated places of over 2,500 are given in two tables—"2,500 to 10,000" and "10,000 and more"; these tables are shown by one entry, "incorporated places of 2,500 or more."

SCHEDULE SHOWING STATISTICS OF NUMBER OF INHABITANTS IN THE SEVERAL VOLUMES OF THE FOURTEENTH CENSUS—*Continued*

Classification	Vol. I	Vol. II	Vol. III	Abstract	Mono-graph-I
<b>Divisions.</b>					
Total .....	X	X	X	X	X
Per square mile.....	X	..	..	X	..
Urban and rural.....	X <sup>a</sup>	X	..	X	X
<b>Urban.</b>					
Aggregate of cities of over 25,000.....	..	..	..	..	..
Aggregate for each of the following classes of communities: 2,500 to 25,000; 25,000 to 100,000; over 100,000 .....	X	..	..	..	X
Aggregate for each of the following classes of communities: 2,500 to 5,000; 5,000 to 10,000; 10,000 to 25,000; 25,000 to 100,000; 1,000,000 or more .....	X	..	..	X	..
Aggregate for each of the following classes of communities: 2,500 to 10,000; 10,000 to 25,000; 25,000 to 100,000; 100,000 to 500,000; 500,000 and over .....	..	X	..	..	..
<b>States.</b>					
Total of each state.....	X	X	X	X	X
Per square mile.....	X	..	..	X	..
Urban and rural.....	X <sup>a</sup>	X	X	X	X
<b>Urban.</b>					
Aggregate of cities of over 25,000.....	..	..	..	..	X
Aggregate for each of the following classes of communities: 2,500 to 25,000; 25,000 to 100,000; over 100,000 .....	X	..	..	..	X
Aggregate for each of the following classes of communities: 2,500 to 10,000; 10,000 to 25,000; 25,000 to 100,000; 100,000 and over.....	..	X	..	..	..
Aggregate for each of the following classes of communities: 2,500 to 5,000; 5,000 to 10,000; 10,000 to 25,000; 25,000 to 100,000; 100,000 or more .....	X	..	..	X	..
<b>Counties.</b>					
Total .....	X	X	X	X	..
Urban and rural.....	X	..	..	..	..
Per square mile.....	X	..	..	X	..
Metropolitan districts adjacent to cities of 200,000 or more.....	X	..	..	X	..

<sup>a</sup> Rural subdivided into those in incorporated places and those in unincorporated places.

SCHEDULE SHOWING STATISTICS OF NUMBER OF INHABITANTS IN THE SEVERAL VOLUMES OF THE FOURTEENTH CENSUS—*Continued*

Classification	Vol. I	Vol. II	Vol. III	Abstract	Monograph-I
Cities and adjacent territory for cities of 100,000 to 200,000.....	×	..	..	×	..
Cities and incorporated places.					
Cities of 100,000 or more.....	×	×	×	×	×
Cities of 25,000 or more.....	×	×	×	×	..
Incorporated places of 2,500 or more..	×	..	×	×	..
All incorporated places.....	×	..	..	..	..
Wards.					
Cities of 50,000 or more.....	×	..	×	..	..
Cities of 5,000 or more.....	×	..	..	..	..
Minor civil divisions.....	×	..	..	..	..

For intercensal years the Bureau of the Census makes estimates of the population which are published from time to time. These estimates are based on the figures of two succeeding censuses and assume that the increase was the same each year during the period between the two censuses. The average annual increase of the preceding decade is applied to the latest census figures in order to obtain figures for each year after the latest census. In the case of cities and counties allowance is also made for an increase or decrease in the area of the unit. While this method on the whole probably gives better results than any other one, it is subject to a considerable margin of error, as it spreads the increase over the entire ten-year period, when by far the greater part of the increase may have been within a portion of the decade.

With the exception of changes in area the only data necessary to compute increases for any civil division are the population figures for two succeeding censuses. However, attention must be given to the fact that the interval between two censuses is not always exactly ten years; the census for 1910 was taken as of April 15, and that of 1920 as of January 1.

The latest publication containing estimates is entitled "Estimates of Population of the United States, by States and Cities, 1910 to 1923." For states and for municipalities with a population over 8,000 in 1920 this publication gives the figures of the censuses of 1910 and 1920 and estimates for July 1 of each year from 1910

to 1923. For counties it gives the figures of the censuses of 1910 and 1920 and estimates for July 1 of each year from 1920 to 1923. The white and colored population in 1920 and the estimated figures for July 1, 1920 to 1923, are given for each state and for each city of over eight thousand population in 1920 having ten thousand or more colored or at least 10 per cent colored population.

Volume I of the Fourteenth Census contains also data on the density of population, the center of population, the median point, and the median lines.

Monograph I of the Fourteenth Census (1920), "Increase of Population in the United States, 1910-1920," by W. S. Rossiter, contains a discussion of the following aspects of the distribution of inhabitants:

- Growth of population before the Fourteenth Census.
- Increase of population in nation and states.
- States which increased slightly, or decreased in population.
- County increase or decrease.
- Rural and urban increase or decrease.

**Color or Race, Nativity, and Parentage.** In the reports of the Fourteenth Census summary statistics on color, race, nativity, and parentage are given in Volume II, and more detailed figures are presented in Volume III. Color, race, nativity, and parentage are also used as subordinate classifications in the statistics by sex, age, marital condition, illiteracy, school attendance, occupation, births, and deaths. Schedules showing the statistics are given in the sections of this volume devoted to these topics.

Color and race form one unit in the classification, being subdivided into white, negro, Indian, Chinese, Japanese, and "all other." Negroes are divided into black and mulatto. Nativity indicates whether born in the United States or in a foreign country. The statistics on parentage apply only to native whites and differentiate between the three following classes: (1) Natives of native parentage—both the father and mother having been born in the United States; (2) natives of foreign parentage—both parents having been born in a foreign country; and (3) natives of mixed parentage—one parent having been born in the United States and one in a foreign country. In some tables the foreign and mixed are combined. The four classifications—native white of native parentage, native white of foreign or mixed parentage, foreign born

white, and negro—are used as subdivisions of practically every other main classification.

The following comment on the statistics by color, nativity, or parentage is quoted from the reports of the Census of 1910.<sup>6</sup>

. . . There seems little doubt that a certain number of the foreign born are reported as native born of foreign parentage, or even as native born of native parentage in some cases, and that a certain number of native whites of foreign parentage or of mixed native and foreign parentage are reported as natives of pure native parentage. Errors in the opposite direction are probably comparatively rare. Consequently, since these errors are largely confined to the adult population, there is probably to some extent an understatement of the number of adults among the foreign-born whites and an overstatement of the number among the native whites of native parentage. It may readily be, however, that the native whites of foreign or mixed parentage gain from the foreign born about as many as they lose to the natives of native parentage.

Statistics are given for the usual geographic units and in addition there are two groupings of urban communities showing the aggregate population of all cities of certain sizes. These groupings, which are here called "Urban groupings A and B," although the designations are not used in the census reports, include figures for the aggregate of all cities of the following sizes.

A: 2,500 to 10,000; 10,000 to 25,000; 25,000 to 100,000; 100,000 to 500,000; 500,000 and over.

B: 2,500 to 10,000; 10,000 to 25,000; 25,000 to 100,000; 100,000 and over.

The distribution of the statistics through the several volumes is indicated by the schedule on pages 30 and 31.

<sup>6</sup>Thirteenth Census, Vol. I, p. 297.

<sup>7</sup>This source of error is augmented somewhat by the practice of the Census Bureau in counting as native of native parentage all persons for whom the enumerators make no return as to place of birth and parentage, or whom they return as born in the United States, without stating the place of birth of the parents. Such cases are, however, relatively few.—Note is part of quotation.

SCHEDULE OF FOURTEENTH CENSUS STATISTICS WITH COLOR, RACE, NATIVITY,  
AND PARENTAGE AS THE MAIN CLASSIFICATION.

Geographic units	Race or color				Nativity	
	White	Negro	Indian, Chinese, Japanese and all other		Native	Foreign
			Divided <sup>a</sup>	Not divided <sup>b</sup>		
United States—Vol. II, Chap. I; Vol. III; Abstract .....	X	X*	X	..	X	X
Divisions and states—Vol. II, Chap. I; Vol. III; Abstract.....	X	X	X	..	X	X
Counties—Vol. III .....	..	X	X	..	..	..
Cities of 100,000 or more.						
Vol. II, Chap. I; Abstract.....	X	X	X	..	X	X
Vol. III .....	..	X	..	X	..	..
Cities from 25,000 to 100,000.						
Vol. II, Chap. I.....	X	X	..	X	..	..
Abstract .....	X	X	..	..	..	..
Cities of 25,000 or more—Vol. II, Chap. I; Vol. III.....	..	..	X	..	..	..
Cities of 2,500 or over—Vol. III.....	..	X	..	X	..	..
Selected cities <sup>d</sup> —Vol. II, Chap. I....	..	X	..	..	..	..
Wards of cities of 50,000 and over—Vol. III .....	..	X	..	X	..	..
Urban and rural.						
United States.						
Vol. II, Chap. I.....	X	X	X	..	..	..
Vol. III .....	X	X	..	X	..	..
Abstract .....	..	X	..	X	..	..
Divisions.						
Vol. II, Chap. I.....	X	X	X	..	..	..
Abstract .....	..	X	..	X	..	..
States.						
Vol. II, Chap. I.....	X	X	X	..	..	..
Vol. III .....	X	X	..	X	..	..
Abstract .....	..	X	..	X	..	..
Urban grouping A—United States and divisions—Vol. II, Chap. I	X	X	..	X	..	..
Urban grouping B—States—Vol. II, Chap. I .....	X	X	X	..	..	..

<sup>a</sup> Chinese, Japanese, and Indian shown separately; see also Chapter IV for additional references to statistics on these races.

<sup>b</sup> Chinese, Japanese, and Indian not shown separately.

<sup>c</sup> Also subdivided into black and mulatto.

<sup>d</sup> Cities in which the total population was at least 10,000 and in which the negro population was at least 5000 or was at least 10 per cent of the total population.

SCHEDULE OF FOURTEENTH CENSUS STATISTICS WITH COLOR, RACE, NATIVITY,  
AND PARENTAGE AS THE MAIN CLASSIFICATION—*Continued*

Geographic units	White population by nativity and parentage					
	Foreign born	Native white				
		Total	Native parentage	Foreign parentage	Mixed parentage	Foreign and mixed parentage
United States and divisions—Vol. II, Chap. 1; Vol. III; Abstract.....	×	×	×	×	×	..
States.						
Vol. II, Chap. 1; Vol. III.....	×	×	×	×	×	..
Abstract .....	×	×	×	×	×	×
Counties—Vol. III .....	×	×	×	×	×	..
Cities of 100,000 or more.						
Vol. II, Chap. 1; Vol. III.....	×	×	×	×	×	..
Abstract .....	×	×	×	×	×	×
Cities from 25,000 to 100,000.						
Vol. II, Chap. 1.....	×	×	×	×	×	..
Abstract .....	×	..	×	×	×	..
Cities of 10,000 or more—Vol. III.....	×	×	×	×	×	..
Places from 2,500 to 10,000—Vol. III.....	..	..	×	..	..	×
Wards of cities of 50,000 and over—						
Vol. III .....	×	×	×	×	×	..
Urban and rural.						
United States.						
Vol. II, Chap. 1.....	×	×	×	×	×	×
Vol. III .....	×	×	×	×	×	..
Abstract .....	×	..	×	..	..	×
Divisions.						
Vol. II, Chap. 1.....	×	×	×	×	×	×
Abstract .....	×	..	×	..	..	×
States.						
Vol. II, Chap. 1.....	×	×	×	×	×	×
Vol. III .....	×	×	×	×	×	..
Abstract .....	×	..	×	..	..	×
Urban grouping A—United States and divisions—Vol. II, Chap. 1.....	×	×	×	×	×	×
Urban grouping B—States—Vol. II, Chap. 1 .....	×	×	×	×	×	..

**Sex.** The following comment on the statistics of sex distribution is taken from the report of the Census of 1920:\*

\* Fourteenth Census, Vol. II, 1920, p. 103.

The returns as to sex are probably more nearly accurate than those for any other population census inquiry. There is no ambiguity of terms, and rarely any motive to misrepresent the facts; and very few errors are likely to be made regarding the sex of persons enumerated. It is possible, of course, that the sex distribution shown by the returns may be affected slightly by omissions or duplications which may be relatively more numerous for one sex than for the other, but it is not believed that these errors are of sufficient frequency to influence appreciably the sex ratio for the total population of all races or for the total white population.

For the several classes of the white population, however, there is likely to be a margin of error due to incorrect returns as to nativity and parentage. It is not improbable that some persons of foreign birth are erroneously reported as of native birth, or even as of native parentage, and that some persons of native birth but of foreign or mixed parentage are erroneously included with those of native parentage. Such errors are more likely to occur in the case of males than in the case of females, for the reason that the former predominate among the foreign born and among the floating population, for both of which classes accurate information is difficult to obtain.

In the reports of the Fourteenth Census, the general tables in which the sex distribution is shown are given in Volume II and statistics for more specific areas are given in Volume III. In the tables in which sex is used as a primary classification the subdivision is by geographic units and by race, nativity, and color. There are two groupings of urban communities showing the aggregate population of all cities of certain sizes. These groupings, which are here called A and B, although these designations are not used in the census reports, include figures for the aggregate of all cities of the following sizes:

A—2,500 to 10,000; 10,000 to 25,000; 25,000 to 100,000; 100,000 to 500,000; 500,000 and over.

B—2,500 to 10,000; 10,000 to 25,000; 25,000 to 100,000; 100,000 and over.

The table on pages 33 and 34 shows the statistics in the census reports in which sex is used as the primary classification.

Sex is also used as a secondary classification in connection with other main classifications of census and other statistics. Additional statistics pertaining to sex of certain classes are analyzed under the following headings and on the pages cited:

Age, pages 34-39.

Marital condition, pages 39-42.



- Illiteracy, pages 47-54.
- Inability to speak English, page 54.
- Country of birth, pages 58-60.
- Year of immigration of foreign born, pages 66-67.
- School attendance, pages 42-47.
- Occupations, pages 106-114.
- Citizenship of foreign born, pages 64-66.
- Negroes, Indians, Chinese and Japanese, pages 71-77.
- Dependents, defectives, and delinquents, pages 78-85.
- Immigrants and emigrants, pages 87-105.
- Births, pages 115-117.
- Deaths, pages 118-137.
- Farm operators, page 187.

SCHEDULE OF FOURTEENTH CENSUS STATISTICS BY SEX AS A PRIMARY CLASSIFICATION

Geographic units	Total white	Native white				
		Total	Native percentage	Foreign percentage	Mixed percentage	Foreign and mixed percentage
United States.						
Vol. II, Chap. 2; Abstract.....	×	×	×	×	×	×
Vol. III .....	×	×	×	×	×	..
Divisions.						
Vol. II, Chap. 2; Abstract.....	×	..	×	×	×	..
Vol. III .....	..	..	×	×	×	..
States.						
Vol. II, Chap. 2; Abstract.....	×	..	×	×	×	..
Vol. III .....	×	×	×	×	×	..
Counties—Vol. III .....	..	×	..	..	..	..
Cities of 100,000 and over.						
Vol. II, Chap. 2; Abstract.....	×	..	×	×	×	..
Vol. III .....	..	×	..	..	..	..
Cities of 25,000 and over—Vol. II, Chap. 2.	×	×	×	×	×	×
Cities of 10,000 and over—Vol. III.....	..	×	..	..	..	..
Cities of 25,000 to 100,000—Abstract.....	..	×	..	..	..	..
Wards of cities of 50,000 and over—Vol. III	..	×	..	..	..	..
Urban and rural.						
United States.						
Vol. II, Chap. 2.....	×	×	×	×	×	×
Vol. III .....	×	×	×	×	×	..
Divisions—Vol. II, Chap. 2.....	×	×	×	×	×	×
States—Vol. III.....	×	×	×	×	×	..
Urban grouping A—United States and divisions—Vol. II, Chap. 2.....	×	×	×	×	×	×

SCHEDULE OF FOURTEENTH CENSUS STATISTICS BY SEX AS A PRIMARY  
CLASSIFICATION—*Continued*

Geographic units	Foreign born white	Negro	Indian, Chinese, Japanese, and all other		All classes
			Divided <sup>a</sup>	Not divided <sup>b</sup>	
United States—Vol. II, Chap. 2; Vol. III; Abstract .....	×	×	×	..	×
Divisions.					
Vol. II, Chap. 2 .....	×	×	×	..	×
Abstract .....	×	×	..	..	×
States.					
Vol. II, Chap. 2; Vol. III .....	×	×	×	..	×
Abstract .....	×	×	..	..	×
Counties.					
Vol. II, Chap. 16 .....	..	..	..	..	×
Vol. III .....	×	×	..	..	×
Cities of 100,000 and over—Vol. II, Chap. 2; Vol. III; Abstract .....	×	×	..	..	×
Cities of 25,000 and over—Vol. II, Chap. 2	×	×	..	×	×
Cities of 10,000 and over—Vol. III .....	×	×	..	..	×
Cities of 25,000 to 100,000—Abstract .....	×	×	..	..	×
Places from 2,500 to 10,000—Vol. III .....	..	..	..	..	×
Wards of cities of 50,000 and over—Vol. III .....	×	×	..	..	×
Urban and rural.					
United States.					
Vol. II, Chap. 2; Vol. III .....	×	×	..	×	×
Abstract .....	..	..	..	..	×
Divisions.					
Vol. II, Chap. 2 .....	×	×	..	×	×
Abstract .....	..	..	..	..	×
States.					
Vol. II, Chap. 2; Abstract .....	..	..	..	..	×
Vol. III .....	×	×	..	×	×
Urban grouping A—United States and divisions—Vol. II, Chap. 2 .....	×	×	..	×	×
Urban grouping B—United States, divi- sions, and states—Vol. II, Chap. 2.	..	..	..	..	×

<sup>a</sup> Indian, Chinese, Japanese, and all other shown separately; see also Chapter IV for additional statistics on Indians, Chinese, and Japanese.

<sup>b</sup> Indian, Chinese, Japanese, and all other not shown separately.

**Age.** The primary classification by age shows single years, age periods, and age groups. Age is also used as a subordinate classification in the presentation of other statistics.

Statistics on males and females 21 years of age and over and 18 to 44 years of age are given in order to show the population of voting age and of militia age respectively. The statistics on persons of voting age represent the top limit of the number of persons who might be allowed to vote, but do not represent those actually entitled to vote, as the right of suffrage is restricted by limitations other than those of age.

The figures by single years show all persons of specific ages such as one year, two years, etc. The figures by age periods group the population in classes by five year intervals such as "under 5 years," "5 to 9 years," etc. Some tables give *broad* age groups, which are multiples of the age periods. In the tables showing broad age groups there are used five separate groupings, which in the schedule below are referred to as broad age groups A, B, C, D, and E, although these designations are not used in the census reports. The classification in each of these groups is as follows:

## BROAD AGE GROUPS IN AGE STATISTICS

Broad age group A.	Broad age group B—	Broad age group D.
Under 5 years.	<i>Cont'd</i>	Under 5 years.
5 to 14 years.	15 to 19 years.	5 to 9 years.
15 to 24 years.	20 to 24 years.	10 to 14 years.
25 to 44 years.	25 to 34 years.	15 to 19 years.
25 to 34 years.	35 to 44 years.	20 to 44 years.
35 to 44 years.	45 to 64 years.	45 years and over.
45 to 64 years.	65 years and over.	Broad age group E.
45 to 54 years.	Broad age group C.	Under 5 years.
55 to 64 years.	Under 5 years.	5 to 14 years.
65 years and over.	5 to 14 years.	15 to 24 years.
Broad age group B.	15 to 24 years.	25 to 34 years.
Under 5 years.	25 to 44 years.	35 to 44 years.
5 to 9 years.	45 to 64 years.	45 to 54 years.
10 to 14 years.	65 years and over.	55 to 64 years.
		65 years and over.

Separate figures for children under one year old are given in connection with practically every other classification.

The schedule on pages 36 to 38 indicates the classes of the population and the geographic units for which age is shown as a primary classification. The term "total" in the stub indicates that the figures do not differentiate between the sexes.

SCHEDULE OF CENSUS STATISTICS IN WHICH AGE IS THE PRIMARY  
CLASSIFICATION

Ages and geographic units	Total white	Native white				
		Total	Native percentage	Foreign percentage	Mixed percentage	Foreign and mixed percentage
<b>Single years of age.</b>						
1-100 years—United States—Male and female (Vol. II, Chap. 3).....	×	..	×	×	×	..
1-24 years—Divisions, states, and cities of 500,000 and over—Male and female (Vol. II, Chap. 3).....	..	..	×	×	×	..
1-5 years—Cities from 100,000 to 500,000—Male and female (Vol. II, Chap. 3).....	..	..	×	×	×	..
<b>Age periods.</b>						
United States—Male and female (Vol. II, Chap. 3; Abstract).....	×	..	×	×	×	..
Divisions, states, and cities of 100,000 and over—Male and female (Vol. II, Chap. 3) .....	..	..	×	×	×	..
<b>Broad age group A.</b>						
United States—Male and female (Vol. II, Chap. 3; Abstract).....	..	..	×	×	×	..
Divisions, states, and cities from 25,000 to 100,000—Total (Vol. II, Chap. 3)...	..	..	×	×	×	..
<b>Broad age group C—Cities of 100,000 or more—Total (Vol. II, Chap. 3; Abstract) .....</b>						
	..	..	×	×	×	..
<b>Broad age group D.</b>						
Divisions and states—Male and female (Vol. III) .....	..	..	×	..	..	×
Cities of 10,000 and over—Male and female (Vol. III) .....	..	×	..	..	..	..
<b>Urban and rural.</b>						
<b>United States and divisions.</b>						
Total (Abstract) .....	..	..	×	..	..	×
Male and female (Vol. II, Chap. 3)...	..	..	×	..	..	×
<b>States.</b>						
Total (Abstract) .....	..	×	..	..	..	×
Male and female (Vol. III).....	..	..	×	..	..	×
<b>Broad age group E—United States, divisions, and states—Total (Abstract).....</b>						
	..	..	×	×	×	..
<b>Voting age.</b>						
United States and divisions—Male and female (Vol. III).....	..	..	×	..	..	×
<b>States and counties.</b>						
Total (Vol. II, Chap. 16).....	..	×	..	..	..	..
Male and female (Vol. III).....	..	..	×	..	..	×
Places of 2,500 and over and wards of cities of 50,000 and over—Male and female (Vol. III).....	..	..	×	..	..	×

SCHEDULE OF CENSUS STATISTICS IN WHICH AGE IS THE PRIMARY CLASSIFICATION—*Continued*

Ages and geographic units	Foreign born white	Negro	Indian, Chinese, Japanese, and all other		All classes
			Divided <sup>a</sup>	Not divided <sup>b</sup>	
<b>Single years of age.</b>					
1-100 years—United States—Male and female (Vol. II, Chap. 3).....	×	×	×	..	×
1-24 years—Divisions, states, and cities of 500,000 and over—Male and female (Vol. II, Chap. 3).....	×	×	..	×	×
1-5 years—Cities from 100,000 to 500,000—Male and female (Vol. II, Chap. 3).....	×	×	..	×	×
<b>Age periods.</b>					
United States—Male and female (Vol. II, Chap. 3; Abstract).....	×	×	×	..	×
Divisions—Male and female (Vol. II, Chap. 3) .....	×	×	..	×	×
States—Male and female (Vol. II, Chap. 3) .....	×	×	× <sup>c</sup>	×	×
Cities of 100,000 and over—Male and female (Vol. II, Chap. 3).....	×	×	..	×	×
<b>Broad age group A.</b>					
United States—Male and female (Vol. II, Chap. 3; Abstract).....	×	×	×	..	×
Division and states—Total (Vol. II, Chap. 3) .....	×	×	..	×	×
<b>Broad age group B—Cities from 25,000 to 100,000—Male and female (Vol. II, Chap. 3).....</b>					
	×	×	..	×	×
<b>Broad age group C.</b>					
Cities of 100,000 and over—Total (Vol. II, Chap. 3; Abstract).....	×	×	..	..	×
Cities of 25,000 to 100,000—Total (Vol. II, Chap. 3; Abstract).....	..	..	..	..	×
<b>Broad age group D.</b>					
Divisions, states, and cities of 10,000 and over—Male and female (Vol. III) .....	×	×	..	..	×
<b>Urban and rural.</b>					
United States, divisions, and states.					
Total (Abstract) .....	×	×	..	..	×
Male and female (Vol. II, Chap. 3) .	×	×	..	..	×

<sup>a</sup> Indian, Chinese, Japanese, and all others shown separately; see also Chapter IV for additional statistics on Indians, Chinese, and Japanese.

<sup>b</sup> Indian, Chinese, and Japanese not shown separately.

<sup>c</sup> For important states only.

SCHEDULE OF CENSUS STATISTICS IN WHICH AGE IS THE PRIMARY  
CLASSIFICATION—*Continued*

Ages and geographic units	Foreign born, white	Negro	Indian, Chinese Japanese, and all other		All classes
			Divided <sup>a</sup>	Not divided <sup>b</sup>	
Broad age group E—United States, divisions, and states—Total (Abstract) .....	×	×	..	×	×
Voting age.					
United States and divisions—Male and female (Vol. III).....	×	×	..	×	×
States and counties.					
Total (Vol. II, Chap. 16).....	×	×	..	..	×
Male and female (Vol. III).....	×	×	..	×	×
Cities of 100,000 and over—Male and female (Vol. III).....	×	×	..	×	×
Places of 2,500 or more and wards of cities of 50,000 and over—Male and female (Vol. III).....	×	×	..	..	×
Military age—United States, divisions, states, counties, places of 2,500 or over, and wards of cities of 50,000 and over—Male and female (Vol. III) .....	..	..	..	..	×

<sup>a</sup> Indian, Chinese, Japanese, and all others shown separately; see also Chapter IV for additional statistics on Indians, Chinese, and Japanese.

<sup>b</sup> Indian, Chinese, and Japanese not shown separately.

In addition to the foregoing, age is used as a subordinate classification in connection with the statistics listed below, which are analyzed on the pages cited.

Marital condition, pages 39-42.

Illiteracy, pages 47-54.

Citizenship of foreign born, pages 64-66.

School attendance, pages 42-47.

Negroes, Indians, Chinese and Japanese, pages 71-77.

Dependents, defectives and delinquents, pages 78-85.

Immigrants and emigrants, pages 87-105.

Occupations, pages 106-114.

Deaths, pages 118-137.

Births (age of father and mother), pages 115-117.

Farm operators, page 187.

**Marital Condition.** All the tables giving statistics for marital condition present figures for males and females, generally subdivided into single, married, widowed, and divorced, although in some groupings the widowed and divorced are combined. Most of the statistics relate to the population 15 years of age and over, but there are several general tables which give data on the total population of all ages. Five groupings of ages are used in the census reports which are here arbitrarily designated F, G, H, I, and J, but which are not so designated in the census reports. The several age periods in each group are as follows :

## AGE GROUPINGS IN MARITAL STATISTICS

Age grouping F.	Age grouping G—	Age grouping I—
Under 15.	<i>Cont'd</i>	<i>Cont'd</i>
Total over 15.	45 to 54.	25 to 34.
15 to 19.	55 to 64.	35 to 44.
20 to 24.	65 and over.	45 to 54.
25 to 29.	Unknown.	55 to 64.
30 to 34.	Age grouping H.	65 and over.
35 to 44.	Total over 15.	Unknown.
45 to 54.	15 to 24.	Age grouping J.
55 to 64.	25 to 34.	Total over 15.
65 and over.	35 to 44.	15 to 19.
Unknown.	45 and over.	20 to 24.
Age grouping G.	Unknown.	25 to 34.
Total over 15.	Age grouping I.	35 to 44.
15 to 19.	Under 15.	45 to 64.
20 to 24.	Total over 15.	65 and over.
25 to 34.	15 to 19.	Unknown.
35 to 44.	20 to 24.	

It should be noted that each age grouping contains figures for the total population 15 years of age and over, therefore the statistics for any age group may be used by those who desire only general figures.

The marital condition is the status of the individual at the time the census was taken, hence the number of persons reported as divorced is less than the number who have been divorced, as many divorced persons have remarried and are reported as married. Statistics of marital condition differ from those of marriage and divorce given in Chapter X, the figures on marital condition relating to the entire population on a date certain, as the legal status of every person must be either single, married, widowed, or divorced.

Statistics of marriage and divorce, on the other hand, show the number of persons married or divorced within a definite period.

The several classifications used in the statistics of marital condition are indicated in the following schedule:

SCHEDULE OF CENSUS STATISTICS ON MARITAL CONDITION

Ages and geographic units	Native white			
	Native parentage	Foreign parentage	Mixed parentage	Foreign and mixed parentage
Total population 15 years and over.				
United States (Vol. II, Chap. 4; Abstract <sup>a</sup> ) . . . .	×	×	×	×
Divisions and states (Abstract) . . . . .	×	..	..	×
Cities from 25,000 to 100,000 (Vol. II, Chap. 4) .	×	×	×	..
Cities of 100,000 and over (Abstract) . . . . .	×	..	..	×
Urban and rural—States (Vol. II, Chap. 4) . . . .	×	×	×	..
Single years 15 to 34—United States (Vol. II, Chap. 4; Abstract) . . . . .	×	..	..	×
Age grouping F—United States (Vol. II, Chap. 4) <sup>b</sup>	×	×	×	×
Age grouping G.				
Divisions and states (Vol. II, Chap. 4) . . . . .	×	×	×	×
Cities of 100,000 and over (Vol. II, Chap. 4) ..	×	×	×	×
Urban and rural—United States (Vol. II, Chap. 4) . . . . .	×	×	×	×
Age grouping H—Urban and rural—United States and divisions (Vol. II, Chap. 4) . . . . .	×	×	×	..
Age grouping I.				
United States (Vol. II, Chap. 4) <sup>c</sup> . . . . .	×	×	×	×
United States (Abstract) . . . . .	×	×	×	..
Age grouping J—Urban and rural—United States (Abstract) . . . . .	×	×	×	..

<sup>a</sup> Shows also total white and total native white.

<sup>b</sup> Shows also total white.

<sup>c</sup> Widowed and divorced combined.



SCHEDULE OF CENSUS STATISTICS ON MARITAL CONDITION—*Continued*

Ages and geographic units	Foreign born white	Negro	All other	All classes
Total population of all ages—United States, divisions, and states (Vol. II, Chap. 4).....	..	..	..	×
Total population 15 years and over.				
United States (Vol. II, Chap. 4).....	×	×	× <sup>a</sup>	×
Divisions and states (Vol. II, Chap. 4; Abstr.)	..	..	..	×
Cities of 100,000 and over (Abstract).....	×	×	..	×
Cities of 25,000 to 100,000 (Vol. II, Chap. 4).	×	×	..	×
Urban and rural.				
Divisions and states (Abstract).....	..	..	..	×
States (Vol. II, Chap. 4).....	×	×	..	×
Single years 15 to 34—United States (Vol. II, Chap. 4) .....	×	×	..	×
Age grouping F—United States (Vol. II, Chap. 4)	×	×	× <sup>b</sup>	×
Age grouping G.				
Divisions, states, and cities of 100,000 and over (Vol. II, Chap. 4).....	×	×	× <sup>a</sup>	×
Urban and rural—United States (Vol. II, Chap. 4) .....	×	×	..	×
Age grouping H.				
Cities from 25,000 to 100,000 (Vol. II, Chap. 4) ..	..	..	..	×
Urban and rural.				
United States and divisions (Vol. II, Chap. 4)	×	×	..	×
States (Vol. II, Chap. 4).....	..	..	.. <sup>c</sup>	×
Age grouping I.				
United States.				
(Vol. 2, Chap. 4) <sup>d</sup> .....	×	×	× <sup>c</sup>	×
(Abstract) .....	×	×	..	×
Age grouping J—Urban and rural—United States (Abstract) .....	×	×	..	×

<sup>a</sup> Indian, Chinese, and Japanese shown separately; see also Chapter IV for additional statistics on these races.

<sup>b</sup> Indians, Chinese, Japanese, and all other shown separately, but figures are not given for separate age periods.

<sup>c</sup> Chinese and Japanese shown separately for California, Oregon, and Washington; Indians shown separately for western states.

<sup>d</sup> Widowed and divorced combined.

<sup>e</sup> Indian, Chinese, Japanese, and all other shown separately, but only for "all ages."

Statistics on the marital condition of occupied women are given in Volume IV, Occupations, of the reports of the Fourteenth Census. It is announced that an analysis of the statistics of the Fourteenth Census on marital condition will be published in a census monograph by William F. Ogburn.

**School Attendance.** The statistics on school attendance show the number of persons reported as having attended school at any time between September 1, 1919, and January, 1920. The figures represent the total number attending school and not the persons who may have attended school on any one day during this period. A person who attended school for one week would be counted the same as one who attended school for the entire four-month period.

Figures are given for all ages attending school, for single years within certain limits, and for several age groupings. The broad age groups are divided into those under 7, those from 7 to 20, and those 21 and over. The age periods, which are here called groupings K, L, M, N, O, and P, but which are not so termed in the census reports, include the following years:

AGE GROUPINGS IN CENSUS STATISTICS OF SCHOOL ATTENDANCE

Age grouping K.	Age grouping L—	Age grouping O.
Under 7.	<i>Cont'd</i>	7 to 13.
7 to 13.	18 to 20.	14 and 15.
14 and 15.	Age grouping M.	16 to 20.
16 and 17.	5 and 6.	Age grouping P.
18 to 20.	7 to 13.	Under 7.
21 and over.	14 to 20.	7 to 13.
Age grouping L.	Age grouping N.	14 to 20.
5 and 6.	7 to 13.	21 and over.
7 to 13.	14 and 15.	
14 and 15.	16 and 17.	
16 and 17.	18 to 20.	

Practically all tables showing age classifications, except those for less than 7 years and those for 21 years and over, give either the total population of the specified age, the percentage of the total population of the specified age attending school, or both. Percentage figures for persons under 7 or over 20 would be meaningless, as these classes include the great mass of the population which is not of school age.

The scope of the statistics by ages and geographic units is shown in the following schedule:

## SCHEDULE OF CENSUS STATISTICS OF SCHOOL ATTENDANCE

Ages and geographic units	Native white			
	Native parentage	Foreign parentage	Mixed parentage	Foreign and mixed parentage
All ages.				
United States—Male and female (Vol. II, Chap. 11; Abstract) <sup>a</sup> .....	×	×	×	×
Divisions, states, and cities of 25,000 and over— Male and female (Vol. II, Chap. 11).....	×	×	×	..
Urban and rural—United States and divisions— Total (Vol. II, Chap. 11).....	×	×	×	..
Single years 5 to 20.				
United States.				
Male and female (Vol. II, Chap. 11) <sup>a</sup> .....	×	×	×	..
Male and female (Abstract) <sup>b</sup> .....	..	..	..	..
Divisions, states, and cities of 250,000 and over— Total (Vol. II, Chap. 11).....	×	×	×	..
United States and states—Male and female (Vol. III) .....	×	..	..	×
7 to 20 years—United States, divisions, states and cities of 100,000 and over—Total (Vol. II, Chap. 11; Abstract).....	×	..	..	×
7 to 13 years <sup>c</sup> —United States, divisions, states, and cities of 100,000 and over—Total (Vol. II, Chap. 11; Abstract).....	×	..	..	×
Age grouping K.				
United States—Male and female (Vol. II, Chap. 11; Abstract) <sup>a</sup> .....	×	×	×	..
Divisions, states, and cities of 100,000 and over— Male and female (Vol. II, Chap. 11).....	×	×	×	..
Cities of 25,000 and over—Total (Vol. II, Chap. 11) .....	×	×	×	..
Urban and rural, United States and divisions— Total (Vol. II, Chap. 11).....	×	×	×	..
Age grouping L—United States and divisions— Total (Vol. III).....	×	..	..	×
Age grouping M—Urban and rural—United States and states—Total (Vol. III).....	×	..	..	×

<sup>a</sup> Shows also total white and total native white.

<sup>b</sup> Shows total white.

<sup>c</sup> Separate figures for these years are given also in each age grouping.

## SCHEDULE OF CENSUS STATISTICS OF SCHOOL ATTENDANCE—Continued

Ages and geographic units	Foreign born white	Negro	Indian, Chinese, Japanese and all other		All classes
			Divided <sup>a</sup>	Not divided <sup>b</sup>	
All ages.					
United States.					
Total (Abstract) .....	..	..	..	..	X
Male and female (Vol. II, Chap. 11) ..	X	X	X	..	X
Male and female (Abstract) .....	X	X	..	..	X
Divisions and states.					
Total (Abstract) .....	..	..	..	..	X
Male and female (Vol. II, Chap. 11) ..	X	X	X	..	X
Cities of 100,000 and over—Male and female (Vol. II, Chap. 11) .....	X	X	..	..	X
Cities of 25,000 and over.					
Total (Vol. II, Chap. 11) .....	X	X	..	..	X
Male and female (Vol. II, Chap. 11; Abstract) .....	..	..	..	..	X
Urban and rural.					
United States and divisions.					
Total (Vol. II, Chap. 11) .....	X	X	..	..	X
Male and female (Vol. II, Chap. 11) .....	..	..	..	..	X
States—Total (Vol. II, Chap. 11) .....	..	..	..	..	X
Single years 5 to 20.					
United States.					
Total (Abstract) .....	..	..	..	..	X
Male and female (Vol. II, Chap. 11) ..	X	X	..	X	X
Male and female (Abstract) .....	..	X	..	X	..
Divisions, states, and cities of 250,000 and over.					
Total (Vol. II, Chap. 11) .....	X	X	..	..	X
Male and female (Vol. II, Chap. 11) ..	..	..	..	..	X
5 to 20 years—United States and states— Male and female (Vol. III) .....	X	X	..	..	X
7 to 20 years.					
United States, divisions, and states.					
Total (Vol. II, Chap. 11; Abstract) ..	X	X	..	..	X
Male and female (Vol. II, Chap. 11; Abstract) .....	..	..	..	..	X
Counties—Total (Vol. II, Chap. 16) ..	..	..	..	..	X
Cities of 100,000 and over—Male and female (Vol. II, Chap. 11; Ab- stract) .....	X	X	..	..	X

<sup>a</sup> Indian, Chinese, Japanese, and all other shown separately; see also Chapter IV for additional statistics on these races.

<sup>b</sup> Indian, Chinese, Japanese, and all other not shown separately.

SCHEDULE OF CENSUS STATISTICS OF SCHOOL ATTENDANCE—*Continued*

Ages and geographic units	Foreign born white	Negro	Indian, Chinese, Japanese, and all other		All classes
			Divided <sup>a</sup>	Not divided <sup>b</sup>	
<b>7 to 20 years—Continued</b>					
Urban and rural—United States, divisions, and states—Total (Vol. II, Chap. 11; Abstract).....	..	..	..	..	×
<b>7 to 13 years.<sup>c</sup></b>					
United States divisions, states, and cities of 100,000 and over—Total (Vol. II, Chap. 11; Abstract).....	×	×	..	..	×
Urban and rural—United States, divisions, and states—Total (Vol. II, Chap. 11; Abstract).....	..	..	..	..	×
Broad age groups—United States, divisions, and states—Total (Vol. II, Chap. 11; Abstract).....	..	..	..	..	×
<b>Age grouping K.</b>					
United States—Male and female (Vol. II, Chap. 11; Abstract).....	×	×	×	..	×
Divisions and states—Male and female (Vol. II, Chap. 11).....	×	×	..	..	×
Cities of 100,000 and over.					
Total (Abstract) .....	..	..	..	..	×
Male and female (Vol. II, Chap. 11).	×	×	..	..	×
Cities of 25,000 and over.					
Total (Vol. II, Chap. 11).....	×	×	..	..	×
Total (Abstract) .....	..	..	..	..	×
Male and female (Vol. II, Chap. 11) ..	..	..	..	..	×
Urban and rural.					
United States.					
Total (Vol. II, Chap. 11).....	×	×	..	..	×
Male and female (Vol. II, Chap. 11) .....	..	..	..	..	×
States—Total (Vol. II, Chap. 11)....	..	..	..	..	×
<b>Age grouping L.</b>					
United States and states—Total (Vol. III) .....	×	×	..	..	×
Wards of cities of 50,000 and over— Total (Vol. III).....	..	..	..	..	×

<sup>a</sup> Indian, Chinese, Japanese, and all other shown separately; see also Chapter IV for additional statistics on these races.

<sup>b</sup> Indian, Chinese, Japanese, and all other not shown separately.

<sup>c</sup> Separate figure for these years are given also in each age grouping.

SCHEDULE OF CENSUS STATISTICS OF SCHOOL ATTENDANCE—*Continued*

Ages and geographic units	Foreign born white	Negro	Indian, Chinese, Japanese, and all other		All classes
			Divided <sup>a</sup>	Not divided <sup>b</sup>	
Age grouping M—Urban and rural— United States and states—Total (Vol. III) .....	×	×	..	..	×
Age grouping N. United States and divisions—Total (Vol. II, Chap. II; Abstract).....	..	..	..	..	×
States—Total (Vol. II, Chap. II; Vol. III; Abstract) .....	..	..	..	..	×
Cities of 10,000 and over—Total (Vol. III) .....	..	..	..	..	×
Age grouping O—Places from 2,500 to 10,000—Total (Vol. III).....	..	..	..	..	×
Age grouping P—United States, divisions, and states—Male and female (Vol. II, Chap. II).....	..	..	×	..	..

<sup>a</sup> Indian, Chinese, Japanese, and all other shown separately; see also Chapter IV for additional statistics on these races.

<sup>b</sup> Indian, Chinese, Japanese, and all other not shown separately.

An interpretation and a discussion of school attendance statistics for 1920 are given in Census Monograph V, entitled "School Attendance in 1920," by Frank A. Ross. The scope of this publication is indicated by the following chapter headings:

1. General school attendance in 1920 (Part 1).
  2. General school attendance in 1920 (Part 2).
  3. Negro school attendance.
  4. Foreign-born white school attendance.
  5. School attendance among the native white of native parentage.
  6. The native white of native parentage in cities.
  7. The native white of foreign or mixed parentage.
  8. The development of school attendance.
- Appendix A. The method of partial and multiple correlation applied to school attendance.

In addition to general tables scattered through the text the volume contains detailed statistics as shown in the following schedule:

SCHEDULE OF DETAILED SCHOOL ATTENDANCE STATISTICS IN CENSUS  
MONOGRAPH V

Classification	All classes	Native white					Foreign born white	Negro
		Native parentage	Mixed parentage	Foreign parentage	Foreign and mixed parentage			
States—5 to 20 years, by single years, total	X <sup>a</sup>	X <sup>a</sup>	X <sup>a</sup>	X <sup>a</sup>	..	X <sup>a</sup>	X <sup>a</sup>	
Divisions and states.								
7 to 20 years, male and female.....	X	..	..	..	..	..	..	
7 to 20 years by age periods, <sup>b</sup> male and female .....	X	..	..	..	..	..	..	
7 to 13 years, male and female.....	X	..	..	..	..	..	..	
7 to 13 years, total.....	..	X	..	..	X	X	X	
Urban and rural—Divisions and states.								
7 to 13 years, total.....	X	X <sup>a</sup>	..	..	..	..	..	
7 to 20 years, by age periods, <sup>b</sup> total....	X <sup>a</sup>	X <sup>a</sup>	..	..	X <sup>a</sup>	X <sup>a</sup>	X <sup>a</sup>	
Cities of 250,000 and over—Single years								
5 to 20, male and female.....	X <sup>a</sup>	X <sup>a</sup>	X <sup>a</sup>	X <sup>a</sup>	..	X <sup>a</sup>	X <sup>a</sup>	
Cities of 100,000 and over.								
7 to 20 years, male and female.....	X	..	..	..	..	..	..	
7 to 13 years, male and female.....	X	..	..	..	..	..	..	
7 to 13 years, total.....	..	X	..	..	X	X	X	
Cities of 25,000 and over.								
7 to 20 years, by age periods, <sup>b</sup> total.....	X	..	..	..	..	..	..	
7 to 13 years, total.....	X	X	X	X	..	X	X	

<sup>a</sup> Percentages only.

<sup>b</sup> The age periods shown are 7 to 13, 14 and 15, 16 and 17, 18 to 20.

**Illiteracy.** In the census statistics illiteracy indicates inability to write any language, the figures being confined to persons 10 years of age and over. The population schedule for the Fourteenth Census contained two inquiries regarding illiteracy: (1) Whether able to read, and (2) whether able to write. Volume II of the reports contains four tables giving the number of illiterates, male and female, who can neither read nor write, and who can read but not write. For the United States as a whole and for the urban and rural population these tables give separate figures for all the classes, total native white, native white of native parentage, native white of foreign parentage, native white of mixed parentage, foreign-born white, negro, Indian, Chinese, Japanese, and all other; for divisions, states, and cities of 100,000 and over they give

figures for all classes only. All the other tables, which are discussed below, give data only for those who are unable to write.

Age groupings are used in the tabulations as follows: 10 years and over, 10 to 15 years, 16 to 20 years, over 21 years, and age periods. The age periods are by five-year intervals from 10 to 24, ten-year intervals from 25 to 64, and 65 and over. Practically all the tables show the total population of the ages specified, the percentage of illiteracy, or both. The classification by ages, geographic units, sex, race, color, and nativity is indicated by the schedule below. The use of the term total in the stub indicates that no differentiation is made for sex.

SCHEDULE OF CENSUS STATISTICS OF ILLITERACY

Age and geographic units	Total white	Native white				
		Total	Native percentage	Foreign percentage	Mixed percentage	Foreign and mixed percentage
10 years and over.						
United States.						
Total (Vol. II, Chap. 12).....	×	×	×	×	×	×
Male and female (Vol. II, Chap. 12; Abstract) .....	×	×	×	×	×	×
Male and female (Vol. III).....	..	..	×	..	..	×
Divisions.						
Total (Vol. II, Chap. 12; Abstract).....	..	..	×	..	..	×
Total (Vol. III).....	..	×	..	..	..	..
Male and female (Vol. II, Chap. 12).....	..	..	×	×	×	..
States.						
Total (Vol. II, Chap. 12; Abstract).....	..	..	×	..	..	×
Total (Vol. III).....	..	×	..	..	..	..
Counties—Total (Vol. III).....	..	×	..	..	..	..
Cities of 100,000 and over.						
Total (Vol. II, Chap. 12; Abstract).....	..	..	×	..	..	×
Total (Vol. III).....	..	×	..	..	..	..
Male and female (Vol. II, Chap. 12)...	..	..	×	×	×	..
Cities of 25,000 to 100,000.						
Total (Abstract) .....	..	×	..	..	..	..
Male and female (Vol. II, Chap. 12)....	..	..	×	×	×	..
Places of 2,500 and over and wards of cities of 50,000 and over—Total (Vol. III).	..	×	..	..	..	..



SCHEDULE OF CENSUS STATISTICS OF ILLITERACY—Continued

Age and geographic units	Total white	Native white				
		Total	Native percentage	Foreign percentage	Mixed percentage	Foreign and mixed percentage
<b>10 years and over—Continued</b>						
Urban and rural.						
United States.						
Total (Vol. II, Chap. 12; Abstract) ..	..	..	X	..	..	X
Male and female (Vol. II, Chap. 12) ..	..	..	X	X	X	..
Male and female (Vol. III) ..	..	..	X	..	..	X
Divisions—Total (Vol. II, Chap. 12; Abstract) ..	..	..	X	..	..	X
States.						
Total (Abstract) ..	..	..	X	..	..	X
Male and female (Vol. II, Chap. 12) ..	..	..	X	X	X	..
Male and female (Vol. III) ..	..	..	X	..	..	X
<b>21 years and over.</b>						
United States.						
Total (Vol. II, Chap. 12; Abstract) ..	..	..	X	..	..	X
Male and female (Vol. II, Chap. 12) ..	..	..	X	X	X	..
Male and female (Vol. III) ..	..	..	X	..	..	X
Divisions.						
Total (Vol. II, Chap. 12; Abstract) ..	..	..	X	..	..	X
Male and female (Vol. II, Chap. 12) ..	..	..	X	X	X	..
Male and female (Vol. III) ..	..	X	..	..	..	..
States.						
Total (Vol. II, Chap. 12; Abstract) ..	..	..	X	..	..	X
Male and female (Vol. II, Chap. 12) ..	..	..	X	X	X	..
Male and female (Vol. III) ..	..	X	X	..	..	X
Counties—Male and female (Vol. III) ..	..	X	..	..	..	..
Cities of 100,000 and over.						
Total (Vol. II, Chap. 12; Abstract) ..	..	..	X	..	..	X
Male and female (Vol. II, Chap. 12) ..	..	..	X	X	X	..
Male and female (Vol. III) ..	..	X	..	..	..	..
Cities from 25,000 to 100,000—Male and female (Vol. II, Chap. 12) ..	..	..	X	X	X	..
Cities of 10,000 and over—Male and female (Vol. III) ..	..	X	..	..	..	..
Wards of cities of 50,000 and over—Male and female (Vol. III) ..	..	X	..	..	..	..
Urban and rural.						
United States.						
Total (Vol. III; Abstract) ..	..	..	X	..	..	X
Male and female (Vol. II, Chap. 12) ..	..	..	X	X	X	..
Divisions.						
Total (Abstract) ..	..	..	X	..	..	X
Male and female (Vol. II, Chap. 12) ..	..	..	X	X	X	..

SCHEDULE OF CENSUS STATISTICS OF ILLITERACY—*Continued*

Age and geographic units	Total white	Native white				
		Total	Native percentage	Foreign percentage	Mixed percentage	Foreign and mixed percentage
<b>21 years and over—Continued</b>						
Urban and rural— <i>Continued</i>						
States.						
Total (Vol. III; Abstract).....	..	..	X	..	..	X
Male and female (Vol. II, Chap. 12)..	..	..	X	X	X	..
10 to 15 years.						
United States.						
Total (Vol. II, Chap. 12; Abstract).....	..	..	X	..	..	X
Male and female (Vol. III).....	..	..	X	..	..	X
Divisions—Total (Vol. II, Chap. 12; Abstract) .....	..	..	X	..	..	X
States.						
Total (Vol. II, Chap. 12; Abstract)....	..	..	X	..	..	X
Male and female (Vol. III).....	..	..	X	..	..	X
Urban and rural—United States and states—						
Total (Vol. III).....	..	..	X	..	..	X
16 to 20 years.						
United States.						
Total (Vol. II, Chap. 12; Abstract)....	..	..	X	..	..	X
Male and female (Vol. III).....	..	..	X	..	..	X
Divisions—Total (Vol. II, Chap. 12; Abstract) .....	..	..	X	..	..	X
States.						
Total (Vol. II, Chap. 12; Abstract)....	..	..	X	..	..	X
Male and female (Vol. III).....	..	..	X	..	..	X
Urban and rural—United States and states—						
Total (Vol. III).....	..	..	X	..	..	X
Age periods.						
United States—Male and female (Vol. II, Chap. 12; Abstract).....	X	X	X	X	X	..
Divisions and states—Male and female (Vol. II, Chap. 12).....	..	..	X	X	X	..
Cities of 100,000 and over—Male and female (Vol. II, Chap. 12).....	..	..	X	X	X	..

## SCHEDULE OF CENSUS STATISTICS OF ILLITERACY—Continued

Age and geographic units	Foreign born white	Negro	Chinese, Japanese, and all other		All classes
			Divided <sup>a</sup>	Not divided <sup>b</sup>	
<b>10 years and over.</b>					
<b>United States.</b>					
Total (Vol. II, Chap. 12).....	×	×	×	..	×
Male and female (Vol. II, Chap. 12; Abstract) .....	×	×	×	..	×
Male and female (Vol. III).....	×	×	..	..	×
<b>Divisions.</b>					
Total (Vol. II, Chap. 12).....	×	×	×	..	×
Total (Vol. III; Abstract).....	×	×	..	..	×
Male and female (Vol. II, Chap. 12).	×	×	..	..	×
<b>States.</b>					
Total (Vol. II, Chap. 12).....	×	×	×	..	×
Total (Abstract) .....	×	×	..	..	×
Male and female (Vol. II, Chap. 12; Vol. III) .....	×	×	..	..	×
<b>Counties.</b>					
Total (Vol. II, Chap. 16).....	..	..	..	..	×
Total (Vol. III).....	×	×	..	..	×
<b>Cities of 100,000 and over.</b>					
Total (Vol. II, Chap. 12; Vol. III; Abstract) .....	×	×	..	..	×
Male and female (Vol. II, Chap. 12).	×	×	..	..	×
<b>Cities of 25,000 to 100,000.</b>					
Total (Abstract) .....	×	×	..	..	×
Male and female (Vol. II, Chap. 12).	×	×	..	..	×
<b>Cities of 10,000 and over—Total (Vol.   III) .....</b>	×	×	..	..	×
<b>Places of 2,500 to 10,000—Total (Vol.   III) .....</b>	×	..	..	..	×
<b>Wards of cities of 50,000 and over—   Total (Vol. III).....</b>	×	×	..	..	×
<b>Urban and rural.</b>					
<b>United States.</b>					
Total (Abstract) .....	×	×	..	..	×
Male and female (Vol. II, Chap. 12; Vol. III) .....	×	×	..	..	×
Divisions—Total (Vol. II, Chap. 12; Abstract) .....	×	×	..	..	×
<b>States.</b>					
Total (Abstract) .....	×	×	..	..	×
Male and female (Vol. II, Chap. 12; Vol. III) .....	×	×	..	..	×

<sup>a</sup> Chinese, Japanese, and all other shown separately; for additional statistics on these races see Chapter IV.

<sup>b</sup> Chinese, Japanese, and all other not shown separately.

## SCHEDULE OF CENSUS STATISTICS OF ILLITERACY—Continued

Age and geographic units	Foreign born white	Negro	Chinese, Japanese, and all other		All classes
			Divided <sup>a</sup>	Not divided <sup>b</sup>	
<b>21 years and over.</b>					
United States, divisions, and states.					
Total (Vol. II, Chap. 12; Abstract) .	×	×	..	..	×
Male and female (Vol. II, Chap. 12; Vol. III) .....	×	×	..	..	×
Counties.					
Total (Vol. II, Chap. 16) .....	..	..	..	..	×
Male and female (Vol. III) .....	×	×	..	..	×
Cities of 100,000 and over.					
Total (Vol. II, Chap. 12; Abstract) .	×	×	..	..	×
Male and female (Vol. II, Chap. 12; Vol. III) .....	×	×	..	..	×
Cities from 25,000 to 100,000—Male and female (Vol. II, Chap. 12) .....	×	×	..	..	×
Cities of 10,000 and over—Male and female (Vol. III) .....	×	×	..	..	×
Places of 2,500 to 10,000—Male and female (Vol. III) .....	..	..	..	..	×
Wards of cities of 50,000 and over— Male and female (Vol. III) .....	×	×	..	..	×
Urban and rural.					
United States.					
Total (Vol. III; Abstract) .....	×	×	..	..	×
Male and female (Vol. II, Chap. 12)	×	×	..	..	×
Divisions.					
Total (Abstract) .....	×	×	..	..	×
Male and female (Vol. II, Chap. 12)	×	×	..	..	×
States.					
Total (Vol. III; Abstract) .....	×	×	..	..	×
Male and female (Vol. II, Chap. 12) .....	×	×	..	..	×
<b>10 to 15 years.</b>					
United States.					
Total (Vol. II, Chap. 12; Abstract) ..	×	×	..	..	×
Male and female (Vol. III) .....	×	×	..	..	×
Divisions—Total (Vol. II, Chap. 12; Ab- stract) .....	×	×	..	..	×
States.					
Total (Vol. II, Chap. 12; Abstract) ..	×	×	..	..	×
Male and female (Vol. III) .....	×	×	..	..	×

<sup>a</sup> Chinese, Japanese, and all other shown separately; for additional statistics on these races see Chapter IV.

<sup>b</sup> Chinese, Japanese, and all other not shown separately.

SCHEDULE OF CENSUS STATISTICS OF ILLITERACY—*Continued*

Age and geographic units	Foreign born white	Negro	Chinese, Japanese, and all other		All classes
			Divided <sup>a</sup>	Not divided <sup>b</sup>	
<b>10 to 15 years—Continued</b>					
Urban and rural—United States and states—Total (Vol. III).....	×	×	..	..	×
<b>16 to 20 years.</b>					
United States.					
Total (Vol. II, Chap. 12; Abstract) ..	×	×	..	..	×
Male and female (Vol. III).....	×	×	..	..	×
Divisions.					
Total (Vol. II, Chap. 12; Abstract) .	×	×	..	..	×
Total (Vol. III) .....	..	..	..	..	×
States.					
Total (Vol. II, Chap. 12; Abstract) .	×	×	..	..	×
Male and female (Vol. III).....	×	×	..	..	×
Counties—Total (Vol. III).....	..	..	..	..	×
Cities of 10,000 and over—Total (Vol. III) .....	..	..	..	..	×
Wards of cities of 50,000 and over—Total (Vol. III) .....	..	..	..	..	×
Urban and rural—United States and states—Total (Vol. III).....	×	×	..	..	×
Age periods.					
United States—Male and female (Vol. II, Chap. 12; Abstract).....	×	×	×	..	×
Divisions, states, and cities of 100,000 and over—Male and female (Vol. II, Chap. 12).....	×	×	..	..	×

<sup>a</sup> Chinese, Japanese, and all other shown separately; for additional statistics on these races see Chapter IV.

<sup>b</sup> Chinese, Japanese, and all other not shown separately.

The following comment on the statistics of illiteracy is quoted from the report of the Fourteenth Census.<sup>9</sup>

It should be noted that ability to read or write can not be defined so precisely as to cover all cases with certainty. A person may know the alphabet and a small number of printed words, but may not be able to read in any true sense; or he may be able to write his name but may be wholly unable to express his thoughts in writing in an intelligible manner. In general, the illiterate population as shown by the census figures should be understood as com-

<sup>9</sup> Fourteenth Census, Vol. II, p. 1145.

prising only those persons who have had no education whatever. Thus the statistics do not show directly or definitely the proportion of the population which may be termed illiterate when the word is used to imply lack of ability to read and write with a reasonable degree of facility; but they do afford a fairly reliable measure of the effect of the improvement in educational opportunities from decade to decade.

There is undoubtedly a margin of error in the statistics of illiteracy, resulting from a variety of causes. In some cases there may be unwillingness to admit illiteracy on the part of persons enumerated. Furthermore, in parts of the country where practically all native white persons are literate the enumerators are likely to acquire the habit of returning them as such without the formality of an inquiry, and in this way a few isolated cases of illiteracy may be overlooked. On the other hand, in the case of negroes the opposite assumption may sometimes be made by white enumerators, while, in the case of the foreign born, inability to write in English may sometimes be taken as constituting illiteracy, although the instructions make it clear that a person able to write in any language is to be returned as literate. For the United States as a whole and for the states and large cities the figures are probably nearly enough accurate to supply a sound basis for judgment as to the relative illiteracy of different classes of the population, of persons in different age groups, and of males as compared with females. Beyond question comparisons between different censuses show the general tendencies with substantial accuracy. The returns for small areas, however, may be open to question in some cases.

**Inability to Speak English.** The figures relating to inability to speak English apply only to the population 10 years of age or over. With three exceptions the tables are confined to the foreign-born white population. One table in Volume II and one in the Abstract give separate figures by sex for the United States on foreign born white, Indians, Chinese, Japanese, and all other; one table in Volume II gives separate figures by sex for divisions and states for negroes, Indians, Chinese, and Japanese.

The only age division used for the foreign-born white is by age periods, which run by five year-intervals for 10 to 24 years, ten-year intervals for 25 to 64, and 65 and over. All statistics differentiate between male and female. In Volume II and the Abstract figures are given by the following classifications: Age periods for the United States, divisions, and states; total over ten years of age for cities of 25,000 and over; total over ten years of age for urban and rural population in the United States, divisions, and

states. In Volume II there is a tabulation by age periods for cities of 25,000 inhabitants or over having 5000 or more foreign-born whites 10 years of age and over unable to speak English.

**State of Birth of Native Population.** These figures indicate the migration of the native population. They show the number living in each state and born in that particular state and in other states, and for some classes the number born in the state and living in that state and in other states. Some tables show for each state the number of residents born in every other state. Separate figures are given as indicated in the schedule below :

SCHEDULE SHOWING CENSUS STATISTICS OF STATE OF BIRTH

Classes	Living in state			
	Born in state	Born in other states		Born in foreign country
		Total <sup>a</sup>	By states <sup>b</sup>	
States.				
All classes (Vol. II, Chap. 5; Abstract; Mon. 1).....	×	×	..	×
White (Vol. II, Chap. 5; Abstract) .....	×	×	..	×
Native.				
All classes (Vol. II, Chap. 5; Abstract) .....	×	×	× <sup>c</sup>	..
White, negro, white of native parentage, white of foreign parentage, white of mixed parentage (Vol. II, Chap. 5)	×	×	× <sup>c</sup>	..
Southern states.				
White (Mon. 1).....	×	×	..	×
Negro (Mon. 1).....	×	×	..	..
Urban and rural.				
All classes (Vol. II, Chap. 5; Abstract) .....	×	×	..	×
White (Vol. II, Chap. 5).....	×	×	..	×
Cities of 100,000 and over—Native (Abstract) .....	..	..	× <sup>d</sup>	..
Cities of 50,000 and over.				
All classes, white,* and negro* (Vol. II, Chap. 5; Abstract)	×	×	..	×
Native (Vol. 2, Chap. 5).....	×	×	× <sup>d</sup>	×

<sup>a</sup> Number born in all other states.

<sup>b</sup> Number born in each other state.

<sup>c</sup> Shows also number in each state born in each division.

<sup>d</sup> Shows also number in each city born in each division.

\* White and negro not shown separately for cities having fewer than 5000 negroes.

In Chapter 5 of Volume II are given also data on the distribution of all individuals born in each state. The report shows the total number of persons enumerated who were born in each state, the number born and living in the state, and the number living in other states, separate figures being given for total native, total native white, total native negro, white of native parentage, white of foreign parentage, and white of mixed parentage.

The following comment is quoted from the reports of the Census of 1920:<sup>20</sup>

The returns as to state of birth are valuable mainly for the light they throw on the migration of the native population within the United States. The term "native population" as ordinarily used by the Bureau of the Census comprises all persons born in continental United States or any of the outlying possessions, persons born at sea under the United States flag, and persons of native parentage born abroad and designated as "American citizens born abroad." Thus the term "native population," when used in the headings of tables presenting statistics by states, does not refer to the population native to (that is, born in) the particular states, but merely to the population born in the United States. The natives of individual states are designated in the table headings as persons in those states.

Persons for whom the place of birth was not reported and for whom the returns gave no indication of foreign origin have been assumed to be natives of the United States and have been included with those for whom the place of birth was given as the United States without specification as to the particular state in which born. This practice has undoubtedly resulted in the inclusion of a few foreign-born persons, but it is certain that the great majority of those for whom the place of birth was not reported were born in the United States. In some of the tables the statistics for the population born in the United States relate only to persons for whom the state of birth was reported.

The fact that at each census since and including that of 1850 (excluding slaves in 1850 and 1860) more than one-fifth of the native Americans had migrated from the states of birth to other states indicates a rather high degree of mobility on the part of the population. It must be borne in mind that the census distinguishes as migrants only those persons who have migrated across state lines and are at the date of the census living in states other than those in which they were born. The statistics, therefore, afford no indication of the amount of migration within the same states from

<sup>20</sup> Fourteenth Census, Vol. II, p. 607.



rural to urban communities or from one locality to another. There is no doubt that some of the intrastate migration involves greater changes of environment, and even longer journeys, than some of the interstate migration. Much of the movement from country to city takes place within the confines of single states; and, on the other hand, some of the interstate migration is merely from one border county or city to another just across the state line. Computations made in connection with the census of 1900 indicated that nearly one-half of the natives of the United States who were enumerated outside the states in which born were living in adjoining states.

Furthermore, the census figures do not show the migration from state to state outside the state of birth. A person who at one or at several times has removed from one state to another and has later returned to the state in which he was born is not reported as a migrant; and if he had not returned he would be classified simply as an interstate migrant but no account would be taken of the number of his migrations.

The proportion of migrants in the adult population at each census undoubtedly has exceeded the percentages given since these percentages are based upon the total population born in and living in the United States, including children, among whom it is safe to assume that the proportion of migrants is smaller than among adults.

It is obvious that the statistics as to interstate migration do not represent the total number of persons who migrated from the states in which born to other states during any given period of time. Some of these who migrated have since died, others have returned to the states in which born, and still others have migrated to outlying possessions or to foreign countries. The statistics show only those living at the time of enumeration in the United States, outside the states in which born, who may be described as surviving migrants.

It must be remembered that the number of persons reported as born in any division or state by no means indicates what the native population of that division or state would have been had there been no migration on the part of the present generation. If all persons now living who were born in New England, for example, had remained there, the living children and grandchildren of such persons would have been added to the population of that division; but in fact the children and grandchildren of the migrants appear as natives of other divisions. The converse is true regarding descendants of persons born in other divisions and now living in New England. Thus while the census makes it possible to measure what may be termed the direct effects of the migration of persons still living, it affords no means of measuring the indirect effects.

Nevertheless, the interstate-migration statistics, while supplying no definite information as to the total amount of migration from one locality to another within the United States or as to the total effect of such migration on the present population of the several divisions and states, do show in a general way the increase or decrease in the mobility of the native population from one decade to another and afford a good indication of the extent to which the population of certain states has been directly recruited from other states.

**Country of Birth of Foreign-Born Population.** The statistics by country of birth indicate the political division in which the immigrants were born, and not the racial stock of the population. Thus in the census reports for 1910, persons born in Poland were reported from Germany, Austria, or Russia, according to the country which had jurisdiction over the particular part of Poland. On account of the changes in the map of Europe and Turkey in Asia resulting from the World War, the figures of the censuses of 1910 and 1920 are not strictly comparable. With the exception of Poland all 1910 figures in reports of the Census of 1920 refer to pre-war boundaries; the returns for Poland for 1910 have been retabulated in order to give the 1910 figures according to postwar limits.

The countries shown separately are the following :

Europe.	Europe— <i>Cont'd</i>	Asia— <i>Cont'd</i>
Total.	Central and Eastern	Turkey in Asia.
Northwestern Europe.	Europe— <i>Cont'd</i>	China.
England.	Hungary.	Japan.
Scotland.	Jugo-Slavia.	India.
Wales.	Russia.	Other Asia.
Ireland.	Lithuania.	America.
Norway.	Finland.	Canada—French.
Sweden.	Rumania.	Canada—Other.
Denmark.	Bulgaria.	Newfoundland.
Netherlands.	Turkey in Europe.	West Indies.
Belgium.	Southern Europe.	Mexico.
Luxemburg.	Greece.	Central and South
Switzerland.	Albania.	America.
France.	Italy.	Africa.
Central and Eastern	Spain.	Australia.
Europe.	Portugal.	Atlantic Islands.
Germany.	Asia.	Pacific Islands.
Poland.	Armenia.	Country not specified.
Czechoslovakia.	Palestine.	Born at sea.
Austria.	Syria.	

Only for the United States as a whole are figures given showing all countries of birth. For divisions, states, and cities only the principal countries (as regards numbers born in each one) are given, the minor countries being lumped under all other.

SCHEDULE SHOWING CENSUS STATISTICS BY COUNTRY OF BIRTH

Geographic units	Total	By sex
<b>All races.</b>		
United States, divisions, states, cities of 100,000 and over.		
Vol. II, Chap. 6.....	×	×
Abstract .....	×	..
Cities from 25,000 to 100,000—Vol. II, Chap. 6.....	×	..
White only—States, counties, cities of 10,000 and over, and wards of cities of 50,000 and over—Vol. III..	×	..

In all of the statistics covered by the foregoing schedule the primary classification is a political division of the United States and the tables show the number of foreign born in each one; for instance, there is shown for New York the number of persons born in of England, France, etc. In two tables in Volume II the country of birth is used as the primary classification and there is shown the distribution of persons from a particular country according to states and principal cities of residence. For instance, there is shown the number of persons born in Germany living in each state or large city where the German-born are an appreciable element in the population.

A separate tabulation is given in Volume II for the United States, divisions, states, and cities with population of 100,000 and over for persons born in the following regions:

Europe.  
  Total.  
  Northwestern.  
  Central and eastern.  
  Southern.  
Asia—total.  
America—total.  
All other.

**Country of Origin of Foreign White Stock.** The statistics of country of origin differ from those of country of birth in that they include not only the foreign-born population, but also native whites having one or more parents born abroad. The terms thus includes both immigrants and the first generation of their descendants. The inquiry as to birthplace of foreign parents was first made at the Census of 1880, but only a part of the data was tabulated, the earliest complete statistics being those of 1890.

The following comment indicates the character of the statistics published in the reports of the Fourteenth Census and the difference between the methods used at the last two censuses:<sup>11</sup>

Because of the many changes in the map of Europe which have resulted from the World War, the classification of the white population of foreign birth or foreign parentage according to country of origin was made peculiarly difficult. Many natives of foreign or mixed parentage knew the countries, according to the prewar map, but not the provinces or cities, in which their parents were born. For this reason it was impossible to make a proper classification of the foreign parents of natives with reference to European countries as now constituted, and therefore the statistics for this class have been compiled on the prewar basis. As the country of birth of foreign-born white persons was tabulated according to postwar areas, it was necessary to make a new tabulation of this class according to prewar areas in order to secure comparability with natives of foreign or mixed parentage. This was done by tabulating the foreign-born whites by birthplace of father,<sup>12</sup> classified on the prewar basis.

The term "country of origin," therefore, as used in the reports of the Fourteenth Census, signifies the country of birth of the father of a foreign-born person or of the foreign parent or parents of a native. At previous censuses the distribution of the foreign born themselves was made according to their own countries of birth.

The foreign white stock from any specific country of origin represents the total of three classes, namely, native whites having both parents born in that country, or one parent so born the other being native, and foreign-born whites having fathers born in that country. Native white persons having one parent born in a specified country and the other in some other foreign country are designated as of "mixed foreign parentage," and while included

<sup>11</sup> Fourteenth Census, Vol. II, p. 891.

<sup>12</sup> For 29,025 foreign-born white persons reported as having native fathers, the birthplace of the foreign-mother was used.

in the foreign white stock as a whole, are not included in that for any specific country. The term "mixed foreign parentage" must not be confused with "mixed parentage," the latter representing persons having one parent foreign born and the other native.

No totals are given for continents or groups of countries, for the reason that in the case of the native whites of foreign parentage the true total is not the same as the sum of the figures for the separate countries, there being some persons having one parent born in one country and the other in another country of the same continent or group. For instance, a person of mixed foreign parentage may have a father born in England, and mother born in France, but both parents born in Northwestern Europe. It is very evident that the number of persons of mixed foreign parentage would be considerably diminished if considered with reference to continents or groups of countries.

The schedule below shows the scope of the statistics of country of origin. "Detailed Statistics" indicate that separate figures are given for each country for foreign born, natives with both parents

SCHEDULE OF CENSUS STATISTICS OF COUNTRY OF ORIGIN OF  
FOREIGN WHITE STOCK

Geographic units	Detailed statistics	Summary statistics
United States—Vol. II, Chap. 9; Abstract.....	×	×
Divisions and states.		
Vol. II, Chap. 9.....	×	×
Abstract .....	..	×
Cities of 100,000 and over.		
Vol. II, Chap. 9.....	×	×
Abstract .....	..	×
Cities of 25,000 to 100,000—Vol. II, Chap. 9.....	..	×
Urban and rural.		
United States—Vol. II, Chap. 9; Abstract.....	× <sup>a</sup>	×
Divisions and states—Vol. II, Chap. 9.....	..	×

<sup>a</sup> Divided into two classes only: (1) Foreign born and (2) native of foreign and mixed parentage.

foreign, natives with foreign father, and natives with foreign mother. "Summary Statistics" indicates that the four classes given above are combined in one group. As explained above persons having one parent born in one country and the other in some other country are not reported from any specific country. They

are given at the end of each table as of "mixed foreign parentage."<sup>23</sup> The total of mixed foreign parentage for the United States is shown in Volume II, classified by country of birth of father and further subdivided by country of birth of mother, and vice-versa.

**Mother Tongue of Foreign White Stock.** By mother tongue is meant the language customarily used in the homes of the immigrants before immigration. It does not indicate nationality in a political sense, but is a fair guide to the ethnic stock. For this reason there will be found classifications for mother tongue that have no parallel in the statistics by countries of birth and vice versa. For instance, Slovenian is reported as a mother tongue but persons speaking this language would generally be reported under Jugoslavia or Austria in the statistics by countries of birth. On the other hand Switzerland has no place in the mother-tongue classification because there is no Swiss language; the mother tongue of persons born in Switzerland would ordinarily be German, French, or Italian, according to the language ordinarily spoken. One table in Volume II, however, gives statistics of foreign-born white by country of birth according to postwar boundaries subclassified by mother tongue. Another table gives the total of foreign white stock by mother tongues, distributed by countries of origin according to prewar boundaries. A third table gives figures for foreign-born white by mother tongue distributed by country of birth, according to postwar boundaries. From these tables may be ascertained the languages spoken by all persons born in Germany (postwar boundaries) as well as the country of origin (prewar) and the country of birth (postwar) of all persons whose mother tongue is German.

Statistics as to mother tongue were first collected at the Census of 1910. The statistics by mother tongue pertain not only to persons of foreign birth, but also to native whites having one or both parents foreign born. Natives having both parents born abroad are classified according to the mother tongue of the parents; natives having one parent native born and one foreign born are classified according to the mother tongue of the foreign-born parent. At the Census of 1910 all native white persons of foreign parentage were classified

<sup>23</sup> See page 61 for difference between mixed parentage and mixed foreign parentage.

according to the mother tongue of the father. This resulted in the inclusion, under each mother tongue, of certain numbers of persons whose mothers were reported as belonging to different linguistic classifications. At the Census of 1920, however, all native whites whose foreign-born parents were of different mother tongues were separately classified as "of mixed mother tongue."

The following comment on the statistics is given in the report of the Fourteenth Census:\*

In most cases the returns for mother tongue may be taken as indicative of ethnic stock. The principal exception to this rule appears in the case of persons reported under the head English and Celtic, which group includes four ethnically distinct peoples, namely, the English, the Irish, the Scotch, and the Welsh. In the case of these peoples country-of-origin statistics throw much more light on ethnic composition than do mother-tongue statistics. As a matter of fact, some persons were returned by the enumerators as Irish, Scotch, or Welsh in mother tongue, but it was evident that in very many such cases the returns indicated nationality rather than mother tongue and would therefore, if published, greatly exaggerate the number of persons using these languages in customary speech, while at the same time they would come far short of indicating the total number of persons of Irish, Scotch, or Welsh extraction.

While English and Celtic as a mother tongue thus covers more than one group of peoples, the opposite is true of Yiddish, which is the mother tongue reported for only a part of the Hebrews, the others being returned as speaking Polish, Russian, German, etc. In particular, it is probable that a large proportion of the persons reported in 1920 as Russian in mother tongue were in reality Hebrews; and it is possible also that the very great increase between 1910 and 1920 in the number of persons thus reported is due in some measure to the return of certain persons in 1910 as Yiddish and in 1920 as Russian in mother tongue.

Statistics as to mother tongue are of greatest significance with reference to the foreign white stock originating in seven countries, Austria, Hungary, Russia, Czechoslovakia, Jugo-Slavia, Rumania, and Canada, as at present constituted, or in six countries, Germany, Austria, Hungary, Russia, Rumania and Canada, as constituted in 1910. Immigrants from Canada include both English-speaking and French-speaking persons, while those from the other countries named, especially Austria and Hungary as constituted in 1910, include widely different ethnic groups. There is also more or less mixture in the cases of Poland, Finland, Switzerland, and

\* Fourteenth Census, Vol. II, p. 967.

Belgium; but in the case of each of these countries one language is spoken by a large majority of the immigrants.

The schedule of statistics of country of origin (page 61) applies also to statistics of mother tongue, except that no division is made into rural and urban for statistics of mother tongue.

**Citizenship of Foreign Born.** The Census of 1920 was the first one at which complete data on naturalization were secured for foreign-born persons of both sexes and all ages. The statistics relating to naturalization have been collected at each census beginning with 1890, but the figures for 1890, 1900, and 1910 related to males 21 years of age and over. In 1890 no tabulation was made according to color and race.

The classification in regard to citizenship embraces four groups, namely, naturalized, having first papers, alien, and citizenship not reported. The first papers constitute the declaration of intention to become a citizen of the United States, which declaration may be made by any eligible alien 18 years of age or more at any time after arrival in the United States. The process of naturalization can not be completed, however, until at least two years and not more than seven years have elapsed after the declaration of intention, and the applicant has resided at least five years continuously in the United States and at least one year continuously in the state of which he seeks to become a citizen. In some cases, however, the requirement of five years' continuous residence in the United States is waived on account of military or naval service.

Under the provisions of the naturalization laws at the time the Fourteenth Census was taken, the citizenship status of a married woman was the same as that of her husband (but if the husband had taken out his first naturalization papers only, his wife was classified in the census returns as an alien); for an unmarried woman the process of naturalization was the same as for a man; a foreign-born widow or foreign-born divorced wife of a citizen of the United States retained the citizenship status of her former husband so long as she continued to reside in this country; a foreign-born widow or foreign-born divorced wife of an alien might become naturalized in the same manner as a man. In general, foreign-born minors have the same citizenship status as their parents.



The act of September 22, 1922 (42 Stat. L., 1021), provides that married women must be naturalized separately from their husbands, but that act did not change the status of women whose husbands had already been naturalized, and who consequently had obtained citizenship in this manner.

The statistics for the foreign-born white are indicated by the following schedule:

SCHEDULE OF CENSUS STATISTICS OF NATURALIZATION OF  
FOREIGN-BORN WHITE POPULATION

Geographic units	All ages		Over 21	
	Total from all countries	Separate countries	Total from all countries	Separate countries
United States—Male and female (Vol. II, Chap. 8; Abstract) .....	×	×	×	×
Divisions and states.				
Male and female (Vol. II, Chap. 8) .....	×	×	×	×
Male and female (Abstract) .....	×	..	×	..
Counties.				
Total (Vol. II, Chap. 16) .....	..	..	× <sup>a</sup>	..
Male and female (Vol. 3) .....	..	..	×	..
Cities of 100,000 and over.				
Total (Vol. II, Chap. 8) .....	×	×	..	..
Male and female (Vol. II, Chap. 8) .....	×	..	×	×
Male and female (Abstract) .....	×	..	×	..
Cities of 10,000 and over—Male and female (Vol. III) .....	..	..	×	..
Cities of 25,000 to 100,000.				
Male and female (Vol. II, Chap. 8; Abstract) ..	..	..	×	..
Total (Vol. II, Chap. 8; Abstract) .....	×	..	..	..
Male and female (Vol. III) .....	..	..	× <sup>a</sup>	..
Wards of cities of 50,000 and over—Male and female (Vol. III) .....	..	..	× <sup>a</sup>	..
Urban and rural.				
United States.				
Total (Vol. II, Chap. 8) .....	..	..	..	×
Male and female (Vol. II, Chap. 8) .....	×	..	×	..
Male and female (Abstract) .....	×	..	×	×
Divisions and states—Male and female (Vol. II, Chap. 8; Abstract) .....	..	..	×	..

<sup>a</sup> Shows only those naturalized; does not show those having first papers, aliens, or citizenship not reported.

As by far the greater part of the foreign-born population is white the detailed statistics are for the white population only. Summary figures for the entire foreign population are given in Volume II and the Abstract for the total from all countries and for male and female of all ages and over 21, divided into white, negro, Indian, Japanese, and all other. For divisions, states, and cities of 100,000 and over Volume II and the Abstract give the total from all countries for foreign born of all ages without differentiation of sex.

**Year of Immigration of Foreign Born.** Statistics are published in the general report on population and the Abstract showing years or periods during which the foreign-born residents arrived in the United States. These figures have been collected at the last four censuses. The census statistics differ from those published by the Bureau of Immigration in the annual reports of the Commissioner-General of Immigration, which show the number of arrivals during a particular year, while the census shows the number arriving during a particular year or period and still in the country at the time the census was taken. The difference between the actual arrivals in any year and the number reported by the census should indicate the immigrants who have died or left the country. It should be noted that the figures by states and cities show not the period of

SERIES OF YEARS USED IN CENSUS STATISTICS OF YEAR OF IMMIGRATION

Group A	Group B	Group C	Group D	Group E
1911-1913 1906-1910 1901-1905 1900 and earlier	1918-1919 1916-1917 1911-1915 1906-1910 1901-1905 1900 and earlier	1911-1919 1901-1910 1900 and earlier	1916-1919 1911-1915 1906-1910 1901-1905 1900 and earlier	1916-1919 1911-1915 1901-1910 1900 and earlier

arrival in the particular states and cities, but only the period of arrival in the country. They are of value as indicating whether the foreign-born population consists of recent arrivals or persons who have been in the country for some years.

Figures by sex are given only as specifically indicated in the schedule on the next page. The term "all classes" in the schedule means the total of foreign born without reference to race or color.

Some tables show single years from 1914 to 1919, and there are five groupings of series of years, which are here arbitrarily called A, B, C, D, and E, but which are not so referred to in the census reports. The years included in each group are shown in the table on the preceding page.

SCHEDULE OF CENSUS STATISTICS SHOWING YEAR OF IMMIGRATION

Geographic units and classes	Single years 1914 to 1919	Series of years				
		Group A	Group B	Group C	Group D	Group E
United States.						
All classes (Vol. II, Chap. 7; Abstract).....	..	..	..	..	..	X
All classes and white (Vol. II, Chap. 7).....	..	..	..	X	..	..
All classes, white, negro, Indian, Chinese, Japanese, and all other, male and female (Vol. II, Chap. 7; Abstract).....	X	X	X	..	..	..
Negro, Indian, Chinese, and Japanese (Vol. II, Chap. 7).....	X	X	..	..	..	..
Divisions and states.						
All classes (Vol. II, Chap. 7; Abstract)....	X	X	..	..	..	..
All classes, male and female (Vol. II, Chap. 7, Abstract) .....	..	..	X	..	..	..
All classes and white (Vol. II, Chap. 7).....	..	..	..	X	..	..
Selected states—All classes, white, negro, Indian, Chinese, and Japanese (Vol. II, Chap. 7) .....	X	X	..	..	..	..
Urban and rural.						
United States, all classes and white, male and female (Vol. II, Chap. 7; Abstract)....	X	X	..	..	..	..
Divisions and states, all classes (Vol. II, Chap. 7; Abstract).....	..	..	..	..	..	X
Cities of 100,000 and over.						
All classes (Vol. II, Chap. 7; Abstract)....	X	X	..	..	..	..
All classes, male and female (Vol. II, Chap. 7; Abstract) .....	..	..	X	..	..	..
All classes and white (Vol. II, Chap. 7)....	..	..	..	X	..	..
Cities from 25,000 to 100,000—All classes (Vol. II, Chap. 7; Abstract).....	..	..	..	..	X	..
Selected cities <sup>a</sup> —Negroes, Chinese, and Japanese (Vol. II, Chap. 7).....	X	X	..	..	..	..

<sup>a</sup> Those having 500 or more foreign born inhabitants of the specified races.

**Dwellings, Families, and Home Ownership.** In the census statistics the term "dwelling" means any place in which one or more

persons sleep regularly, and includes all habitations from a room in a warehouse accommodating one person to an apartment house covering an entire city block. The term "family" means a group of persons, whether related by blood or not, who live together as one household, usually sharing the same table. One person living alone is counted as a family, as are the occupants of a hotel or institution; persons living in an apartment house, however, would constitute several families. Some of the tables in the reports indicate the number of persons to a dwelling and the number of persons to a family; but if these derivative figures are not given they may easily be computed from the total population figures. The distribution of the statistics on dwellings and families through the several volumes of the Fourteenth Census is indicated by the following schedule:

SCHEDULE SHOWING CENSUS STATISTICS OF DWELLINGS AND FAMILIES

Geographic units	Vol. II	Vol. III	Abstract
United States, divisions, states, and cities of 25,000 and over.....	×	×	×
Counties, cities and places of 2,500 and over, and wards of cities of 50,000 and over	..	×	..
Urban and rural—United States, divisions, and states .....	×	..	×

Statistics as to the ownership of homes have been collected and published for each census beginning with that for 1890.

For census purposes a home is treated as owned if it is owned wholly or in part by the head of the family living in it, or by his wife, or by a son or a daughter, or by any other relative living in the same house with the head of the family. But if the home is owned by a lodger or boarder who is not related to the head of the family occupying it, it is treated as a rented home. Every home not owned, either wholly or in part, by the family living in it is classed as rented, whether rent is actually paid or not.

In the case of an apartment house or other plural-family dwelling, the portion occupied by each family is treated as a separate home and is returned as rented, owned free, or owned encumbered.

In Volume II of the reports of the Fourteenth Census are given statistics regarding ownership of homes, regardless of whether on farms or not on farms, for the United States, divisions, several

states, the District of Columbia, counties, cities of 10,000 and over, and wards of cities of 50,000 or over. Homes are classified as owned or rented; the owned homes being divided into those free of encumbrance and those encumbered.

For the Southern states separate figures are given for the white and colored population, but for the other geographic units no distinction is made for race, color, or nativity.

Similar figures for Alaska, Hawaii, and Porto Rico are given in Volume III. All of the statistics shown in Volumes II and III were obtained directly from the schedules submitted by the enumerators.

More detailed statistics regarding homes not on farms are given in Monograph II of the Fourteenth Census, entitled "Mortgages on Homes." The detailed data shown in Monograph II were collected by means of a questionnaire mailed to the owner of each home reported by the enumerator as mortgaged. The only earlier census at which such detailed data were collected was that for 1890, the figures for 1890 being given also in Monograph II for purposes of comparison. In addition to figures on the total number of homes free or mortgaged by states, divisions, and cities of 25,000 and over, Monograph II contains detailed statistics for divisions, states, and cities of 25,000 and over on the following subjects:

Total value of homes, total amount of mortgage debt, annual interest charge.

Number, total value, and total mortgage debt for homes valued at less than \$2,500; \$2,500 and under \$5,000; \$5,000 and under \$7,500; \$7,500 and under \$10,000; \$10,000 and under \$15,000; \$15,000 and under \$20,000; \$20,000 and under \$25,000; \$25,000 and over.

Number of mortgages and total amount of mortgage debt bearing interest at less than 5 per cent; 5 per cent; between 5 and 5½ per cent; 5½ per cent; between 5½ and 6 per cent; 6 per cent; between 6 and 7 per cent; 7 per cent; between 7 and 8 per cent; 8 per cent; over 8 per cent.

There are also many derivative tables giving averages and percentages.

As answers were not received for every questionnaire some of the totals in Monograph II are estimates based on the returns actually made. The following statement regarding the method is quoted from the monograph.<sup>13</sup>

<sup>13</sup> Fourteenth Census, Monograph II, pp. 20-21.

The homes unknown as to tenure were distributed in the proportion of the known returns for owned and rented homes, and, similarly, the owned homes unknown as to encumbrance were distributed in the proportion of the known returns for free and mortgaged homes.

To illustrate: In the State of Maine the total number of homes not on farms for which returns were made as to tenure in 1920 was 135,771, of which 69,370 were reported as rented and 66,401 as owned. The number for which no returns as to tenure were received, 2547, was distributed in the same proportions as the number for which returns were made, thus increasing the number of rented homes by 1301 and the number of owned homes by 1246. ( $135,771:69,370::2547:x$ . Solving the proportion,  $x=1301$ .  $2547-1301=1246$ .) Of the 66,401 owned homes, no report was made for 1577 as to whether they were owned free or mortgaged. To these 1577 homes were added the 1246 estimated as shown above, making a total of 2823 owned homes for which no report was made as to whether they were free or mortgaged. These 2823 homes were then distributed in the same proportions as those with definite returns as to encumbrance (50,019 free and 14,805 mortgaged), thus increasing the free and mortgaged groups by 2178 and 645, respectively. The distribution of the unknown items for Maine, therefore, increased the number of rented homes from 69,370 to 70,671; the number of owned homes from 66,401 to 67,647; the number owned free from debt from 50,019 to 52,197; and the number owned mortgaged from 14,805 to 15,450.

\* \* \* \*

For the United States as a whole the proportion of homes for which no reports were made as to tenure was 2.1 per cent in 1920, as against 2.3 in 1890; the proportion for which no reports were made as to whether free or mortgaged was 2.5 per cent in 1920, as compared with 2.1 per cent in 1890; and the proportion for which no reports were made concerning the amount of mortgage debt was 33.7 per cent in 1920, as against 26 per cent in 1890.

One table in Monograph II gives the number, total value, and total mortgage debt of mortgaged farms for the United States, divisions, and states, but the detailed statistics on farm mortgages are given in Volume V, as the farm mortgage covers both the land and the dwelling, and is an element which furnished capital to the farmer.<sup>4</sup> Statistics on farm mortgages are analyzed in Chapter XV, page 189.

<sup>4</sup> Mortgages on farms will be discussed in a monograph of the Fourteenth Census on that subject.

## CHAPTER IV

### NEGROES, INDIANS, CHINESE, AND JAPANESE

Statistics on negroes, Indians, Chinese, and Japanese are given in the general reports on population described in Chapter III, but there are some special reports on these elements of the population which are discussed below.

**Negroes.** As color and race are used as subdivisions of practically all census statistics, figures on the negro will be found in all the reports of the census dealing with population, agriculture, and mortality. Schedules showing statistics available are given on the pages cited below in connection with the discussion of the following subjects :

Total number, page 30.

Sex, page 34.

Age, pages 37-38.

School attendance, pages 44-46.

Illiteracy, pages 51-53.

Marital condition, page 41.

Inability to speak English, page 54.

State of birth, page 55.

Naturalization, page 66.

Number of farm operators, area of land in farms, number of farms, value of farms and farm property, and number and value of domestic animals, pages 186-187.

Years on farm and age of farm operators, page 188.

Statistics on negroes have been collected and published at every census; in fact, the distinction between white and colored has been the only racial classification carried through all censuses. Prior to the Census of 1900 all the figures on negroes were in the general census reports, but since that time the publications noted below dealing specifically with negroes have been published :

Twelfth Census : 1900. Negroes in the United States, Bulletin 8.

Thirteenth Census : 1910. Negroes in the United States, Bulletin 129.

Negro population, 1790 to 1915.

The special reports of the Twelfth and Thirteenth Censuses, issued as Bulletins 8 and 129, contain statistics on the number, sex,

age, illiteracy, conjugal condition, occupation, agricultural condition, and religious bodies. Bulletin 129 for 1910 contains also statistics on mortality.

In 1918 the Bureau of the Census issued a comprehensive report entitled "Negro Population, 1790-1915," which gives in the first part a statistical history of the negro during the period of 125 years covered by the report. This older material was compiled both from the published reports and from manuscript records, so that it contains much information not previously available. The greater part of the report, however, is devoted to statistics of the Census of 1910, with comparative figures of preceding enumerations, although statistics for the earlier years are given in connection with practically all the topics.

In practically all the tables the unit of reporting is the state, but statistics are given for cities and counties under many headings. The most important of the state and county tabulations are noted in the outline below, which indicates the scope of this publication:

#### OUTLINE OF STATISTICS IN NEGRO POPULATION, 1790-1915

##### Growth and geographic distribution, 1790-1910.

Distribution in the continental United States and in outlying possessions, 1910.

Growth in the continental United States: 1790-1910. Number, increase and proportion of negroes in the total population.

Geographic distribution and increase, by states, 1790-1910.

Proportion of negroes in the population at each census, 1790-1910.

Free colored and slave population, 1790-1860.

##### Migratory displacement and segregation.

Nativity—place of birth, parentage and interstate migration.

Urbanization—urban and rural classification and population of cities.

The black belt—Number, increase and density, by county areas.

##### Physical characteristics.

Sex composition.

Age composition.

Color—black and mulatto elements.

##### Vital statistics.

Marital condition, classified by age.

Fertility—proportion of children to women of child-bearing age.

Mortality in the registration area, including like tables for the registration states. Deaths by age periods are given for registration states and selected registration cities for 1900 and 1910 to 1914.



OUTLINE OF STATISTICS IN NEGRO POPULATION, 1790-1915—*Continued*

**Educational and social statistics.**

School attendance, by age periods.

Illiteracy, by age periods.

Delinquent, defective and dependent classes.

Prisoners and juvenile delinquents, by sex, age and offenses.

Insane and feeble minded, by sex and age.

The blind, by sex and age.

Deaf mutes, by sex.

Paupers in almshouses, by sex.

**Economic statistics.**

Home ownership and size of families, statistics by counties.

Occupation—employments, trades and professions, by industrial groups.

Agriculture—acreage of farms, value of farm property, live stock, crops, term of occupancy, mortgage indebtedness, and tenure classes. Most of the tables in this section give statistics by counties.

**General tables.**

Negro population for cities and towns of 2500 inhabitants or over in 1910.

Negro population, 1910, 1900, 1890, 1880, decennial increases; proportion negro; land area and negro population per square mile, by counties, for southern states.

General statistics of negro population, by counties, 1910.

Total population at each census, 1790-1910.

**Indians.** Separate figures on the Indians are given in the census reports showing the composition and characteristics of the population. These are analyzed in Chapter III, in which are indicated, on the pages cited below, the general figures relating to the following subjects:

Total number, page 30.

Sex, page 34.

Age, pages 37-38.

School attendance, pages 44-46.

Inability to speak English, page 54.

Marital condition, page 41.

Year of immigration, page 67.

Naturalization, page 66.

Tenure of farm operators, page 187.

Area and value of farms, page 187.

In addition to the statistics on the Indian population referred to above, Volume III of the reports of the Fourteenth Census contains supplemental tables on the Indian population in each of the following states:

Arizona.	Nevada.	Utah.
California.	New Mexico.	Washington.
Idaho.	North Dakota.	Wisconsin.
Michigan.	Oklahoma.	Wyoming.
Montana.	Oregon.	
Nebraska.	South Dakota.	

These supplemental tables present data as follows :

Sex for the state and counties.

Age.

For the state.

Age periods (5 to 9, 10 to 14, 15 to 19, 20 to 44, 45 and over),  
male and female.

18 to 44 years, male and female.

21 years and over, male and female.

School attendance.

For the state.

5 to 20 years, male and female.

Age periods (5 and 6, 7 to 13, 14 and 15, 16 and 17, 18 to 20), total.

Illiteracy.

For the state,

10 years and over, male and female.

10 to 20 years, male and female.

21 years and over, male and female.

For counties.

10 years and over, total.

21 years and over, total.

Statistics on Indians have been published by each census, beginning with that for 1860, but at only two censuses (1890 and 1910) were separate volumes issued, the figures at other times being presented in connection with the general statistics on the population. The separate reports of the censuses of 1890 and 1910 were as follows :

Eleventh Census: 1890.

Indians taxed and not taxed in the United States (except Alaska).

[Issued in two editions—a preliminary report of eighty-six pages  
and a final report of six hundred and ninety-two pages.]

Eastern band of Cherokees in North Carolina.

The Six Nations of New York.

The Five Civilized Tribes in Indian Territory.

Moqui Pueblo Indians of Arizona and Pueblo Indians of New Mexico.

Thirteenth Census: 1910.

Statistics of the Indian population, 1910 [Preliminary report].

Indian population in the United States and Alaska, 1910 [Final report].

The general report of the Eleventh Census contains an historical review of the status of the Indian and the administration of Indian

affairs, while the final report for 1910 contains figures on tribes and tribal stock, mixed bloods, sex, age, marital condition, school attendance, illiteracy, inability to speak English, occupations, fecundity, vitality, and number taxed and not taxed.

Annual statistics on the Indian population, school attendance, and value of individual Indian and tribal property are given in the reports of the Commissioner of Indian Affairs. The population statistics give separate figures by states, superintendencies, and tribes for males and females, minors, adults, full blood, more than half Indian blood, and less than half Indian blood. The school attendance statistics give separate figures by states and superintendencies, for number of school age, number of eligibles, enrollment and average attendance in the various classes of schools, and the capacity of the schools. The annual reports for 1920 and prior years contained much more detailed data on land, mortality, morbidity, farming, irrigation, allotments, buildings, livestock, timber, etc.

The reports of the Bureau of the Census and of the Office of Indian Affairs do not agree, and it is hopeless to attempt to reconcile them, owing to the lack of definition as to what constitutes an Indian.

Each census enumerator would use his own judgment as to who should be considered an Indian, while the officers of the Indian Service would be guided by a legal determination where the rolls had been closed or by the general practice of the Service in other cases. The results of this are shown particularly in Oklahoma, where the Indian Service reports 119,255 and the Census Bureau, 67,337. The Indian Service figures include 23,405 freedmen, who are reported by the Census as negroes, but who are legally Indians. Of the other Indians carried on the rolls of the Five Civilized Tribes, many have such a small portion of Indian blood that it would be impossible for the casual observer to know that they are Indians. It is likely that in states where there are large Indian reservations and the Indians are more largely segregated under the Indian Service, the Indian Office figures are nearest the truth, while in the older states where the Indians are scattered and the Indian Service has only a few areas under its supervision the Census figures are more accurate. The discussion is largely futile, however, in the absence of any criterion as to the degree of blood that constitutes an Indian.

The statistics in the reports of the Commissioner of Indian Affairs must be viewed as reflecting the activities and problems of a government service rather than as being an endeavor to present a picture of the entire Indian population. They are based largely on the contact of the government, while the reports of the Bureau of the Census treat the Indian in the same manner as other elements of the population. In interpreting the statistics in the report of the Commissioner of Indian Affairs there must be borne in mind the fact that figures relating to the Indians relate only to those who are in contact with the government through the various superintendents and that no figures are collected by the Office of Indian Affairs regarding eastern Indians who are not under the control of the Office of Indian Affairs or other Indians who may have been merged into the general population and are not borne on the rolls of the Indian Office. This is particularly true of the totals regarding income and value of property.

In 1847 Congress made an appropriation to collect statistics and material on the history and conditions of the Indian tribes, and there resulted from this Schoolcraft's monumental work in six volumes published in Philadelphia between 1851 and 1857. The first edition of Part I bore the title "Historical and Statistical Information Respecting History, Conditions, and Prospects of Indian Tribes . . . ," by Henry R. Schoolcraft. A second edition of Part I was issued in 1853 in which the words "historical and statistical" were omitted from the title, and this form was followed in Parts 2 to 5. Part 6 bore the title "History of Indian Tribes of United States, their Present Condition and Prospects, and Sketch of their Ancient Status. . . ." The greater part of this work is devoted to descriptive and ethnological material, but in each volume are estimates regarding the number of Indians belonging to various tribes. The figures cannot be regarded as having any claim to exactness, but they are probably as good estimates as could be obtained at that time.

**Chinese and Japanese.** Statistics on the Chinese and Japanese form a part of the general population statistics discussed in Chapter III, schedules indicating the data being given on the pages cited for the following subjects:

Total number, page 30.  
 Sex, page 34.  
 Age, pages 37-38.  
 School attendance, pages 44-46.  
 Illiteracy, pages 51-53.  
 Inability to speak English, page 54.  
 Marital condition, page 41.  
 Year of immigration, page 67.  
 Tenure of farm operators, page 187.  
 Area and size of farms, page 187.

In Volume III of the reports of the Fourteenth Census supplemental tables for the Chinese and Japanese population in California, Oregon, and Washington give the following data:

Sex for the state and counties.

Age for the state

Age periods (5 to 9, 10 to 14, 15 to 19, 20 to 44, 45 and over), male and female.

18 to 44 years, male and female.

21 years and over, male and female.

School attendance for the state.

5 to 20 years, male and female.

Age periods (5 and 6, 7 to 13, 14 and 15, 16 and 17, 18 to 20), total.

Illiteracy.

For the state.

10 years and over, male and female.

10 to 20 years, male and female.

21 years and over, male and female.

For counties.

10 years and over, total.

21 years and over, total.

Separate figures on the Chinese were first published in the report of the Census of 1860; the Japanese were first shown in the report of the Census of 1870. While each succeeding census has contained separate figures, only one special report has been issued, Bulletin 127, "Chinese and Japanese in the United States," which is based primarily on the Census of 1910, but which also contains comparative figures for earlier years. Some of the statistics in this bulletin are not given in the other reports of the census. These statistics are given by states, cities, and counties as follows:

States—Total number, by sex; occupation, by sex; marital condition, by age; school attendance, by age and sex; illiteracy, by sex.

Counties—Total number.

Cities of over 25,000—Total number.

Selected cities—Sex, age, marital condition, school age and attendance, and illiteracy.

## CHAPTER V

### DEPENDENTS, DEFECTIVES, AND DELINQUENTS

**Paupers.** An enumeration of paupers was made at each census between 1850 and 1890 and special studies were made in 1904, 1910 and 1923. The statistics prior to 1880 included paupers receiving outdoor relief as well as those in almshouses. The figures collected for 1880 and later years relate to paupers in almshouses only. The decennial census reports containing these statistics are as follows:

Seventh Census: 1850.

Statistical view of the United States—Compendium of the Seventh Census.

Abstract of the Seventh Census.

Eighth Census: 1860. Statistics of the United States in 1860.

Ninth Census: 1870.

Population and social statistics.

Compendium of the Ninth Census.

Tenth Census: 1880.

Vol. I. Population of the United States.

Vol. XXI. Defective, dependent and delinquent classes of the population.

Compendium of the Tenth Census, Part II.

Eleventh Census: 1890.

Crime, pauperism, and benevolence.

Compendium of the Eleventh Census, Part II.

The Bureau of the Census has made three special investigations of paupers in almshouses in 1904, 1910, and 1923, the results of which have been published under identical titles ("Paupers in Almshouses"), with the exception of the year. A preliminary report of the 1910 investigation was issued as Bulletin 120, with the same title.

These reports cannot be used to make deductions regarding the number of dependent poor in the entire United States or the relative number in any state. The earlier reports, in which an endeavor was made to show all paupers, cannot be regarded as approximately correct, because it is impossible to obtain correct data on the dependent poor by means of enumerators. The later reports,

which give data on paupers in almshouses, cannot be used as an index of poverty in various states because many dependent poor are not inmates of almshouses. Moreover, the statistics for almshouses reflect in a large degree the provisions made in the several states for the public care of paupers and the methods of administration. The value of the statistics is in showing "how many persons are provided for in this class of public institutions, and to ascertain personal facts about them that enable one to distinguish the component parts of this pauper element as well as the probable origin of its dependence."<sup>1</sup>

The report for 1910 includes data on sex, color, age, nativity, parentage, nationality, marital condition, literacy, occupation, condition for work, and mental and physical defects.

The report for 1923, which is preliminary, contains data on number, age, color or race, country of birth, and marital condition. A more detailed report will probably be issued later.

**Benevolent Institutions.** The Bureau of the Census has made four special investigations of benevolent or eleemosynary institutions the results of which have been published under the titles "Benevolent Institutions: 1904," "Benevolent Institutions, 1910," "Statistical Directory of State Institutions, 1915," and "Hospitals and Dispensaries, 1923." All of these reports relate to the main features and activities of institutions of this character and not to the class of persons afforded relief. There are presented statistics on the number of inmates of each class of institutions, but the line of approach is entirely from the institutional side and not from that of the classes of the population who may be entitled to various kinds of relief.

The reports relating to 1904 and 1910 are confined entirely to institutions supported wholly or in part by public taxation, private endowments, or subscriptions, donations, and other forms of gift, for the benefit of the sick, aged, and needy. The classes of institutions treated are orphanages and children's homes, day nurseries, hospitals, dispensaries, permanent homes, temporary homes, and schools and homes for the blind and deaf. It will be noted that there are not included almshouses and public and

<sup>1</sup> Paupers in almshouses: 1904, p. 3.

private hospitals for the insane and feeble minded, as these are treated in other publications devoted entirely to those subjects. Private establishments operated for profit are not included, but it should not be inferred that all inmates of the institutions covered are recipients of charity. In the case of hospitals, particularly, many of the institutions receive patients who pay for their treatment.

The reports contain general summaries giving data on each class of institution by states and detailed tables giving statistics for the individual institutions. For all classes of establishments there are shown the character of the management, the year founded, the class of persons treated, the number of inmates at the beginning and end of the year, admissions during the year, the number of employees or members of staff, the amount received from public funds, the income from pay patients, and the total cost of maintenance.

The "Statistical Directory of State Institutions, 1915," is in some respects of wider scope and in some aspects of narrower scope than the earlier reports. It is wider in that it includes data on more classes of institutions; it is narrower in that it excludes private foundations that do not receive at least 50 per cent of their expenses from the state. As stated in the report, to be included an establishment must have been "owned or leased, managed in whole or in part, and maintained to the extent of at least 50 per cent of its annual expenditures by the state or federal government and devoted to the custodial or other continuous care of persons" belonging to one or more of the following classes: (1) Feeble minded; (2) insane and criminalistic, including the delinquent and wayward; (3) epileptic; (4) inebriate, including drug habitués; (5) tuberculous, or others with chronic infectious segregated diseases; (6) blind; (7) deaf; (8) deformed; and (9) dependent. This report, like the earlier ones, is a study of the institutions themselves, and not an analysis of the character of the inmates.

There are assembled statistics giving information by states and classes of institutions regarding the number of institutions, capacity, inmates, admissions, and losses in 1915, state appropriations, expenditures, value of plant, acreage, and number of employees.

For each institution there are shown the number of employees, by classes, income and expenditure, value of plant, acreage of



DEPENDENTS, DEFECTIVES, AND DELINQUENTS 81

grounds, number of inmates on January 1, 1915, and admissions and losses during 1915.

A report entitled "Hospitals and Dispensaries, 1923," issued by the Bureau of the Census, contains statistics on this class of institutions. The figures that apply to a period of time, such as those relating to receipts and expenditures, are for the calendar year 1922, while those relating to a particular date, such as number of beds, are for January 1, 1923.

The publication contains data on hospitals and sanatoriums devoted exclusively to the care of the sick, but does not cover the hospital departments of schools and other similar institutions in which the medical work is incidental to other purposes. Hospitals are classified as Federal, general, and special. Federal hospitals are those owned and operated by the United States, general hospitals are those which treat cases of all kinds, and special hospitals are those which treat only cases within particular fields. The scope of the main tables is indicated by the following schedule :

SCHEDULE OF STATISTICS IN "HOSPITALS AND DISPENSARIES, 1923"

[S indicates figures by states; C indicates figures for cities of 100,000 and over in 1920]

	Federal	General	Special	General and special	All hospitals
Number of hospitals.....	S	SC	S	..	C
Number of beds.....	S	SC	S	..	C
Patients treated .....	S	SC	S	..	C
Class of patients (all races, white, negro).....	S	S	S	..	C
Days treatment .....	S	SC	S	..	C
Pay, part pay, and free days treatment.....	..	S	S	..	C
Number of medical staff, nurses, social service staff .....	S	S	S	..	C
Receipts with source.....	..	S	S	C	..
Expenditures .....	..	S	S	C	..
Value of property.....	..	S	S	C	..
Auspices under which conducted.....	..	..	..	S*	S
Dispensaries .....	S	S	S	S*	S

\* Also Red Cross.

In addition to the foregoing general data the pamphlet contains tabulations on the following:

- Nongovernmental institutions in each state classified by class of ownership.
- Tuberculosis hospitals and sanatoriums in each state showing number of beds, patients treated, and total days treatment.
- Dispensaries in each state by following classifications:
  - Number attached to hospitals.
  - Number of independent dispensaries.
  - Number of each type—general, special, Federal, and Red Cross.
  - Number of patients.<sup>3</sup>
  - Visits by patients.<sup>3</sup>

**Insane and Feeble Minded.** Statistics on the insane and feeble minded were collected at each decennial census, beginning with the one for 1840 and ending with the one for 1890. At each census, with the exception of the one for 1880, insane persons were reported by the enumerators, regardless of whether they were in or outside hospitals and institutions. At the Census of 1880 the returns from the enumerators were supplemented by schedules filled out by physicians. No figures regarding the insane were collected at the Census of 1900, but since the organization of the permanent Census Bureau, investigations have been made for 1904 and 1910 of the insane and feeble minded in institutions. Neither method of obtaining the data gives complete figures on the insane in the United States, as it is not possible to obtain through enumerators accurate information regarding the insane not in institutions, and the census of inmates of institutions makes no pretense to giving facts regarding the entire population. While the decennial reports are not of great value, they are listed below in order to give all the references:

Sixth Census: 1840.

- Sixth Census or enumeration of the inhabitants of the United States.
- Compendium of the enumeration of the inhabitants and statistics of the United States.

Seventh Census: 1850.

- Seventh Census of the United States.
- Statistical view of the United States—Compendium of the Seventh Census

Abstract of the Seventh Census.

Eighth Census: 1860.

- Preliminary report on the Eighth Census.
- Population of the United States in 1860.

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<sup>3</sup> These figures are given also for cities of 100,000 and over.

**Ninth Census: 1870.**

Vital statistics of the United States, 1870.

Compendium of the Ninth Census.

Statistical atlas of the United States.

**Tenth Census: 1880.**

Vol. I. Population of the United States.

Vol. XXI. Defective, dependent and delinquent classes of the population, 1880.

Compendium of the Tenth Census, Part II.

**Eleventh Census: 1890.**

Insane, feeble minded, deaf and dumb, and blind.

Compendium of the Eleventh Census, Part II.

The Bureau of the Census has published two intercensal reports dealing with the insane, entitled "Insane and Feeble Minded in Hospitals and Institutions, 1904" and "Insane and Feeble Minded in Institutions, 1910." A preliminary report of the 1910 investigation was issued under the same title as Bulletin 119.

The reports for 1904 and 1910 differ from the earlier decennial reports in two important respects: (1) They relate only to the inmates of hospitals for the insane, and (2) in addition to data on the number of inmates at the end of the year, they give facts regarding the number of admissions, discharges, deaths, and transfers during the year. In these reports the insane in institutions are tabulated by the general census classifications of states, age, sex, nativity, and occupations. In addition there is shown for each institution the total number of insane admitted during each of the ten latest years as well as details regarding the color and nativity of those admitted during the year. In the use of these tables the fact must be borne in mind that they relate only to insane in institutions. The figures, therefore, cannot be used for the purpose of drawing conclusions regarding the ratio of the insane to the total population. In the case of the District of Columbia the high ratio of insane to total population is due to the existence of a government hospital in which are confined the insane of the army, navy, and federal prisons, as well as residents of the District of Columbia. In other states a high ratio may be due to the fact that there are extensive hospital facilities which are well utilized, or a low ratio may be due to the lack of institutions. The essential local conditions must be known before any conclusions can be drawn. The reports give an accurate picture of the use of hospitals, but give only contributions to the general subject of insanity.

The figures for the feeble minded are given separately from those for the insane, but are classified along the same general lines. However, no statistics are given for individual institutions for the feeble minded.

**Blind and Deaf.**<sup>3</sup> The blind and deaf have been the subject of inquiry at every census beginning with the one for 1830. Up to and including the census of 1890 all information regarding the blind and deaf was obtained directly from the reports submitted by the enumerators; at the censuses of 1900, 1910, and 1920, the enumerators reported simply the names of persons reported to be blind and deaf and supplemental schedules were forwarded to each person, the statistics being compiled from the supplemental returns. Consequently, the reports for these years are in more detail than the preceding ones. In the earlier census reports the figures on the blind and deaf are not assembled, but are scattered through the tables giving statistics by states and other geographical units. While the figures for 1900 and 1910 apply to the census year, the results were not published as reports of the decennial census, but were issued as independent publications. The decennial census reports containing statistics on these classes of the population are as follows:

Fifth Census: 1830. Fifth Census or enumeration of the inhabitants of the United States.

Sixth Census: 1840.

Sixth Census or enumeration of the inhabitants of the United States.  
Compendium of the enumeration of the inhabitants and statistics of the United States.

Seventh Census: 1850.

Seventh Census of the United States.

Statistical view of the United States—Compendium of the Seventh Census.

Abstract of the Seventh Census.

Eighth Census: 1860.

Preliminary report on the Eighth Census.

Population of the United States in 1860.

Ninth Census: 1870.

Vital statistics of the United States.

Compendium of the Ninth Census.

Statistical atlas of the United States.

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<sup>3</sup> Information regarding the blind and deaf in the Philippine Islands is contained in "Census of the Philippine Islands: 1903," Bureau of the Census.

Tenth Census: 1880.

Vol. I. Population of the United States.

Vol. XXI. Defective, dependent, and delinquent classes of the population.

Compendium of the Tenth Census, Part II.

Eleventh Census: 1890.

Insane, feeble minded, deaf and dumb, and blind.

Compendium of the Eleventh Census, Part II.

The figures on the blind and deaf in the United States collected in connection with the decennial enumerations of population in 1900, 1910, and 1920, were not published in the reports of those censuses, but were issued later as special reports. The titles of these reports are: "The Blind and the Deaf, 1900," "The Blind in the United States, 1910," "The Blind in the United States, 1920," "Deaf Mutes in the United States, 1910," and "Deaf Mutes in the United States, 1920." A preliminary report on the blind in 1910 appeared as Bulletin 130, and a preliminary report on the deaf in 1910 was issued under the title "The Census of the Deaf and Dumb, 1910."

The statistics for 1900, 1910, and 1920, give both social and physical facts regarding these classes of the population. In addition to the classification by sex, age, nativity, marital condition, occupation, education, and ability for self-support, there are also detailed tables on the causes of blindness or deafness, the age when sight or hearing was lost, the status of other members of the family as regards sight and hearing, and other factors.

**Delinquents.** Statistics of prisoners were collected at each decennial census beginning with 1850 and ending in 1890 and those for juvenile delinquents were compiled at the censuses of 1880 and 1890. Since 1890 these statistics have been collected in 1904 and in 1910 independently of the decennial census. The decennial census reports on these topics are as follows:

Seventh Census: 1850.

Statistical view of the United States—Compendium of the Seventh Census.

Abstract of the Seventh Census.

Eighth Census: 1860. Statistics of the United States in 1860.

Ninth Census: 1870.

Population and social statistics.

Compendium of the Ninth Census.

Tenth Census: 1880.

Vol. I. Population of the United States.

Vol. XXI. Defective, dependent and delinquent classes.

Compendium of the Tenth Census.

Eleventh Census: 1890.

Crime, pauperism and benevolence.

Compendium of the Eleventh Census, Part II.

The data in the reports from 1850 to 1890 are restricted to facts concerning the inmates of prisons at the time the enumeration was made.

The Bureau of the Census has published two special reports dealing with prisoners and juvenile delinquents, the titles of which are "Prisoners and Juvenile Delinquents in Institutions, 1904," and "Prisoners and Juvenile Delinquents, 1910"; a preliminary report of the 1910 investigation was issued as Bulletin 121 under the same title. These reports give not only facts relating to the number of prisoners at the end of the year, but also data on those committed during the year. The prisoners at the end of the year are shown by sex, color, nativity, and race, by states and territories and by individual institutions; by length of sentence and sex, by states; by length of sentence, sex, color nativity, and race, and by sentence, sex, and offense. The prisoners committed during the year are classified as indicated above and also by country of birth, color, nativity, offense, and sex, by language spoken, by length of residence in the United States, by age and sex, by marital condition, by degree of literacy, and by occupations. Juvenile delinquents are shown separately by the more important classifications given above that apply to them.

A pamphlet entitled "Number of Prisoners in Penal Institutions, 1922 and 1917," issued by the Bureau of the Census, gives separate figures by states for prisoners in federal, state, county, and city institutions. The investigation resulting in this report is preliminary to the more detailed census of prisoners and juvenile delinquents, which will be similar to that published for 1910.

## CHAPTER VI

### IMMIGRANTS AND EMIGRANTS

**Reports of Bureau of Immigration.** All statistics on immigration and emigration or the movement of persons into and from the country are derived from the official records and publications of the Bureau of Immigration. That bureau, however, collects no data dealing with the condition or characteristics of the immigrant population, information on this subject being collected by the Bureau of the Census or by special surveys.

Immigration and emigration statistics are compiled from detailed lists required by law to be submitted by the commanding officers of vessels bringing persons to or taking persons from the United States.

The information which must be given in the passenger manifests is prescribed by Section 12 of the Act of February 5, 1917 (39 Stat. L., 882), for arriving aliens as follows:

Full name, age, and sex; whether married or single; calling or occupation; personal description (including height, complexion, color of hair and eyes, and marks of identification); whether able to read or write; nationality; country of birth; race; country of last permanent residence; name and address of the nearest relative in the country from which the alien came; seaport for landing in the United States; final destination, if any, beyond the port of landing; whether having a ticket through to such final destination; by whom passage was paid; whether in possession of \$50, and if less, how much; whether going to join a relative or friend, and, if so, what relative or friend, and his or her name and complete address; whether ever before in the United States, and if so, when and where; whether ever in prison or almshouse or an institution or hospital for the care and treatment of the insane; whether ever supported by charity; whether a polygamist; whether an anarchist; whether a person who believes in or advocates the overthrow by force or violence of the Government of the United States or of all forms of law, or who disbelieves in or is opposed to organized government, or who advocates the assassination of public officials,

or who advocates or teaches the unlawful destruction of property, or is a member of or affiliated with any organization entertaining and teaching disbelief in or opposition to organized government, or which teaches the unlawful destruction of property, or who advocates or teaches the duty, necessity, or propriety of the unlawful assaulting or killing of any officer or officers, either of specific individuals or of officers generally, of the Government of the United States or of any other organized government because of his or their official character; whether coming by reason of any offer, solicitation, promise, or agreement, express or implied, to perform labor in the United States; the alien's condition of health, mental and physical; whether deformed or crippled, and if so, for how long and from what cause; whether coming with the intent to return to the country whence such alien comes after temporarily engaging in laboring pursuits in the United States; and such other items of information as will aid in determining whether any such alien belongs to any of the excluded classes enumerated in section 3 [for exclusion].

For departing aliens the following information is required:

Name, age, and sex; whether married or single; calling or occupation; whether able to read or write; nationality; country of birth; country of which citizen or subject; race; last permanent residence in the United States or insular possessions thereof; if a citizen of the United States or of the insular possessions thereof, whether native born or naturalized; if native born, the place and date of birth, or if naturalized the city or town in which naturalization has been had; intended future permanent residence; and time and port of last arrival in the United States, or insular possessions thereof.

The immigration regulations require vessels arriving at or departing from Canadian ports to submit similar information regarding all passengers bound to or from the United States.

In the case of citizens of the United States there must be shown the sex, age, class of travel for all passengers, the port of embarkation of arriving passengers and the port of debarkation of departing passengers.

*Annual Statistics of Immigration and Emigration.* The annual reports of the Commissioner General of Immigration afford the primary source of information regarding the number of persons arriving in or departing from the United States. From 1820 to 1870 annual reports on immigration were made to Congress by the Secre-



tary of State and printed as documents of Congress. From 1869 to 1895 the annual report entitled "Foreign Commerce and Navigation," issued by the Bureau of Statistics of the Treasury Department, contained this information, although the Superintendent of Immigration also issued reports for 1892 to 1894. The annual reports of heads of the Immigration Service have been issued under the following titles:

**Treasury Department.**

Annual Report of Superintendent of Immigration—1892 to 1894.

Annual Report of Commissioner General of Immigration—1895 to 1903.

**Department of Commerce and Labor.**

Annual Report of Commissioner General of Immigration and Naturalization—1904 to 1912.

**Department of Labor.**

Annual Report of Commissioner General of Immigration—1913 and later years.

The reports of the Immigration Commission (described on pages 95-103) contain so much historical material that it is seldom necessary to refer to the older reports.

The reports of the Commissioner General of Immigration and Naturalization for 1904 and 1908 contain the results of a special inquiry into the number of aliens in charitable institutions, penal institutions, and institutions for the insane. Immigrants are classified by races and by sex, age, and cause and period of detention.

The statistics given in the reports of the Commissioner General of Immigration for many years have made a distinction between immigrant and nonimmigrant aliens, and between emigrant and non-emigrant aliens. Immigrant aliens are those arriving aliens who have had a permanent residence abroad and who intend to remain permanently in the United States. Nonimmigrant aliens are arriving aliens making a temporary trip to the United States, and arriving aliens who have been residents of the United States and who are returning from a temporary trip to a foreign country. Emigrant aliens are aliens departing from the United States whose permanent residence has been in the United States and who intend to reside permanently abroad. Nonemigrant aliens are aliens departing from the United States whose permanent residence has been in the United States and who intend to make a temporary stay in a foreign country.

It will thus be seen that the classification of arriving and departing aliens has nothing whatever to do with social status or amount of money. The arriving artist, the business man, and the laborer are classed as immigrant or nonimmigrant solely on the basis of their intention to stay permanently or temporarily in this country.

The main classification used in the immigration statistics is that of race, which must not be confused with nationality or country of last residence. The classification by race is based on ethnic stock, that by nationality on political allegiance, and that by country of last residence on domicile. The immigration statistics do not give any conclusive information regarding nationality, but they do give information regarding country of last residence. For instance, a German by race may have been born in Switzerland or Austria and have been a subject of either of these countries; he may have been born in Germany, emigrated to and acquired citizenship in Sweden, and then emigrated to the United States. In the immigration statistics showing race, he would be classed as a German regardless of the country to which he owed allegiance at one time or another. In one table, however, is shown the last country of permanent residence; this may or may not indicate his political allegiance, as his political status depends on the laws of the country of last residence or the action taken by the individual.

The schedules on pages 92 and 93 show the classification of the statistics in the annual report of the Commissioner General of Immigration. In general the terms used in the classification are self-explanatory, but there are indicated below the subdivisions of each classification.

Age statistics are divided into three groups—under 16 years, 16 to 44 years, and 45 years and over. The figures on literacy apply only to those 16 years of age and over, and are subdivided to show those who can read and write, those who can read but not write, and those who can neither read nor write.

The causes for exemption are divided into those exempted by reason of their going to join relatives and those exempted for other causes. The figures on the amount of money indicate those bringing \$50 or less, and those bringing over \$50; the total amount of money brought is also shown. The data on payment of passage indicate whether it was made by the immigrant, by a relative, or by some other person. The figures on whether the immigrant is

going to join a relative or friend show those joining relatives, those joining friends, and those not joining relatives or friends.

The years of continuous residence in the United States given for emigrants are grouped by five-year periods up to 20 years, all over 20 years' residence being shown together. Conjugal condition indicates the number of persons over 16 years of age single, married, widowed, and divorced. The age subdivisions under conjugal condition are 16 to 44, and 45 and over, except that for single females, separate figures are given for those 16 to 21 years, 22 to 29 years, 30 to 37 years, and 38 to 44 years.

Occupations are divided into the three main groups—professional, skilled, and miscellaneous, which are further subdivided into seventy-six classes. Originally, the occupation classification was the same as that used by the Bureau of the Census, but the Bureau of the Census has made some modifications in its classification which have not been adopted by the Bureau of Immigration. The classes of the Census and those of the Bureau of Immigration may be compared, but this is made somewhat difficult by the fact that the classes in the immigration statistics are arranged alphabetically while the census classes are grouped in logical order. Thus, in the immigration statistics, dressmakers and seamstresses form two classes, each in its alphabetical place, while in the census statistics “dressmakers and seamstresses, not in factory” are shown together, as one class, while dressmakers and seamstresses working in factory are grouped with other miscellaneous semi-skilled operatives. The occupation statistics are undoubtedly subject to a wide margin of error, particularly in such classes as farmers and farm laborers, as the individual may report himself as one or the other. The comments regarding the occupation statistics of the census, given on page 107, apply also to those of the Bureau of Immigration.

All the tables are for the current fiscal year, but a few give general figures over a series of years. The totals for the United States include Alaska, Porto Rico, and Hawaii, but not the Philippines, although some of the general tables give separate figures for admissions and departures from the Philippines.

## NATIONAL STATISTICAL WORK

SCHEDULE OF ALIEN IMMIGRATION STATISTICS IN ANNUAL REPORTS OF  
COMMISSIONER GENERAL OF IMMIGRATION

Classification	Immigrant		Non-immigrant	
	Classified by race	Not classified by race	Classified by race	Not classified by race
Total immigration .....	X	::	X	::
By ports .....	::	X	::	X
By countries of last residence.....	X	X	::	X
By states of intended residence.....	X	X	::	X
By occupations .....	X	X	::	X
By sex .....	X	::	X	::
By age .....	X	::	X	::
By literacy and sex.....	X	::	X	::
By causes of exemption and sex.....	X	::	X	::
Amount of money.....	X	::	X	::
By whom passage paid.....	X	::	X	::
Whether joining relatives or friends.	X	::	X	::
By sex, age, and conjugal condition..	X	::	::	::
By states of future residence and occupation .....	::	X	::	::
By states of future residence and ports of entry .....	::	X	::	::
By specified periods during year.....	X	::	::	::
From each insular possession by ports	::	X	::	X

SCHEDULE OF STATISTICS OF CITIZENS DEPARTED, IN ANNUAL REPORTS OF  
COMMISSIONER GENERAL OF IMMIGRATION

Classification	Not subdivided	Classified by race	
		Naturalized	Native
By ports .....	X	::	::
By sex .....	::	X	X
By age .....	::	X	X
By length of residence.....	::	X	X
By countries of future residence.....	::	X	X
By states of last residence.....	::	X	X
By occupations .....	::	X	X

SCHEDULE OF STATISTICS OF ALIEN EMIGRATION IN ANNUAL REPORTS OF  
COMMISSIONER GENERAL OF IMMIGRATION

Classification	Not subdivided	Emigrant		Non-emigrant	
		Classified by race	Not classified by race	Classified by race	Not classified by race
Total emigration .....	..	×	..	×	..
By ports .....	..	..	×	..	×
By countries of future residence .....	..	×	×	..	×
By states of last residence .....	..	×	×	..	×
By occupation .....	..	×	×	..	×
By sex .....	..	×	..	×	..
By age .....	..	×	..	×	..
By years of continuous residence .....	..	×	..	×	..
By sex, age, and conjugal condition .....	..	×	..	..	..
By states of last residence and occupations .....	..	..	×	..	..
Debarred, by causes and races .....	×	..	..	..	..
Debarred, by years since 1892, by causes .....	×	..	..	..	..
Deported, by races .....	×	..	..	..	..
Debarred, by ports .....	×	..	..	..	..

In addition to the classifications listed above this report shows also the following:

Citizens arriving, by ports.

Aliens granted hospital treatment, by races.

Aliens certified as defective, by defects and by sex, age, and disposition of case.

Aliens certified as defective, by defects and races.

Aliens certified as defective, by defects and part of body.

There are also detailed tables dealing with the arrivals of Japanese and the number of Japanese in the United States.

*Monthly Statistics of Immigration and Emigration.* The publication of statistics of immigration and emigration was begun in the Monthly Labor Review in the issue for August, 1915, which contained figures for the six months ending June, 1914 and 1915. The issues from October, 1915, to February, 1920, contained data for

each month from July, 1914, to November, 1919. During this period the tables showed total arrivals classified by race.<sup>1</sup> The publication of monthly immigration statistics was discontinued with the bulletin for February, 1920, and was not resumed until the issue for March, 1922, when data were published for the six months ending December 31, 1921. Since April, 1922, monthly figures on immigration and emigration have been published, classified by race, country of last permanent residence and country of future residence.

Monthly or quarterly statistics of immigration were published by the Bureau of Statistics of the Treasury Department from January, 1869, to June, 1903, and by the Bureau of Statistics of the Department of Commerce and Labor from July, 1903, to 1906. These were contained in the monthly report of those bureaus known after 1899 as the Monthly Summary of Commerce and Finance.<sup>2</sup> Figures by months from July, 1896, to April, 1900, are given in the Monthly Summary for April, 1900.

From October, 1885, to June, 1893, monthly statistics were also published in the leaflets issued by the Bureau of Statistics of the Treasury Department under the title "Statement of Foreign Commerce and Immigration."

From January, 1906, to August, 1919, a monthly bulletin was issued by the Bureau of Immigration and Naturalization of the Department of Commerce and Labor and the Bureau of Immigration of the Department of Labor under the following titles:

Department of Commerce and Labor: Bureau of Immigration and Naturalization.

Immigration Statement—January to March, 1906.

Immigration Statement and Inward Passenger Movement—April, 1906, to May, 1908.

Immigration and Emigration Statement [and] Inward Passenger Movement—June, 1908, to February, 1909.

Immigration Bulletin, March, 1909, to February, 1913.

Department of Labor: Bureau of Immigration.

Immigration Bulletin—March, 1913, to December, 1917.

Immigration Service Bulletin—April, 1918, to August, 1919.<sup>3</sup>

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<sup>1</sup> In some of the tables the heading is wrongly given as nationality.

<sup>2</sup> For titles of this publication at different periods, see page 354.

<sup>3</sup> There is no break in the statistics between this series and the preceding one.

**Reports of Immigration Commission, 1911.** The act of Congress approved February 20, 1907, created the Immigration Commission to make a "full inquiry, examination, and investigation . . . into the subject of immigration." The reports of this commission, issued in forty-one volumes in 1911, contain probably the largest collection of material relating to the immigration problem that has ever been assembled. There are mentioned below only the volumes that contain a considerable amount of statistical material. A complete list of the publications of the commission is as follows:

- Volumes 1 and 2. Abstracts of reports of the Immigration Commission, with conclusions and recommendations and views of the minority. (These volumes include the Commission's complete reports on the following subjects: Immigration conditions in Hawaii; Immigration and insanity; Immigrants in charity hospitals; Alien seamen and stowaways; Contract labor and induced and assisted immigration; The Greek padrone system in the United States; Peonage.) (Sen. Doc. 747, 61st Cong., 3d sess.)
- Volume 3. Statistical review of immigration, 1819-1910—Distribution of immigrants, 1850-1900. (Sen. Doc. 756, 61st Cong., 3d sess.)
- Volume 4. Emigration conditions in Europe. (Sen. Doc. 748, 61st Cong., 3d sess.)
- Volume 5. Dictionary of races or peoples. (Sen. Doc. 662, 61st Cong., 3d sess.)
- Volumes 6 and 7. Immigrants in industries: Pt. 1, Bituminous coal mining. (Sen. Doc. 633, 61st Cong., 2d sess.)
- Volumes 8 and 9. Immigrants in industries: Pt. 2, Iron and steel manufacturing. (Sen. Doc. 633, 61st Cong., 2d sess.)
- Volume 10. Immigrants in industries: Pt. 3, Cotton goods manufacturing in the North Atlantic states; Pt. 4, Woolen and worsted goods manufacturing. (Sen. Doc. 633, 61st Cong., 2d sess.)
- Volume 11. Immigrants in industries: Pt. 5, Silk goods manufacturing and dyeing; Pt. 6, Clothing manufacturing; Pt. 7, Collar, cuff, and shirt manufacturing. (Sen. Doc. 633, 61st Cong., 2d sess.)
- Volume 12. Immigrants in industries: Pt. 8, Leather manufacturing; Pt. 9, Boot and shoe manufacturing; Pt. 10, Glove manufacturing. (Sen. Doc. 633, 61st Cong., 2d sess.)
- Volume 13. Immigrants in industries: Pt. 11, Slaughtering and meat packing. (Sen. Doc. 633, 61st Cong., 2d sess.)
- Volume 14. Immigrants in industries: Pt. 12, Glass manufacturing; Pt. 13, Agricultural implement and vehicle manufacturing. (Sen. Doc. 633, 61st Cong., 2d sess.)
- Volume 15. Immigrants in industries: Pt. 14, Cigar and tobacco manufacturing; Pt. 15, Furniture manufacturing; Pt. 16, Sugar refining. (Sen. Doc. 633, 61st Cong., 2d sess.)
- Volume 16. Immigrants in industries: Pt. 17, Copper mining and smelting; Pt. 18, Iron ore mining; Pt. 19, Anthracite coal mining; Pt. 20, Oil refining. (Sen. Doc. 633, 61st Cong., 2d sess.)

- Volume 17. Immigrants in industries: Pt. 21, Diversified industries, Vol. I. (Sen. Doc. 633, 61st Cong., 2d sess.)
- Volume 18. Immigrants in industries: Pt. 21, Diversified industries, Vol. II; Pt. 22, The floating immigrant labor supply. (Sen. Doc. 633, 61st Cong.; 2d sess.)
- Volumes 19 and 20. Immigrants in industries: Pt. 23, Summary report on immigrants in manufacturing and mining. (Sen. Doc. 633, 61st Cong., 2d sess.)
- Volume 21 and 22. Immigrants in industries: Pt. 24, Recent immigrants in agriculture. (Sen. Doc. 633, 61st Cong., 2d sess.)
- Volumes 23-25. Immigrants in industries: Pt. 25, Japanese and other immigrant races in the Pacific Coast and Rocky Mountain states. (Sen. Doc. 633, 61st Cong., 2d sess.)
- Volumes 26 and 27. Immigrants in cities: (Sen. Doc. 338, 61st Cong., 2d sess.)
- Volume 28. Occupations of the first and second generations of immigrants in the United States; Fecundity of immigrant women. (Sen. Doc. 282, 61st Cong., 2d sess.)
- Volumes 29-33. The children of immigrants in schools. (Sen. Doc. 749, 61st Cong., 3d sess.)
- Volumes 34 and 35. Immigrants as charity seekers. (Sen. Doc. 665, 61st Cong., 3d sess.)
- Volume 36. Immigration and crime. (Sen. Doc. 750, 61st Cong., 3d sess.)
- Volume 37. Steerage conditions; Importation and harboring of women for immoral purposes; Immigrant homes and aid societies; Immigrant banks. (Sen. Doc. 753, 61st Cong., 3d sess.)
- Volume 38. Changes in bodily form of descendants of immigrants. (Sen. Doc. 208, 61st Cong., 2d sess.)
- Volume 39. Federal immigration legislation; Digest of immigration decisions; Steerage legislation, 1819-1908; State immigration and alien laws. (Sen. Doc. 758, 61st Cong., 3d sess.)
- Volume 40. The immigration situation in other countries: Canada, Australia, New Zealand, Argentina, Brazil. (Sen. Doc. 761, 61st Cong., 3d sess.)
- Volume 41. Statements and recommendations submitted by societies and organizations interested in the subject of immigration. (Sen. Doc. 761, 61st Cong., 3d sess.)

Volumes 1 and 2 contain abstracts of all the reports, some of the more significant tables being given in full.

Volume 3 contains two reports, entitled "Statistical Review of Immigration, 1819-1910" and "Distribution of Immigrants, 1850-1900." The Statistical Review brings together all available important statistics that had been collected by the government since 1819. The main topics handled in this report are as follows:

- Number of immigrants, by country of origin, annually, 1820 to 1910.
- Number of immigrants, by country of origin and sex, annually, 1869 to 1910.
- Sex of immigrants, by race or people, annually, 1899 to 1910.
- Number of immigrants, by country of last permanent residence and race or people, annually, 1899 to 1910.



Number of immigrants over 14 years of age, unable to read or write, by race or people, annually, 1899 to 1910, by sex, annually, 1908 to 1910.

Number of immigrants by age groups and race or people, annually, 1899 to 1910.

Occupation of immigrants, by race or people, annually, 1899 to 1910.

Occupation of immigrants, by state of intended future residence, annually, 1899 to 1910.

State of destination of immigrants, by race or people, annually, 1899 to 1910.

Amount of money shown by immigrants, by race or people, annually, 1899 to 1910.

Aliens debarred, by cause and nationality, annually, 1895 to 1910.

Aliens debarred, by race or people, annually, 1899 to 1910.

Emigrant aliens deported, by race or people, sex, age, length of continuous residence, annually, 1908 to 1910.

Nonimmigrant aliens admitted and deported, by race or people, age, sex, etc.

The report on the "Distribution of Immigrants" in Volume 3 is a compilation of the material published in the census reports. The main tables are as follows:

Foreign born in each state at each census, 1850 to 1890; in each city over 25,000 and in smaller cities and country districts, at each census, 1870 to 1890; by classes of cities at each census, 1870 to 1890.

Population of foreign parentage, by states, 1900.

White population of foreign parentage, by states and cities and country of origin, 1890 and 1900.

The emigration situation in Italy, Russia, Austria-Hungary, and Greece is discussed in Volume 4, entitled "Emigration Conditions in Europe," the main statistical tables being the following:

Immigration, by country of origin, annually, 1820 to 1910.

Crime in Italy, number of crimes of various character reported, by periods and districts from 1880 to 1906.

Jewish population of Russia by districts, occupations, sex, etc., 1897.

In Volume 5, entitled "Dictionary of Races or Peoples" are some short tables showing the distribution of races in countries having a composite population such as Austria-Hungary, but the greater part of the report is devoted to a discussion of the ethnographic feature of various races.

Statistics bearing on the industrial status of the immigrant are given in Volumes 6 to 25, entitled "Immigrants in Industries." These reports do not give figures on the total number of immigrants in any industry or the extent to which various industries have been dependent on immigrant labor. They are intended to give information on the progress made by the immigrant in various occupational groups. The study is essentially one which gives a cross sectional

view, as it was impossible without an enumeration of the entire population to obtain data on all immigrants and all industries. As the information desired would have complicated the census schedules to such an extent as to make them unworkable, the only recourse was to adopt the sampling method and collect data for representative individuals and establishments. Information was collected from over 500,000 employees and in addition studies were made of over 17,000 households whose heads were engaged in mining or manufacturing. The number of persons furnishing answers to all questions was considerably smaller than the total number answering the schedules in part. The tables in the report, however, indicate the number of persons giving a satisfactory reply to each specific inquiry. The industries studied are shown in the list on p. 95.

The information under each industry is classified by nativity and race and includes the following topics :

Per cent of foreign born employees in the United States for specified number of years.

Per cent of employees engaged in various occupations before coming to the United States.

Per cent of employees, male and female, of various ages, earning specified amounts per day.

Average yearly earnings of heads of families and average income of families.

Occupation of wives.

Months worked during year.

Affiliation with trade unions.

Average rent.

Households keeping boarders.

Number of rooms per household.

Number of persons per household, per room, per apartment, and per sleeping room.

Ability to read and write.

Conjugal condition.

Home ownership.

Naturalization.

Ability to speak English.

In the report on each industry figures are given for each topic on the number of persons or households of each race in that industry ; in the summary report in Volume 19 all the statistics on one topic are classified by race and nativity, no attention being paid to the industry in which engaged ; in the general tables in Volume 20 the statistics on each topic are classified by sex of each race and sub-classified by industry. Thus, data on figures on immigrants owning homes who are employed in the slaughtering and meat packing

industry are given in the report on that industry in Volume 11; figures on the relative extent of home ownership by immigrants of various races are in the summary in Volume 19; data on home ownership by Italians employed in several or all of the industries studied are in the general tables in Volume 20.

Data on specified races in various sections of the country are given in Volumes 21 to 25, which, in addition to a text discussion, contain considerable statistical material collected by representatives of the Commission. In general these reports are intensive studies of the selected communities in which the various races or nationalities are found to a large extent. The subjects treated in these volumes are as follows:

**Volume 21.**

General survey of immigrants in agriculture.

Italians in agriculture.

**Volume 22.**

Hebrews, Poles, Bohemians, Slovaks, Magyars and Portuguese in agriculture.

Seasonal agricultural laborers.

**Volume 23.**

Japanese immigrants.

Japanese in city employments and business in the principal cities of the Pacific Coast and Rocky Mountain states.

East Indians on the Pacific Coast.

**Volume 24.**

Immigrant labor in agricultural and allied industries of the western states.

Immigrant farmers in the western states (this chapter contains considerable material on Japanese farmers).

Immigrants in Fresno County, California.

**Volume 25.**

Immigrant laborers employed by steam railway companies of the Pacific Coast and Rocky Mountain states.

Immigrant laborers employed by street railway companies operating in the cities of the Pacific Coast and Rocky Mountain states.

Immigrant labor in the metalliferous mining, smelting and refining industry in the western states.

Immigrant labor in the coal and coke industry of the western states.

Immigrants in the lumber and shingle industries of Oregon and Washington.

Immigrant labor in the cement industry, salmon canneries of Columbia River, Puget Sound and Alaska, cigar- and cigarette-making in San Francisco, powder factories of California, cotton mills in Oakland.

Immigrants in Los Angeles.

The status of immigrants in cities is discussed in Volumes 26 and 27 entitled "Immigrants in Cities." Like the industrial survey, this also presents a cross sectional view obtained by a detailed canvass of specified blocks in New York, Chicago, Philadelphia, Boston, Cleveland, Buffalo, and Milwaukee. The topics on which statistics are given are as follows:

Living conditions—Congestion, care and equipment of home, home ownership and rent.

Economic status—Occupations, earnings, family income.

Assimilation—Length of residence, ability to speak English, literacy, citizenship.

Occupation of immigrants is the subject of Volume 28. This volume was compiled from unpublished material collected by the Census of 1900, and supplements the occupation statistics of the Twelfth Census. Separate figures are given for immigrants of the first generation—those born in foreign countries—and for immigrants of the second generation—those born in the United States of foreign parents. The figures are given according to three primary classifications—occupation, state, and country in which the parents were born. A study of the fecundity of immigrant women, also in Volume 28, was likewise based on unpublished material collected by the Census of 1900. The statistics are confined to Rhode Island, Cleveland, forty-eight largely rural counties in Ohio, Minneapolis, and twenty-one largely rural counties in Minnesota.

Statistics on the children of immigrants in schools are given in Volumes 29 to 33. The figures given in these reports were obtained through a special enumeration undertaken by the Commission in a number of cities. A general investigation showing the broad facts regarding immigrants in schools was made of public schools in forty-two cities and parochial schools in twenty-four cities. An intensive investigation designed to bring out the special features of the school life of immigrant children was made in the public schools of twelve cities. The schedules for the general investigation were prepared by the school authorities for all the children under their direction, while in the intensive investigation a separate schedule was prepared for each child. The cities in which the investigations were made and the volumes containing the results are indicated in the following schedule:

SCHEDULE SHOWING SCOPE OF STATISTICS OF IMMIGRANTS IN SCHOOLS  
IN VOLUMES 30 TO 33 OF IMMIGRATION COMMISSION

Volume	General investigation of public schools and of teachers	General investigation of parochial schools	General and intensive investigation of public schools
30	Baltimore. Boston. Buffalo. Chicago. Cincinnati. Cleveland.	Baltimore. Boston. Cleveland.	Bay City. Buffalo. Cedar Rapids. Chelsea. Chicago. Cleveland.
31	Detroit. Duluth. Fall River. Haverhill. Johnstown. Kansas City. Los Angeles. Lowell. Lynn. Manchester. Meriden.	Detroit. Duluth. Fall River. Haverhill. Kansas City. Los Angeles. Lowell. Lynn. Manchester. Meriden.	Haverhill. Johnstown.
32	Milwaukee. Minneapolis. Newark. New Orleans. New York. Philadelphia.	Milwaukee. Minneapolis. Newark. New Britain. New Orleans. New York. Philadelphia.	Newark. New Bedford. New Britain.
33	Pittsburgh. Providence. St. Louis. San Francisco. Scranton. Shenandoah. South Omaha. Worcester. Yonkers.	Providence. San Francisco. Scranton. Shenandoah.	Pittsburgh.

The statistics collected in the general investigation of public and private schools include the following topics :

- Pupils of each age in each grade, by sex.
- Pupils of each sex in each grade, by general nativity and race of father.
- Pupils by sex of each age in each grade, by nativity and race of father.
- Pupils of specified age in each grade, by nativity and race of father.<sup>4</sup>
- Race distribution in each grade, by percentages.
- Grade distribution of each race, by percentages.

In the intensive investigation the statistics embrace birthplace; age at arrival, race of father, school attendance abroad, retardation, rate of progress, citizenship of father, and ability of father to speak English.

A study of teachers was made in all cities covered by the general investigation only, the tables including information by sex and general nativity regarding the number in each grade and the number teaching specified numbers of pupils.

Information regarding immigrants in higher educational institutions is given in Volume 33.

Information regarding immigrants as charity seekers is given in Volumes 34 and 35, which embody the results of an original investigation undertaken under the direction of the Commission. The data were obtained through the charity organization societies, which filled out a schedule for each case assisted during the period from December 1, 1908, to May 31, 1909. This work was carried on and results published for forty-three cities, as follows :

CITIES FOR WHICH DATA ON IMMIGRANTS AS CHARITY SEEKERS  
HAVE BEEN COLLECTED

Atlanta, Ga.	Grand Rapids, Mich.	Pawtucket, R. I.
Baltimore, Md.	Hartford, Conn.	Peoria, Ill.
Bloomington, Ill.	Indianapolis, Ind.	Pittsburgh, Pa.
Boston, Mass.	Kalamazoo, Mich.	Rochester, N. Y.
Brooklyn, N. Y.	Lancaster, Pa.	St. Louis, Mo.
Buffalo, N. Y.	Lincoln, Nebr.	St. Paul, Minn.
Chicago, Ill.	Louisville, Ky.	San Francisco, Calif.
Cincinnati, Ohio.	Lynn, Mass.	Seattle, Wash.
Cleveland, Ohio.	Malden, Mass.	Springfield, Mass.
Columbus, Ohio.	Milwaukee, Wis.	Washington, D. C.
Dayton, Ohio.	Minneapolis, Minn.	Wilkes Barre, Pa.
Denver, Colo.	Newark, N. J.	Worcester, Mass.
Des Moines, Iowa.	Newport, R. I.	Youngstown, Ohio.
Elmira, N. Y.	Oakland, Calif.	
Evansville, Ind.	Orange, N. J.	

<sup>4</sup> Public schools only.

Practically all the tables show nativity and race. The information includes cause of need, persons involved, kind of aid given, age of head of family, conjugal condition, ability to speak English, and years in United States.

Volume 34 contains also statistics on pauperism taken from census reports for 1850, 1860, 1870, 1888, 1890, and 1904 and from the reports of the Bureau of Immigration and Naturalization for 1904 and 1908.

In Volume 36 are the results of an effort to determine the relationship between immigration and crime. It was manifestly impossible to determine the amount of crime due to immigration, so the investigation was confined to an attempt to ascertain what changes in crime resulted from immigration and what crimes were peculiar to various immigrants races and nationalities. In order to determine this, a study was made of the records of 1,179,677 cases obtained from the following sources :

Convictions in New York Court of General Sessions, October 1, 1908, to June 30, 1909.

Convictions in county and supreme courts of New York state, January 1, 1907, to December 31, 1908.

Children convicted or committed to institutions, New York City children's courts, 1906 and 1908.

Police court cases in New York City magistrate courts, January 1, 1901, to December 31, 1908.

Police arrests, Chicago, 1905 to 1908.

Commitments to penal institutions in Massachusetts, October 1, 1908, to September 30, 1909.

The material is classified according to the character of crime, race or country of birth, literacy, schooling, and conjugal condition. The volume contains also census data on crime and statistics on aliens in penal institutions in 1908 taken from the report of the Commissioner General of Immigration for that year.

**Ninth Special Report of the Commissioner of Labor, 1897.** The Ninth Special Report of the Commissioner of Labor, 1897, gives the results of a special study of the Italian population of Chicago. Data were collected showing the economic and social condition, and the report presents both the statistics for individuals and families and general tables dealing with the Italian population as a whole.

**Census Reports.** In the decennial census reports dealing with the composition of the population, occupations, and agriculture, and in the annual volumes on deaths and births, separate figures are given for the foreign-born white, the Chinese, and the Japanese in many of the tables. The foreign-born white classification runs through practically all the reports dealing with the population, although separate figures are not given for minor geographic units. On the pages cited below are given analyses of the statistics on the several topics relating to these classes of the population :

CROSS REFERENCES TO ANALYSES OF CENSUS STATISTICS RELATING TO  
FOREIGN BORN POPULATION

Classification	Foreign born white	Chinese and Japanese
	<i>Pages</i>	<i>Pages</i>
Total number .....	31	30
Sex .....	34	34
Age .....	37-38	37-38
Marital condition .....	41	41
Illiteracy .....	51-53	51-53
School attendance .....	44-46	44-46
Inability to speak English.....	54	54
Country of birth.....	59	....
Year of immigration.....	67	67
Naturalization .....	65	66
Mother tongue .....	62	....
Dependents, defectives, and delinquents....	78-85	78-85
Deaths .....	122	123
Births .....	116	116
Farm operators .....	186	187
Occupations .....	113	....

**Passenger Movement.** Current statements on passengers arrived and departed are issued annually and quarterly by the United States Shipping Board.<sup>5</sup> As the purpose of these statements is to give a picture of the passenger movement they do not differentiate between American citizens, aliens, immigrants, or emigrants. They show the number of first class, second class, and third class passengers for principal seaboard ports only, separate figures being given for overseas traffic and nearby traffic (Canada, West Indies,

<sup>5</sup> These statistics are not printed; they are issued in sheet form, being reproduced by photographic process from the typewritten pages.



Mexico, Central America, and north coast of South America). These tables show also the arrivals from and departures for non-contiguous United States territory ; arrivals at New York and Baltimore from Los Angeles and San Francisco, and departures from New York and Baltimore for Los Angeles and San Francisco.

The quarterly statement shows passenger movement of the North Atlantic, South Atlantic, Gulf, and Pacific districts to and from the following regions :

United Kingdom.

    Ireland and west coast.

    Channel ports and east coast.

    Total

Germany and Northern Europe.

Holland to Atlantic Spain.

Mediterranean and Black Sea.

China, Japan and Philippines.

Mexico, Central America, North Coast South America, Virgin Islands and West Indies.

East Coast South America.

West Coast South America.

Canada.

All other.

In the annual statement the same classification is used, but in addition the flag of the carrier is indicated for each group, American vessels being further differentiated into Shipping Board and Independent American.

## CHAPTER VII

### OCCUPATIONS

Statistics of occupations were first collected at the Census of 1820 and have been included in the census reports at every later census with the exception of the one for 1830. The reports containing statistics of occupation are listed below, the more detailed reports being given first under each census:

**Fourth Census: 1820.** Census for 1820.

**Sixth Census: 1840.**

Sixth Census or enumeration of the inhabitants of the United States.  
Compendium of the enumeration of the inhabitants and statistics of the United States.

**Seventh Census: 1850.**

Seventh Census of the United States.

Statistical view of the United States—Compendium of the Seventh Census.

**Eighth Census: 1860.** Population of the United States in 1860.

**Ninth Census: 1870.**

Population and social statistics.

Statistics of the wealth and industry of the United States.

Compendium of the Ninth Census.

Statistical atlas of the United States.

**Tenth Census: 1880.**

Vol. I. Population of the United States.

Compendium of the Tenth Census, Vol. II.

**Eleventh Census: 1890.**

Population of the United States—Part II.

Compendium of the Eleventh Census—Part III.

Occupations of the population of the United States. [Preliminary Report.]

Abstract of the Eleventh Census.

Statistical atlas of the United States.

**Twelfth Census: 1900.**

Vol. I. Population, Part II.

Occupations at the Twelfth Census.

Supplementary analysis and derivative tables.

Census statistics of teachers, 1900.

Abstract of the Twelfth Census.

Statistics of women at work, 1900.

Child labor in the District of Columbia, 1900: Bulletin 68.

Child labor in the United States, 1900.

Statistical atlas.

Negroes in the United States, 1900.

Thirteenth Census: 1910.

Volume IV. Occupation statistics.

Negroes in the United States, 1910, Bulletin 129. [Preliminary report.]

Negroes in the United States, 1910.

Statistical atlas of the United States.

Fourteenth Census: 1920.

Vol. IV. Occupations.

Abstract of the Fourteenth Census.

A general review of the statistics of occupation of the censuses of 1870, 1880, and 1890 is given in Bulletin 11 of the Department of Labor. A supplementary compilation of material relating to the foreign born collected at the Census of 1900, but not published in the census reports, is given in Vol. 28 of the Report of the Immigration Commission (see page 100). An interpretation of the statistics of the Census of 1920 relating to working women is given in Bulletin 27 of the Women's Bureau, entitled "The Occupational Progress of Women," and a graphic presentation of the main census statistics of women in occupations is shown in Bulletin 46 of the Women's Bureau, entitled "Facts about Working Women."

Occupation statistics are probably more difficult to compile than any other statistics collected by the government. The defects in the earlier reports and the difficulties encountered in making the classification are well brought out in the following paragraphs from the introduction to the volume on occupation statistics published by the Fourteenth Census:<sup>1</sup>

*Classifications Prior to the Thirteenth Census.* From the Federal census of 1850, when the present method of individual enumeration was first inaugurated, until the enumeration in 1910, such a large proportion of the occupation returns were in general and indefinite terms that, in many cases, exact classification according to specific occupation was impossible. Therefore, of necessity, the classification followed was, in many respects, largely industrial in form. Those occupations, such as farmer, blacksmith, carpenter, doctor, and lawyer, which, usually, were carefully returned by the enumerators, and which could be classified easily apart from industries, were so classified. The remaining occupations, especially in manufacturing industries, were classified under such industrial groups as "Cotton mill operatives," "Woolen mill operatives," etc., without any attempt to distinguish the different specific occupations in each group, such as spinners, weavers, winders, etc. All occupa-

<sup>1</sup> Fourteenth Census, Vol. IV, pp. 10-12.

tions were grouped under five main classes or general divisions of occupations.

*The Thirteenth Census Classification.* At the Thirteenth Census, the form of classification, which had not been changed greatly since 1870, was found inadequate either to meet the marked changes that had taken place since 1870 in the occupational activities of the people or to meet the increased demands for more accurate and detailed information about these activities. Therefore, since it was believed that the special efforts that were being made to secure a more careful return of occupations at the Thirteenth Census would be sufficiently successful to justify an attempt at a more exact and scientific classification, an entirely new classification was decided upon.

After careful study of the classifications in use in a number of the principal nations, it was decided that the proper basis for a classification of occupations is the worker and his work, and, hence, that occupations should be classified with respect to the kind of work done or service rendered rather than according to the article made or worked upon, or the place where the work was done. Therefore, it was thought that the best form of classification for the United States would be an occupational classification with an industrial framework. Such a classification, it was believed, would give the most vivid picture of the occupational position of each and every worker, and would best show the specific services rendered, work done, or processes performed by each worker.

In the development of this new classification, each important industry, or service group,<sup>3</sup> was taken as a separate unit, and each of the specific occupations followed by the workers in it was listed thereunder, in so far as such occupation was definitely returned by the enumerators and was of sufficient importance to justify its separate presentation. Also, in the new classification, the number of main classes or general divisions of occupations was increased from five to eight, with an additional group for clerical occupations.

It is believed that an occupation classification which shows each specific occupation in each industry and in each service group—as did, roughly, the Thirteenth Census classification—is the ideal form of classification. This is the form toward which the classifications of many of the leading nations now appear to be moving. No other form will show so completely the exact occupational status of each and every worker; and no other form is so well fitted to furnish that specific information about the workers in each specific occupation of each industry which is demanded as an aid in the present-day studies of occupations. Also, no other form lends itself so well to any regrouping which students or others may desire.

<sup>3</sup>Public service, Professional service, and Domestic and personal service.

But while the detailed form of occupation classification used at the Thirteenth Census is believed to be ideal in the abstract, it was shown by Thirteenth Census experience to be rather impracticable and unsatisfactory under actual conditions of enumeration and classification prevailing at a Federal census of the United States.

Up to the present, the specific processes performed by the workers in each particular occupation have been studied carefully and described in detail, in printed reports, for only a part of the industries of the United States. Until much further work has been done in this line it will be impossible to construct, even approximately, a technically exact classification which will include each specific occupation in each different industry and service group.

But the construction of a detailed classification of occupations by industry, which is approximately technically exact, will solve only a part—and by far the lesser part—of the problem of securing accurate, detailed occupation statistics. The difficult problem of following the classification accurately will remain.

The chief obstacle to following accurately a detailed classification of specific occupations is the great difficulty of securing the accurate return by the census enumerators of technically exact designations of specific occupations.

Because of the great complexity and overlapping of many present-day industries, there is in many cases today no definite line of demarcation between industries; and, consequently, processes which usually are considered as belonging to separate and distinct industries frequently are performed in one and the same establishment. This fact makes it impossible in many cases for the enumerator to determine in which of two closely related industries a given person works, and, hence, makes it impossible for him to return the occupation of such person properly; and, in turn, makes it impossible for the classifying clerk to classify the occupation properly, according to any definite and logical scheme. In short, the difficulty here is that which results from the necessary attempt to reduce to a fixed and definite classification the occupations of an industrial system the organization of which is not only complex, but constantly changing.

In addition to the technical difficulty, due to the complexity of present-day industrial organization and, hence, ineradicable, there are certain practical difficulties which are even greater hindrances in the securing of the accurate return by the enumerators of the specific occupations of the persons enumerated. Chief of these is the difficulty of overcoming the carelessness of a great army of census enumerators, and their great lack of knowledge of specific occupations and their technical designations. Next in importance is the great difficulty of securing absolutely correct returns from persons who are ignorant, indifferent, or not trained in making accurate statement, or who, as a matter of fact, do not know the precise nature of the occupations followed by persons other than

themselves, as is the case with some of those who furnish information to census enumerators.

Unless these practical difficulties, and the technical difficulty due to the overlapping of industries can be eliminated, accurate enumeration and return of occupations, and, in turn, accurate classification and statistics of occupations, are impossible. Each of these practical difficulties may be lessened somewhat, but neither can be eliminated entirely. Neither does it seem practicable to resort to an entirely different method of enumeration. And, with the further complexity of industries and industrial processes which seems certain to take place, the difficulties of securing technically exact enumeration of occupations will tend to increase rather than to decrease.

Because of the impossibility of formulating and following a detailed classification showing each occupation in each industry, which would have any high degree of accuracy, either in form or in the statistics finally presented, it was decided, for the Fourteenth Census, to abandon the detailed form of classification followed at the Thirteenth Census.

*The Fourteenth Census Classification.* The Fourteenth Census classification of occupations is the result of a revision of the classification followed in General Tables I, II, and III of the Thirteenth Census Report on Occupation Statistics. The 215 main occupations and occupation groups of that classification were expanded, however, into 224, and the total 428 occupations and occupation groups were expanded into 572. The expansion consisted principally in showing separately the laborers and the semiskilled workers, respectively, for certain manufacturing industries for which they were not shown separately in General Tables I, II, and III of the Thirteenth Census Report on Occupation Statistics. In addition, certain composite occupation groups shown at the Thirteenth Census were broken up into more elemental groups.

Since processes and conditions of work vary from one occupation to another, and, in the same occupation, from one industry to another, it is evident that in any combination of elementary occupations the resultant group will be less specific than were its component parts. Notwithstanding this fact, combinations of elementary occupations were deemed advisable because of the impossibility of securing the accurate return of technically exact designations of specific occupations through the house-to-house canvass made by the Fourteenth Census enumerators. The general plan of combination was to group together all the workers in each separate occupation without regard to the different industries in which the occupation is pursued. In so condensed a classification, however, it is impossible to show separately each different occupation. In many cases, therefore, different occupations were combined; but the aim was to combine only those occupations which are very similar.

Those occupations which are not sufficiently similar to others to be combined with them and which are not sufficiently important to be classified separately, and those occupations which mean little apart from the industries in which they are pursued were combined under a number of residuary occupation groups, such as semiskilled operatives in candy factories, semiskilled operatives in cotton mills, etc. These residuary groups, while not strictly occupational, have a great deal of occupational significance; for, although each of them is made up of the workers in numerous occupations, pursued, sometimes, in several different industries, these workers together form a group which, in many respects, is occupationally homogeneous. Since the proprietors, the officials, the supervisory persons, the clerical workers, the followers of trades, and the laborers are otherwise classified, all the persons included in each of the residuary groups shown under "Manufacturing and mechanical industries," are factory operatives mainly belonging to the semiskilled class. In each extractive industry the nature of the returns was such that it was deemed best to combine the laborers and the semiskilled workers.

Thus, so far as practicable, the combination of elementary occupations was along *occupational* rather than *industrial* lines.

In the Fourteenth Census classification, as in the Thirteenth, the occupations and occupation groups, excepting clerical occupations, are grouped under the eight general divisions into which, for purposes of occupation classification, the industrial field is divided, each occupation being classified in that part of the industrial field in which it is most commonly pursued. For example, blacksmiths, carpenters, electricians, and machinists are classified under "Manufacturing and mechanical industries," though each of these trades is pursued in almost every industry. Clerical occupations, which can hardly be said to be more common to one general division of occupations than to another, have been classified apart.

The paragraphs quoted above are followed by more detailed statements showing the margin of error in certain specified occupations and the difficulties of classification.

The statistics of occupation are limited to gainful workers ten years of age and upward, the term gainful workers including all workers "except women doing housework in their own homes without salary or wages, and having no other employment, and children working at home, merely on general household work, on chores, or, at odd times, on other work."

In the census reports the population is classified by industrial divisions as well as by specific occupations. The main industrial divisions used in the Census of 1920 were as follows:

Agriculture, forestry, and animal husbandry.  
 Extraction of minerals.  
 Manufacturing and mechanical industries.  
 Trade.  
 Transportation.  
 Public service.  
 Professional service.  
 Domestic and personal service.  
 Clerical occupations.

The nine divisions are subdivided into 572 occupations or occupation groups. The proper classification of each occupation as commonly reported is shown in the publications entitled "Classified Index to Occupations" and "Alphabetical Index to Occupations." In the classified index the various occupations are listed under the classes used in the tabulation. In the alphabetical index the individual occupations are listed with a reference to the classification number used in the classified index. These two volumes are useful in determining the precise occupations included in any classes in the census reports. In these publications are listed approximately 20,000 occupational designations with a symbol indicating to which of the 572 occupations or occupation groups each designation is assigned.

Practically all of the occupation statistics differentiate between the sexes. There are two age groupings for the general statistics, and in addition there are special age groupings used for children from 10 to 17, for children from 10 to 15, and for married women. The two general age groupings are here arbitrarily termed Groupings A and B, and are as follows:

Age grouping A.	Age grouping B.
10 to 13.	10 to 17.
14.	18 and 19.
15.	20 to 24.
16.	25 to 44.
17.	45 to 64.
18 and 19.	65 and over.
20 to 24.	
25 to 44.	
45 to 64.	
65 and over.	

The age statistics for children group those between 10 and 13 and give separate figures for each year beyond 13. The age divisions for married women are 15 to 19, 20 to 24, 25 to 34, 35 to 44, 45 and over. The statistics of marital condition of women differentiate



only between those married and those single, widowed or divorced, the purpose of the tabulations being to indicate the occupational status of those married. The figures on occupations fall into five groups: (1) All occupations without differentiation; (2) divisions of occupations, as listed on p. 112; (3) occupational groups, or combinations of related occupations; (4) specified occupations which include all the separate occupations used in the census classification, and (5) selected occupations, which give figures for occupations of importance in the community to which the figures apply.

Separate figures for native white of native parentage, native white of foreign or mixed parentage, foreign-born white, negro, other races,<sup>9</sup> and all classes combined are given in the reports as indicated below:

All ages.

United States.

All occupations; divisions of occupations. (Vol. IV, Abstract.)

Specified occupations. (Vol. IV.)

Divisions—All occupations. (Vol. IV, Abstract.)

States.

All occupations. (Vol. IV, Abstract.)

Selected occupations. (Vol. IV.)

Cities of 100,000 and over.

All occupations. (Vol. IV, Abstract.)

Selected occupations. (Vol. IV.)

Cities of 25,000 to 100,000—All occupations. Vol. IV.)

Age grouping A—United States—All occupations. (Vol. IV, Abstract.)

Age grouping B.

United States—All occupations; divisions of occupations; specific occupations. (Vol. IV.)

States and cities of 100,000 and over—All occupations. (Vol. IV.)

Children 10 to 17.

United States—All occupations; divisions of occupations; specified occupations. (Vol. IV.)

States and cities of 100,000 or more—All occupations. (Vol. IV.)

Children 10 to 15.

All occupations. (Vol. IV, Abstract.)

Divisions of occupations, totals only, not subdivided by years (Vol. IV.)

Females over 15 by marital condition and age of those married.

United States.

All occupations. (Vol. IV, Abstract.)

Divisions of occupations; specified occupations. (Vol. IV.)

Divisions; states; and cities of 100,000 and over—All occupations. (Vol. IV.)

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<sup>9</sup> In some tables the statistics on other races are subdivided.

Females over 15 by marital condition—Divisions; states, and cities of 100,000 and over—All occupations. (Abstract.)

For the following there are shown only the total for all classes without subdivision for race or color :

All ages.

United States—Specified occupations. (Abstract.)

Divisions—Divisions of occupations. (Vol. IV, Abstract.)

States.

Divisions of occupations. (Vol. IV, Abstract.)

Specified occupations. (Vol. IV.)

Cities of 100,000 and over.

Divisions of occupation. (Vol. IV, Abstract.)

Specified occupations. (Vol. IV.)

Cities from 25,000 to 100,000.

All occupations, by marital condition. (Vol. IV, Abstract.)

Divisions of occupations and occupation groups. (Vol. IV.)

Age grouping A.

United States.

Divisions of occupations. (Vol. IV, Abstract.)

Specified occupations. (Vol. IV.)

Divisions; states; cities of 100,000 and over—All occupations. (Vol. IV, Abstract.)

Age grouping B—States; cities of 100,000 and over—Selected occupations. (Vol. IV.)

Children 10 to 17.

States; cities of 100,000 and over.

Divisions of occupations. (Vol. IV.)

Selected occupations. (Vol. IV.)

Children 10 to 15, totals only, without figures for separate years.

United States—Specified occupations. (Vol. IV.)

Divisions; states; cities of 100,000 and over—All occupations. (Vol. IV, Abstract.)

Cities from 25,000 to 100,000.

All occupations. (Vol. IV, Abstract.)

Occupation groups. (Vol. IV.)

Females over 15, by marital condition—United States—All occupations. (Abstract.)

Females over 15, by marital condition and age of those married—States; cities of 100,000 and over—Divisions of occupations and selected occupations. (Vol. IV.)

Additional reports dealing with occupations as subordinate to other topics are discussed in the chapters noted below.

Occupations of immigrants and emigrants, Chapter VI.

Accidents in specified occupation groups, Chapter IX.

Wages in specified occupation groups, Chapter XIII.

Employment of women and children, Chapter XIV.

Number of persons employed in manufacturing, Chapter XXI.

Sex, age, race, nativity, and experience of farm operators, Chapter XV.

## CHAPTER VIII

### BIRTHS

Statistics of births were collected at each decennial census of population from 1850 to 1900. These statistics appear in the following reports:

Seventh Census: 1850.

Seventh Census of the United States.

Statistical view of the United States—Compendium of the Seventh Census.

Eighth Census: 1860. Population of the United States in 1860.

Ninth Census: 1870.

Vital statistics of the United States.

Statistical atlas of the United States.

Tenth Census: 1860. Vol. XII. Mortality and vital statistics, Part II.

Eleventh Census: 1890. Vital and social statistics, Part I, Analysis and rate tables.

Twelfth Census: Vol. III. Vital statistics, Part I, Analysis and rate tables.

These early statistics are of little value, as there was no complete registration of births.

Beginning with the year 1915, the Bureau of the Census has collected and published annually the statistics of births in what is known as the "registration area" of the United States. This area includes the states and the District of Columbia that have made provision by law for an effective system of registration of births.

In 1922, registration of births was required by thirty states and the District of Columbia, which furnished transcripts of their records to the Bureau of the Census. In that year the birth registration area was estimated to contain 72.2 per cent of the population. The years for which birth statistics have been published for the separate states and the District of Columbia are as follows:

## YEARS FOR WHICH BIRTH STATISTICS HAVE BEEN PUBLISHED

[The dash after the year means that the statistics have been published continuously beginning with the year indicated.]

California, 1919-	New Hampshire, 1915-
Connecticut, 1915-	New Jersey, 1921-
Delaware, 1921-	New York, 1915-
District of Columbia, 1915-	North Carolina, 1917-
Illinois, 1922-	Ohio, 1917-
Indiana, 1917-	Oregon, 1919-
Kansas, 1917-	Pennsylvania, 1915-
Kentucky, 1915-	Rhode Island, 1915-1918, 1921-
Maine, 1915-	South Carolina, 1919-
Maryland, 1916-	Utah, 1917-
Massachusetts, 1915-	Vermont, 1915-
Michigan, 1915-	Virginia, 1917-
Minnesota, 1915-	Washington, 1917-
Mississippi, 1921-	Wisconsin, 1917-
Montana, 1922-	Wyoming, 1922-
Nebraska, 1920-	

Future reports will contain statistics for other states as they are added to the registration area or furnish transcripts of their records.

In the more important tables statistics are given by states, cities, and the portions of counties not included in the cities. In general births are classified also by sex. The statistics include the following:

Number of births in each month.

Number of births classified by color (white, negro, Indian, Chinese, Japanese) and by nativity of parents (native, foreign, native and foreign).

White children classified by country of birth of father and mother.

Legitimate and illegitimate births by age of mother and color of child.

Legitimate and illegitimate births of white children by country of birth of mother.

Births by age of mother and father.

Number of child in order of birth, by age of mother.

Number of white children in order of birth, by age and country of birth of mother.

Total number of children born to mothers having children during year, and number living; white children classified by country of birth of mother.

Plural births classified by color and parent nativity.

Deaths from important causes at various ages less than one year.

Deaths of white children from important causes at various ages less than one year, according to country of birth of mother.

Deaths from important causes at various ages less than one year according to month of death.

Total number of deaths.

Infant mortality rates.

In addition to its purely statistical reports the Bureau of the Census has issued various special reports or pamphlets dealing with the methods of collecting statistics of births and death and the progress of the work. These are listed at the conclusion of the consideration of the reports of the Bureau of the Census on deaths (page 128).

## CHAPTER IX

### DEATHS, DISEASES, AND ACCIDENTS

#### DEATHS

**Decennial Compilations.** Statistics of deaths were collected at each decennial census from 1850 to 1900. For the earlier censuses the information was collected entirely by the enumerators, and the results are subject to a very wide margin of error. In 1880 the registration records of two states—Massachusetts and New Jersey—were secured and used instead of the enumerators' returns. In 1890 the registration figures were used for six other states—Connecticut, Rhode Island, New Hampshire, Vermont, New York, and Delaware—as well as for the District of Columbia and eighty-three cities in other states. At the Census of 1900 the registration area consisted of Connecticut, District of Columbia, Maine, Massachusetts, Michigan, New Hampshire, New Jersey, New York, Rhode Island, Vermont, and a number of cities in other states. At the censuses of 1880, 1890, and 1900, the registration records were used where they were available, the enumerators' returns being the only source of information for the remainder of the country.

The titles of the reports from 1850 to 1900 giving statistics of deaths are as follows :

**Seventh Census: 1850.**

Mortality statistics of the Seventh Census.

Seventh Census of the United States.

Statistical view of the United States—Compendium of the Seventh Census.

Abstract of the Seventh Census.

**Eighth Census: 1860.**

Preliminary report of the Eighth Census.

Statistics of the United States in 1860.

Population of the United States in 1860.

**Ninth Census: 1870.**

Vital statistics of the United States.

Statistical atlas of the United States.

**Tenth Census: 1880.**

Vols. XI and XII. Mortality and vital statistics, Parts I and II.

Compendium of the Tenth Census—Part II.

**Eleventh Census: 1890:**

- Vital and social statistics, Parts I to IV.
- Compendium of the Eleventh Census, Part II.
- Abstract of the Eleventh Census.
- Statistical atlas of the United States, 1890.
- Vital statistics of Boston and Philadelphia.<sup>1</sup>
- Vital statistics of the District of Columbia and Baltimore.<sup>1</sup>
- Vital statistics of New York and Brooklyn.<sup>1</sup>

**Twelfth Census: 1900.**

- Vols. III and IV. Vital statistics, Parts I and II.
- Abstract of the Twelfth Census.
- Statistical atlas.
- Supplementary analysis and derivative tables.
- Vital statistics of the Twelfth Census, Bulletin 15. [Identical with a portion of Supplementary analysis and derivative tables.]

**Annual Statistics of Death.** Since the organization of the permanent Census Bureau, statistics have been published for each year for all states and cities which have effective machinery for recording deaths. These reports have been published under the general title "Mortality Statistics;" the figures for 1900 to 1904 were published in one volume; statistics for later years being issued annually. Preliminary reports were issued for certain years as numbered Bulletins as follows:

1908—Bulletin 104.	1919—Bulletin 144.
1909—Bulletin 108.	1920—Bulletin 148.
1910—Bulletin 109.	1921—Bulletin 152.
1911—Bulletin 112.	1922—Bulletin 154.
1918—Bulletin 141.	

As the Bulletins bear the same title as the more detailed reports, care must be taken not to confuse the two series.

In every registration area a report of each death is made on a uniform card, and a transcript of this report is made for the use of the Bureau of the Census. From these transcripts the statistics for the entire registration area are compiled.

The registration of deaths in 1922 was adequately made in thirty-seven states, the District of Columbia, and sixteen cities in states which do not have general systems of registration. In 1922, the registration area had an estimated population of 92,241,643, or 85.3 per cent of the total estimated population of the United States. States and cities which have been included in the registration since 1900, and for which statistics have been published, are listed below. The cities listed separately under each state are those for

<sup>1</sup> Statistics for six years ending May 31, 1890.

which statistics were published prior to state-wide registration and for which statistics are being published at present. After deaths were registered for the entire state, statistics were published for all cities. If no dates appear after the names of the states it indicates that there is no state-wide registration, the only statistics available being for the cities mentioned.

#### YEARS FOR WHICH MORTALITY STATISTICS HAVE BEEN PUBLISHED

[A dash after the year means that the statistics have been published continuously beginning with the year indicated.]

##### Alabama.

Birmingham, 1908-  
 Mobile, 1900-  
 Montgomery, 1908-  
 California, 1906-  
 Alameda, 1900-  
 Fresno, 1900-  
 Los Angeles, 1900-  
 Oakland, 1900-  
 Sacramento, 1900-  
 San Diego, 1900-  
 San Francisco, 1900-  
 San Jose, 1900-  
 Colorado, 1906-  
 Denver, 1900-  
 Leadville, 1900-  
 Pueblo, 1900-  
 Connecticut, 1900-  
 Delaware, 1919-  
 Wilmington, 1900-  
 District of Columbia, 1900-  
 Florida, 1919-  
 Jacksonville, 1900-  
 Key West, 1900-  
 Pensacola, 1913-  
 Tampa, 1915-  
 Georgia, 1922-  
 Atlanta, 1900-  
 Augusta, 1913-  
 Brunswick, 1917-  
 Savannah, 1900-  
**Hawaii, 1917-**  
 Idaho, 1922-  
 Illinois, 1918-  
 Aurora, 1900-  
 Belleville, 1900-  
 Chicago, 1900-  
 Danville, 1900.  
 Decatur, 1900-

##### Illinois—*Continued.*

Evanston, 1908-  
 Jacksonville, 1900-  
 Ottawa, 1900-  
 Quincy, 1900-  
 Springfield, 1900-  
 Indiana, 1900-  
 Iowa.  
 Burlington, 1900-1905.  
 Davenport, 1900-1905.  
 Muscatine, 1900-1905.  
 Oskaloosa, 1900.  
 Ottumwa, 1900-1903.  
 Sioux City, 1900-1905.  
 Kansas, 1914-  
 Atchison, 1912-  
 Coffeyville, 1912-  
 Fort Scott, 1912-  
 Hutchison, 1912-  
 Independence, 1912-  
 Kansas City, 1908-  
 Lawrence, 1900, 1912-  
 Leavenworth, 1900-  
 Parsons, 1912-  
 Pittsburg, 1912-  
 Topeka, 1912-  
 Wichita, 1900-  
 Kentucky, 1911-  
 Covington, 1900-  
 Louisville, 1900-  
 Newport, 1900-  
 Paducah, 1900-  
 Louisiana, 1918-  
 Alexandria, 1917-  
 Baton Rouge, 1917-  
 Lake Charles, 1917-  
 Monroe, 1917-  
 New Orleans, 1900-  
 Shreveport, 1917-



YEARS FOR WHICH MORTALITY STATISTICS HAVE BEEN PUBLISHED—*Continued*

Maine, 1900-	Ohio— <i>Continued</i>
Maryland, 1900-	Middletown, 1900-
Massachusetts, 1900-	Newark, 1900-
Michigan, 1900-	Portsmouth, 1900-
Minnesota, 1910-	Tiffin, 1900-
Duluth, 1900-	Toledo, 1900-
Mankata, 1900-	Warren, 1900.
Minneapolis, 1900-	Youngstown, 1900-
St. Paul, 1900-	Oklahoma.
Winona, 1900-	Oklahoma City, 1920-
Mississippi, 1919-	Oregon, 1918-
Hattiesburg, 1915-	Portland, 1900-
Jackson, 1915-	Pennsylvania, 1906-
Meridian, 1915-	Alleghany, 1900-
Natchez, 1915-	Allentown, 1900-
Vicksburg, 1915-	Altoona, 1900-
Missouri, 1911-	Carbondale, 1900-
Kansas City, 1900-	Carlisle, 1900-
St. Joseph, 1900-	Columbia, 1900-
St. Louis, 1900-	Dubois, 1900-
Montana, 1910-	Easton, 1900.
Helena, 1900-	Erie, 1900-
Nebraska, 1920-	Harrisburg, 1900-
Lincoln, 1900-	Hazleton, 1900-
Omaha, 1900-	Johnstown, 1900-
New Hampshire, 1900-	Lancaster, 1900-
New Jersey, 1900-	Lebanon, 1900.
New York, 1900-	McKeesport, 1900-
North Carolina, 1900- <sup>1</sup>	Meadville, 1900-
Raleigh, 1900-	Mount Carmel, 1900-
Wilmington, 1900-	New Castle, 1900-
North Dakota.	Norristown, 1900-
Fargo, 1916-	Oil City, 1900.
Ohio, 1909-	Philadelphia, 1900-
Ashtabula, 1900-	Phoenixville, 1900.
Bellaire, 1900-	Pittsburgh, 1900-
Canton, 1900-	Plymouth, 1900-
Chillicothe, 1900-	Pottstown, 1900-
Cincinnati, 1900-	Pottsville, 1900-
Cleveland, 1900-	Reading, 1900-
Columbus, 1900-	Scranton, 1900-
Dayton, 1900-	South Bethlehem, 1900-
Findlay, 1900-	Steelton, 1900-
Hamilton, 1900-	Williamsport, 1900-
Ironton, 1900-	Rhode Island, 1900-
Lima, 1900-	South Carolina, 1916-
Marietta, 1900-	Charleston, 1900-
Massillon, 1900-	Columbia, 1915-

<sup>1</sup> From 1910 to 1915 only municipalities having population of 1000 and over in 1910; after 1915 entire state.

YEARS FOR WHICH MORTALITY STATISTICS HAVE BEEN PUBLISHED—*Continued*South Carolina—*Continued*

Greenville, 1915-  
Spartansburg, 1915-  
South Dakota, 1906-1909.  
Tennessee, 1917-  
Chattanooga, 1914-1915.  
Jackson, 1914-1915.  
Knoxville, 1908-1915.  
Memphis, 1900-1915.  
Nashville, 1900-1915.

## Texas.

Beaumont, 1916-  
Cleburne, 1917-1919.  
Dallas, 1917-  
El Paso, 1911-  
Galveston, 1906-  
Houston, 1917-  
San Antonio, 1900-  
Utah, 1910-  
Ogden, 1908-  
Salt Lake City, 1900-

## Vermont, 1900-

Virginia, 1913-  
Alexandria, 1900-  
Danville, 1908-

Virginia—*Continued*

Lynchburg, 1900-  
Manchester, 1908-1909.  
Norfolk, 1900-  
Petersburg, 1900-  
Richmond, 1900-  
Roanoke, 1911-  
Washington, 1908-  
Seattle, 1900-  
Spokane, 1900-  
Tacoma, 1900-  
West Virginia.  
Wheeling, 1900-  
Wisconsin, 1908-  
Appleton, 1900-1906.  
Beloit, 1900-  
Chippewa Falls, 1900-1901.  
Eau Claire, 1900-  
Green Bay, 1900-  
Madison, 1900-  
Manitowoc, 1900-1905.  
Marinette, 1900-  
Milwaukee, 1900-  
Superior, 1900-  
Wyoming, 1922-

For the registration states, figures are given for the entire state, for municipalities having a population of 10,000 or more at the previous census, and for counties in the rural districts. Figures are given for the following topics:

Deaths from all causes each month by registration states and cities.

Deaths from all causes during year by registration states and cities, classified as follows:

Native white.

Total.

Both parents native.

Both parents foreign born.

One parent foreign born.

Parentage unknown.

Foreign born white.

Nativity unknown.

Negro.

Other.

Deaths from all causes during year, by registration states and cities classified by age periods; for some cities separate figures are given for white and colored.

Deaths from all causes during the year, by registration states, classified by age periods and subclassified as below, separate figures being given for male and female in each class.

Total.

White.

Native.

Both parents native.

One or both parents foreign born.

Parentage unknown.

Foreign born.

Unknown.

Colored.

Negro.

Indian.

Chinese.

Japanese.

Other colored.

Deaths from principal classes of causes in registration states and cities, separate figures being given for white and colored for states and for certain cities.

Deaths from each cause in cities and rural districts in each state, separate figures being given white and colored for states having a large negro population.

Deaths in the entire registration area from each cause by age periods; separate figures are given for male and female and for white and colored persons.

Deaths from each cause in each state by age periods.

Deaths from classes of causes and principal cause by age periods in each city of 100,000 population or more.

Deaths from important causes in each state in cities of 100,000 population or more, by month of death.

Deaths of infants less than one year old from important causes in each state and in cities of 100,000 population or more, by age periods of first year of life.

Attention is particularly called to the statistics of deaths from external causes, such as suicide, accident, or homicide. Each of these classes is further subdivided; suicide, into means used, such as poison, etc.; accidents into kinds of accidents, such as drowning, automobile accidents, lightning, etc.; and homicide into means used, such as firearms, etc. Deaths from accident are further discussed under that heading.

Once a year "Public Health Reports,"<sup>3</sup> issued by the Public Health Service, contains tables giving number of deaths each month in each state for the following diseases:

<sup>3</sup> For history of this publication see page 129.

Anthrax.	Rabies in animals.
Cerebrospinal meningitis.	Rabies in man.
Chicken pox.	Rocky Mountain spotted fever.
Dengue.	Scarlet fever.
Diphtheria.	Septic sore throat.
Gonorrhoea.	Smallpox.
Influenza.	Syphilis.
Malaria.	Tuberculosis (all forms and pulmonary).
Measles.	Typhoid fever.
Mumps.	Typhus fever.
Pellagra.	Whooping cough.
Pneumonia (all forms).	
Poliomyelitis.	

These figures have been compiled each year, beginning with 1912. In addition to being included in a regular issue of Public Health Reports, the section is issued as a reprint of that publication, the reprints containing the data being as follows:

1912—Reprint 163.	1916—Reprint 426.	1920—Reprint 681.
1913—Reprint 208.	1917—Reprint 505.	1921—Reprint 791.
1914—Reprint 298.	1918—Reprint 551.	1922—Reprint 879.
1915—Reprint 345.	1919—Reprint 643.	

**Decennial Mortality Rates.** Each annual volume of mortality statistics contains figures on the death rate based on the estimated population. All census estimates of population for intercensal years are computed by the arithmetical method, from the increase between the two preceding censuses. Thus if the population of a given area increased 100,000, and the period between censuses was exactly ten years, it is assumed that the annual increase was 10,000.<sup>4</sup> The death rate given in the annual volumes is based on a population estimated in this manner, but when a new census is taken the increase in the last intercensal period may prove to be more or less than during the preceding one. For instance, the population of Portland, Oregon, increased 116,788 from 1900 to 1910, but only 51,074 from 1910 to 1920. Therefore, the estimated annual increase as applied to the years after 1910 was much too large. The estimated population on July 1, 1917, as given in "Mortality Statistics for 1917" on the basis of the increase for 1900 to 1910, was 308,399. The revised estimate of the population on July 1, 1919,

<sup>4</sup> Owing to difference in the date of enumeration the actual interval between the censuses of 1900 and 1910 was 9 years, 10½ months, and between the Census of 1910 and 1920 was 9 years, 8½ months.

as based on the increase from 1910 to 1920, is 247,332. This makes a change in the death rate from 7.7 to 9.7 per 1000 population.

After the figures for the Census of 1910 were available some revised rates were published in the annual volumes, but after the Census of 1920 the recomputed death rates for each year from 1910 to 1920 were published in a separate volume entitled "Mortality Rates, 1910-1920," which gives also estimated population and total number of deaths in addition to the rates. This volume, therefore, practically supersedes all the separate reports for each year for this period. If "Mortality Rates, 1910-1920" does not give figures in the detail desired, the number of deaths, as shown in the earlier reports, may be applied to the estimated population in order to compute the rate.

The volume on mortality rates includes the following data for each year for 1910 to 1920 for the registration area :

- Deaths and death rate from all causes for each city and county.
- Death rate from all causes for states.
- Death rates by principal causes of death for states and cities (white and colored shown separately when white population and colored population were each over 10,000 in 1920).
- Death rate from each cause by states.
- Death rate by age groups and principal cause for states and cities of 500,000 or more.
- Death rate by age groups, principal causes, and country of birth of mother for certain states and cities.

In many of the tables the death rates are the crude rates, which are obtained by dividing the number of deaths by the estimated total population. In some tables are given adjusted or standardized rates, as for states in which there are large proportions of persons of advanced age the adjusted rates are more representative of true sanitary conditions. In computing adjusted rates the standard million population of England and Wales in 1901, divided by sex and age groups, is taken as the norm for the number of persons of each age and sex in each million. The specific death rates of any area as computed for the age groups are then applied to corresponding age groups of the standard population. The result is the number of deaths which would have occurred in each age group of the standard population had its death rate been the same as that of the same group in the given area. The summation of all the deaths that would have occurred in all the age groups of the standard population gives the total number of deaths in the standard population

corresponding to the observed specific rates in a given area. This total divided by the total of the standard population gives the adjusted death rate.

**Weekly Statistics of Death.** The Bureau of the Census prepares and issues weekly a mimeographed circular, entitled "Weekly Health Index," which shows the deaths from all causes in about sixty cities having a population of over 100,000. The same information is also printed in Public Health Reports, issued by the Public Health Service. This statement gives figures on the estimated population, the total deaths and the death rate (on annual basis) during the current week, the average death rate (on annual basis) during the corresponding week of the preceding year or a series of earlier years, the deaths under one year during the current week, and the corresponding week of the previous year or the average for a series of years, and the infant mortality rate during the current year.

"Public Health Reports,"<sup>5</sup> issued weekly by the Public Health Service reproduces the figures contained in the "Weekly Health Index," issued by the Bureau of the Census, and gives weekly statistics of deaths from all causes and deaths from specified diseases in many other cities. An endeavor is made to obtain statistics for all cities having a population of 10,000 or over, but not all cities in this class submit reports. Reports on deaths by cities are given for the following diseases: Anthrax, cerebrospinal meningitis, diphtheria, influenza, leprosy, lethargic encephalitis, malaria, measles, pellagra, pneumonia, poliomyelitis (infantile paralysis), scarlet fever, smallpox, and tuberculosis.

**Special Compilations on Deaths.** Several special reports have been issued by the Bureau of the Census giving statistics on deaths from particular diseases. In 1908 it published a report entitled "Tuberculosis in the United States," which was printed also as an appendix to "Mortality Statistics" for 1907. This report gives statistics of deaths from tuberculosis in Massachusetts and in England and Wales from 1849 to 1906, in the United States in 1850, 1860, and 1870, and in the registration area from 1900 to 1907. The figures for the United States for 1850, 1860, and 1870 are from the decennial census reports. The report is a general review of the

<sup>5</sup>For brief history of this publication, see p. 129.

available data on tuberculosis, but the following statistics are worth special mention:

Death rates from tuberculosis in 1900 for specific occupations.

Death rate, 1900 to 1907, from tuberculosis in registration states and registration cities with population over 100,000.

Deaths from tuberculosis in registration area by months from 1900 to 1904.

Average rate from tuberculosis in principal foreign countries, 1901 to 1905.

Another special report of the Bureau of the Census is that issued under the title "Special Tables of Mortality from Influenza and Pneumonia in Indiana, Kansas, and Philadelphia; September 1, to December 31, 1918." This report contains the following statistics:

Deaths by sex and age, from all causes, and from influenza and pneumonia, during each month.

Deaths by sex from all causes and from influenza and pneumonia, for each day.

Death rate by sex and age for each month.

Deaths by age periods, sex, and conjugal condition for entire period.

Deaths by sex, country of nativity of mother, and age for entire period.

Deaths by specified occupations and age for entire period.

In 1916 the Bureau of the Census issued a general report entitled "Mortality from Cancer and other Malignant Tumors in the Registration Area of the United States, 1914." This monograph presents statistics in greater detail than the annual volume containing mortality statistics. The main tables in the report are the following:

Deaths by sex, color, and age period for the registration area, each registration state, and each unit in the registration area in which there were fifty or more such deaths.

Deaths by sex and color classified according to the part of the body affected, for registration area, each registration state, and each unit in the registration area in which there were 50 or more such deaths.

Deaths in registration area and registration states, by sex, color, age periods, nativity of decedent and nativity of parents.

Deaths in registration states according to part of the body affected, by age periods, color, nativity of decedent, and nativity of parents.

In 1922 the Bureau of the Census issued a publication entitled "U. S. Life Tables: 1890, 1901, 1910, and 1901-1910," which shows for each year of life the complete expectation of life and the average annual death rate. There are included also life tables and life insurance mortality rates for different countries.

The report entitled "Negro Population, 1790-1915," issued by the Bureau of the Census in 1918, contains mortality statistics relating to negroes in the registration area for the period 1900 to 1915.

General figures are given for the entire period, but more detailed statistics are presented for selected years.

In addition to the purely statistical reports giving the results of its work, the Census Bureau has issued the following publications dealing with methods of collecting statistics and the progress of the work:

- Manual of international classification of causes of death: 1900.  
 Registration of deaths: 1902. (Pamphlet No. 71.) Includes paper on "The essential requirements of a law for the registration of deaths and the collection of mortality statistics," prepared by the committee on demography of the American Public Health Association, together with copy of standard death certificate.  
 Legislative requirements for registration of vital statistics: 1903. (Pamphlet No. 100.)  
 Practical registration methods: 1903. (Pamphlet No. 101.)  
 Relation of physicians to mortality statistics: 1903. (Pamphlet No. 102.)  
 Medical education in vital statistics: 1903. (Pamphlet No. 103.)  
 Registration of births and deaths. (Pamphlet No. 104.)  
 Statistical treatment of causes of death: 1903. (Pamphlet No. 105.)  
 Extension of the registration area for births and deaths: 1906. (Pamphlet No. 106.)  
 Modes of statement of cause of death and duration of illness upon certificates of death: 1907. (Pamphlet No. 107.)  
 Legal importance of registration of births and deaths: 1908. (Pamphlet No. 108.)  
 Physicians' pocket reference to the international list of causes of death, 1914.  
 International classification of causes of sickness and death: 1910.  
 Index of joint causes of death: 1914.  
 The Federal registration service of the United States. Prepared by Dr. Cressy L. Wilbur, Director, Division of Vital Statistics, State Department of Health, New York, formerly Chief Statistician for Vital Statistics, Bureau of the Census, for presentation at the Second Pan-American Scientific Congress, Washington, December 27, 1915, to January 8, 1916.  
 Explanatory list of diagrams relating to the deaths of infants, 1910. (Pamphlet No. 111.)  
 Manual of the international list of causes of death: 1916.

Statistics of mortality for particular classes have been given in some of the Bulletins of the Bureau of Labor. Bulletin 82 gives figures on mortality from consumption in occupations exposed to municipal and general organic dust, the information being obtained from an industrial life insurance company and the reports of the Bureau of the Census. The statistics in general relate to the years from 1897 to 1906.

Bulletin 207, entitled "Causes of Death, by Occupation," contains statistics for 1911 to 1913, obtained from the records of the Metro-



politan Life Insurance Company and for 1897 to 1914 from the records of the Prudential Insurance Company.

**Army and Navy Statistics on Deaths.** The annual reports of the surgeons-general of the army and navy contain statistics of mortality and morbidity in the army and the navy. As regards the army, mention should also be made of the following special reports of the War Department dealing with mortality and morbidity in the army :

- Statistical report on sickness and mortality in Army . . . from January, 1819, to January, 1839.
- Statistical report of the sickness and mortality in the Army of the United States, 1839 to 1855: Senate Executive Document 96, 34th Congress, 1st session.
- Statistical report of sickness and mortality in the Army of the United States, 1855 to 1860: Senate Executive Document 52, 36th Congress, 1st session.
- Medical and surgical history of the War of the Rebellion, Vol. 1.

Medical, surgical, and casualty statistics of the United States Army during the World War will be given in Part II of Volume XV of the work entitled "The Medical Department of the United States Army in the World War."

#### DISEASES

Weekly morbidity statistics showing the prevalence of disease in various states and cities are published in the weekly publication of the Public Health Service entitled "Public Health Reports." This serial has been issued under its present title since 1896. From July 13, 1878, to May 24, 1879, it was published by the Marine Hospital Service by manifold process under the title "Bulletins of the Public Health." The early issues were printed in 1881 and designated as Volume 1 of the series. From July 5, 1879, to July 1, 1882, the series was superseded by the weekly bulletins of the National Board of Health. There were no issues in the series between July 1, 1882, and January 20, 1887, when its publication was resumed by the Marine Hospital Service under the title "Weekly Abstract of Sanitary Reports." The name of the service was changed to "Public Health and Marine Hospital Service," in 1902 and to "Public Health Service," in 1912, but the title "Public Health Reports" has been used since the first issue of 1896.

The statistics on prevalence of disease now published in "Public Health Reports" consist of weekly morbidity reports for communicable diseases for cities, received by mail; weekly morbidity reports for communicable diseases by states, received by telegraph; monthly morbidity report for states, received by mail. The telegraphic reports by states are published within one week and the mail reports by cities within three weeks. At the end of the fiscal year 1921 weekly telegraphic reports were received from thirty-six states and monthly mail reports from forty states, the District of Columbia, and Hawaii. The state reports contain statistics on the prevalence of anthrax, cerebrospinal meningitis, dengue, diphtheria, influenza, pneumonia, leprosy, measles, poliomyelitis (infantile paralysis), rabies in man, Rocky Mountain spotted (or tick) fever, scarlet fever, smallpox, typhoid fever, and typhus fever.

In the field of city statistics an endeavor is made to obtain weekly reports by mail from all cities which have a population of 10,000 or over. During the fiscal year 1921, reports were made by 520 cities, out of over 700 with a population of 10,000 or over. An endeavor is also made to obtain reports of new cases and of deaths from the following diseases: Anthrax, chancroid, gonorrhoea, influenza, leprosy, malaria, cerebrospinal meningitis, pellagra, pneumonia, poliomyelitis (infantile paralysis), rabies in man, rabies in animals, smallpox, syphilis, tetanus, typhoid fever, diphtheria, measles, scarlet fever, tuberculosis, and typhus fever. Weekly statistics are published for all these, with the exception of the venereal diseases. In addition to the publication of current statistics, the Public Health Service from time to time analyses available statistics in order to disseminate information regarding the incidence of certain diseases. Once a year "Public Health Reports" contains a review giving number of cases of certain diseases during each month for every state which requires the disease to be reported. The list of diseases and the serial numbers of the reprints containing this information are given on page 124.

Annual statistics on the number of cases and deaths from communicable diseases are given in the annual report of the Surgeon-General of the Public Health Service, which contains also figures on the number of persons suffering from venereal diseases who were admitted to the clinics operating under the joint control of the Public Health Service and state boards of health.

The report of the United States Interdepartmental Social Hygiene Board for the fiscal year 1920 contains some statistics relating to venereal diseases and prostitution. These figures are not general, but apply to cases that came under the observation of the agents of the board. There is, however, one general table showing the prevalence of venereal diseases in the army from 1907 to 1919.

Particular care should be exercised in the use of morbidity reports in order to determine whether the reports for two periods are really comparable. In order to use morbidity reports properly it is necessary to know whether the reports during the periods compared were made with approximately the same degree of accuracy. The reporting of diseases has improved very much during recent years, and at times the statistics may seem to indicate a great increase in disease, when, the fact is that there is simply an improvement in the extent to which reports are made to the local authorities. Few statistics present more pitfalls to the novice than those relating to morbidity, and their interpretation should be left to the trained epidemiologist unless there is assurance that the figures are truly comparable.

Reports on diseases in the army and navy are listed on page 129.

#### PHYSICAL AND PSYCHOLOGICAL CONDITIONS

The only comprehensive survey of the physical defects of the male population is contained in two publications of the office of the Surgeon-General of the Army giving the results of the physical examination of men examined for military service in 1917 and 1918. The first edition was published as Bulletin 11 of the Office of the Surgeon-General of the Army under the title "Physical Examination of the First Million Draft Recruits; Methods and Results." As indicated in the title this publication contains data for only the first million men. The revised edition, entitled "Defects Found in Drafted Men," published without serial number, contains the results of the examination of the first two million men examined. The data in these publications were tabulated from the original records of the local draft boards and the examining surgeons at the army camps. The classification is by states, by classes of defects, and by states and classes combined. The defects noted are those affecting a man's eligibility for military service, which include all those of a serious

character. This publication gives the results of the most comprehensive cross-section of the population ever made. It is unfortunate that the original records from which the data were compiled give no information regarding occupations, but notwithstanding the lack of information on this feature, the compilation is a noteworthy contribution to the subject.

Somewhat similar statistics for men drafted during the civil war are given in the publication of the office of Surgeon-General of the Army entitled "Statistics, Medical and Anthropological, of the Provost Marshal General's Bureau . . . during the late War of the Rebellion."

Statistics on the size of various parts of the body, height, and weight of men drafted for the war with Germany are given in the publication of the Office of the Surgeon-General of the Army entitled "The Medical Department of the United States Army in the World War, Vol. XV, Statistics—Part I—Anthropology." This material was assembled from the cards giving the results of the physical examination and figures are given for both men accepted and those rejected.

During the war with Germany there was also developed a somewhat novel system of psychological tests to determine the intelligence of both officers and men. The results of this work are set forth in Vol. XV, of the Memoirs of the National Academy of Sciences, entitled "Psychological Examinations in the United States Army," published also as Senate Document 421, 66th Congress, 2d session. This volume outlines the history and methods used in the examinations, and includes a statistical presentation of selected cases grouped according to various classifications.

#### ACCIDENTS

**Railroads.** From 1889 to 1901 statistics of railroad accidents were published only in the annual report of the Interstate Commerce Commission entitled "Statistics of Railways in the United States." Beginning with September, 1901, statistics on this subject were published also in a quarterly accident bulletin, which has been continued up to the present time. Up to 1909 and beginning again with 1921, summary annual figures have also been published in Statistics of Railways.

The quarterly reports are entitled "Accident Bulletins." Up to June, 1916, the June issue contained statistics for the year ending June 30, but beginning with the issue for December, 1916, the December issue has contained statistics for the calendar year. The carriers are required to submit these reports by the acts of March 3, 1901 (31 Stat. L., 1446), and May 6, 1910 (36 Stat. L., 350). The regulations governing accident reports are given in the pamphlet entitled "Rules Governing Monthly Reports of Railway Accidents, . . . effective on January 1, 1922."

In these reports accidents are divided into the three following classes :

Train accidents arising in connection with the operation of trains, locomotives, or cars that result in damage to equipment or other railway property.

Train-service accidents arising in connection with the operation of trains, locomotives, or cars that result in casualties to persons, but not in damage to equipment or other railway property.

Nontrain accidents resulting in casualties to persons arising in connection with railway operation that are not included to the operation of trains, locomotives, or cars; as, for example, those occurring in connection with the construction, repair, or painting of buildings, tracks, or other structures or equipment (except running repairs made by trainmen en route); with the movement, by shop, enginehouse, or other industrial employees, of locomotives or cars in shops, enginehouses, on repair tracks, etc., when in connection with industrial work; or the loading or unloading of cars at station or freight-house platforms, on yard tracks, or in connection with work service. They may occur on ferries or wharves, at stations, freight houses, enginehouses, in or around shops, etc.

Each of these classes is subdivided into subclasses, the number killed and injured being shown under each subclass. Persons are reported as killed if they are killed at the time of the accident or die within twenty-four hours.

Casualties to persons in train accidents and train service accidents are reported for trespassers, trainmen on duty, other employees on duty, employees not on duty, passengers, persons carried under contract (such as express messengers, postal clerks, etc.) and other non-trespassers. Casualties in nontrain accidents are reported for industrial employees and other persons.

For highway grade-crossings a separate table shows the number of accidents and persons killed and injured by trains striking or being struck by motor vehicles, trolley cars, other highway vehicles, and pedestrians.

Statistics are given by states for train accidents and train service accidents resulting in casualties to trespassers, separate figures being given for each class of the number of accidents and persons killed and injured. Statistics on train accidents are further subdivided in order to show damage to railway property, and persons of various classes killed or injured as the result of collisions of various kinds and derailments, and locomotive accidents due to various causes. Statistics on train service and nontrain accidents are also subdivided by various classes. One table relating to train accidents shows the accidents to different kinds of trains subdivided by classes of accidents, with each class further subdivided into accidents due to negligence of employees, defects or failure in equipment, and defect in or improper maintenance of way.

Summaries of the figures collected by the Interstate Commerce Commission during recent years are given in Bulletin 339 of the Bureau of Labor Statistics, entitled "Statistics of Industrial Accidents in the United States."

The mortality statistics of the Bureau of the Census (see page 119) also give statistics on deaths from railroad accidents, but these will not agree with the Interstate Commerce Commission figures because the Census statistics are for the registration area only and because in the census report a railroad accident will be assigned as the cause of death regardless of length of time since the accident, while in the reports of the Interstate Commerce Commission, death must occur within twenty-four hours of the accident to be so classed.

The earlier census reports on vital statistics (see page 118), Volume IV of the Tenth Census (1880) entitled "Agencies of Transportation," and the "Compendium of the Tenth Census," contain statistics on railroad accidents. These earlier statistics are not comparable with the present series issued by the Interstate Commerce Commission, as the machinery for compiling them was not well organized.

In Bulletin 84, of the Bureau of Labor is an article on "Accidents to Railroad Employees in New Jersey, 1888 to 1907." This report does not cover the general field of railroad accidents, but is confined to accidents to employees. The data were mostly derived from the reports of the railroads to the state comptroller.

**Industrial Accidents.** Bulletin 78 of the Bureau of Labor contains an article on industrial accidents, which gives statistics for the period from 1897 to 1906, derived from the reports of state bureaus and industrial life insurance companies and the mortality reports of the Census Bureau for the registration area.

Bulletin 157 of the Bureau of Labor contains an article entitled "Industrial Accident Statistics." This gives figures on the accident mortality in the registration area by occupations and age groups for 1908 and 1909, and detailed figures on accidents in the following states and countries during the years mentioned:

New York, 1911-1913.	United Kingdom, 1912.
Massachusetts, 1912-1913.	Norway, 1900-1912.
Illinois, 1907-1912.	Germany, 1901-1912.
Wisconsin, 1911-1913.	Austria, 1897-1911.

There is also a statement showing the experience of the Prudential Insurance Company from 1907 to 1912.

A general review of industrial accident statistics is given in Bulletin 339 of the Bureau of Labor Statistics. This publication includes a general discussion of available material and compilations from the reports of the states, the Interstate Commerce Commission, and the Bureau of Mines.

*Coal Mine Accidents.* Statistics on fatal accidents in coal mines have been published by the Bureau of Mines for each month, beginning with January, 1912. The monthly statistics for 1912 were published in Technical Paper 48. Later pamphlets containing these figures were issued without serial number under the title "Monthly Statement of Coal Mine Fatalities."\* Each issue also contains separate statistics for each month of the current year. There is no December issue in this series, the figures for December prior to 1919 being given in the publications without serial number, entitled "Coal Mine Fatalities in the United States During the Calendar Year—," which give the figures for the entire year. The figures for 1919 are published in Bulletin 196, those for 1920 in Technical Paper 288, those for 1921 in Technical Paper 302, those for 1922 in Technical Paper 340, and those for 1923 in Bulletin 241. Accidents are classified by causes and states, and there are also figures on total number of men employed and the output of coal.

\*Recent issues of the monthly statement have been mimeographed.

Several publications of the Bureau of Mines contain statistics of coal mine accidents in the United States and foreign countries, compiled from state reports and publications of foreign governments. Bulletin 69 gives statistics for 1896 to 1911 for the United States and for 1901 to 1911 for Great Britain, Germany, France, Belgium, Japan, Austria, India, New South Wales, and Canada. Technical Paper 48 gives statistics for the United States for 1896 to 1912. Bulletin 115 contains figures for the United States for 1894 to 1914; annual figures are given for 1887 and each year thereafter, but the figures for the earlier years are grouped as follows: 1874 to 1877, 1878 to 1882, 1883 to 1884, 1885 to 1886. Figures for Pennsylvania only are given for the period 1870 to 1873. Bulletins 115 and 196 also contain more detailed statistics regarding production than are presented in the other reports.

Bulletin 90 of the Bureau of Labor contains statistics of fatal accidents in coal mining from 1889 to 1908, obtained from the reports of state mine inspectors and through correspondence.

*Metal Mine Accidents.* Statistics on metal mine accidents have been published annually by the Bureau of Mines, beginning with 1911, in the following reports:

1911—Technical Paper 40.	1918—Technical Paper 252.
1912—Technical Paper 61.	1919—Technical Paper 286.
1913—Technical Paper 94.	1920—Technical Paper 299.
1914—Technical Paper 129.	1921—Technical Paper 331.
1915—Technical Paper 168.	1922—Technical Paper 354.
1916—Technical Paper 202.	1923—Bulletin 248.
1917—Technical Paper 224.	

Separate figures are given for the following classes of mines: Copper, gold, silver, and miscellaneous minerals, iron, lead and zinc in Mississippi Valley, and non-metallic minerals except coal. Accidents are classified by causes, states, and classes of mines.

*Quarry Accidents.* Quarry accidents were first reported in 1911, and annual pamphlets have been issued by the Bureau of Mines each year with the following serial numbers:

1911—Technical Paper 46.	1918—Technical Paper 245.
1912—Technical Paper 73.	1919—Technical Paper 275.
1913—Technical Paper 92.	1920—Technical Paper 295.
1914—Technical Paper 128.	1921—Technical Paper 329.
1915—Technical Paper 165.	1922—Technical Paper 353.
1916—Technical Paper 193.	1923—Bulletin 246.
1917—Technical Paper 213.	



Separate figures are given for the various classes of quarries, for causes, and for states.

*Coke-oven Accidents.* The first publication on coke-oven accidents covered the years 1913 and 1914, but for subsequent years a separate publication by the Bureau of Mines has been issued for each year. The serial numbers of these reports are as follows :

1913 }—Technical Paper 118.	1919—Technical Paper 266.
1914 }—Technical Paper 118.	1920—Technical Paper 293.
1915—Technical Paper 151.	1921—Technical Paper 318.
1916—Technical Paper 173.	1922—Technical Paper 349.
1917—Technical Paper 206.	1923—Technical Paper 371.
1918—Technical Paper 239.	

The statistics are classified by causes and states ; figures are given also, on the production of coke.

*Accidents at Metallurgical Works.* Statistics of accidents at metallurgical work were first collected by the Bureau of Mines in 1913, but the figures for 1913 and 1914 were issued in one publication. Thereafter annual statements were published, the serial numbers being as follows :

1913 }—Technical Paper 124.	1919—Technical Paper 280.
1914 }—Technical Paper 124.	1920—Technical Paper 297.
1915—Technical Paper 164.	1921—Technical Paper 327.
1916—Technical Paper 201.	1922—Technical Paper 350.
1917—Technical Paper 215.	1923—Technical Paper 374.
1918—Technical Paper 256.	

As in the other reports the classification is by causes and states.

## CHAPTER X

### MARRIAGE AND DIVORCE

The First Special Report of the Commissioner of Labor, 1889, contained marriage and divorce statistics covering the period from 1867 to 1886. This report contains tables showing marriages and divorces by counties during each year, and state figures for each year showing divorces by cause and duration of marriage before divorce. It also contains statistics of marriage and divorce in foreign countries as well as laws relating to divorce in Europe.

The census report entitled "Marriage and Divorce, 1867-1906" was in its main features a continuation of the report of the Bureau of Labor.<sup>1</sup> In several features, however, much more detail was given than was presented in the earlier report. The detailed figures cover the years 1887 to 1906, but the summaries of the earlier report are reprinted so that this publication gives a general statistical presentation of the major facts relating to divorce for the period from 1886 to 1906. The scope of the publication is indicated by the following list of tables:

- Divorces, by states, for each year from 1887 to 1906 and for periods,<sup>2</sup> 1867 to 1906.
- Divorces by specific causes and libellant by states, for each year from 1887 to 1906, and for periods from 1867 to 1906.
- Divorces by classified causes, libellant, whether or not contested and service of notice by states for entire period from 1887 to 1906.
- Divorces, by classified causes, libellant, and duration of marriage, continental United States and states for single years 1887 to 1906, and for periods, 1867 to 1906.
- Divorces, by duration of marriage and libellant, by states and periods, 1867 to 1906.
- Divorces, by number of years from marriage to separation and by libellant by states for entire period 1887 to 1906.
- Divorces, by number of years from separation to divorce, and by libellant, by states for entire period 1887 to 1906.
- Divorces, distributed with respect to children, by classified cause and libellant, by states, for single years 1887 to 1906 and for periods, 1867 to 1906.
- Divorces, by place of marriage and libellant, by states, for single years 1887 to 1906, and by periods, 1867 to 1906.

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<sup>1</sup> A preliminary report under the title "Marriage and Divorce, 1887 to 1906" was issued as Bulletin 96.

<sup>2</sup> The periods in this report are five-year, ten-year, and twenty-year periods.

Divorces, by counties, for single years 1887 to 1906, for periods, 1867 to 1906.

Marriage by counties, for single years, 1887 to 1906.

The report also contains statistics on marriage and divorce in a number of foreign countries, as well as digests of divorce laws of the several states and of important foreign countries.

It was planned by the Bureau of the Census to make another investigation of marriage and divorce which would cover the ten-year period from 1907 to 1916. When the time came to plan this investigation it was not possible to provide for the collection of statistics for the entire period, and accordingly the work was limited to the single year 1916. The report issued under the title "Marriage and Divorce, 1916" is a brief one giving number of divorces classified by states and causes and the number of divorces and marriages, by states.

Statistics of marriage and divorce have been collected annually by the Bureau of the Census, beginning with 1922. At this writing the complete reports for 1922 and 1923 have been published under the title "Marriage and Divorce, 1922," and "Marriage and Divorce, 1923." These reports give for each county and state the total number of marriages and divorces and for each state the following additional detailed figures.

#### Marriages.

Rate for total population.

Rate for population 15 years of age and over.

Rate for unmarried population 15 years of age and over.

#### Divorces.

Classified by cause, by party to which granted, and whether or not contested.

Classified by party to which granted and duration of marriage.

Per cent distribution of cause.

Classified with respect to number of children and party to which granted.

All of the statistics discussed above have been collected from county records either by correspondence with the clerks of the courts or by special agents of the census.

The population statistics of each decennial census, beginning with the one for 1890, show marital condition only; that is, the number of persons single, married, widowed, and divorced at the time of enumeration, but they do not give any information regarding the number of divorces or marriages during any given period of time. The statistics on marital condition are discussed on pages 39-42.

## CHAPTER XI

### RELIGIOUS BODIES

Statistics of religious bodies and churches were first collected in connection with the decennial census of 1850 and were again compiled in 1860, 1870, and 1890. At the Census of 1880 no general statistics on churches or religious affiliations were collected, but the reports on cities in the volumes entitled "Social Statistics of Cities, 1880" contain tables showing the number of churches of each denomination in each city. The present law authorizes the collection of statistics of religious bodies at ten-year intervals, in years other than those of the decennial census. In accordance with this plan statistics have been published for 1906 and 1916.

The census statistics on religious bodies have been published in the following reports:

Seventh Census: 1850.

Seventh Census of the United States.

Statistical view of the United States—Compendium of the Seventh Census.

Abstract of the Seventh Census.

Eighth Census: 1860. Statistics of the United States in 1860.

Ninth Census: 1870.

Population and social statistics.

Compendium of the Ninth Census.

Statistical atlas of the United States.

Tenth Census: 1880. Vols. XVIII and XIX. Social statistics of cities, Parts I and II.

Eleventh Census: 1890.

Statistics of churches.

Compendium of the Eleventh Census, Part II.

Abstract of the Eleventh Census.

Statistical atlas of the United States.

Intercensal publications.

Religious bodies, 1906. Bulletin 103. [Preliminary report.]<sup>1</sup>

Religious bodies, 1906, Parts I and II. [Final report.]

Negroes in the United States, 1910. Bulletin 129.

Negro population, 1790-1915.

Religious bodies, 1916. Bulletin 142. [Preliminary report.]

Religious bodies, 1916. Parts I and II. [Final report.]

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<sup>1</sup> Published in two editions with the same number and title, but the second edition contained material on separate denominations not contained in the first edition.

The statistics for 1906 and 1916 were collected by means of schedules sent to the pastor or clerk of each individual church organization or to some general officer of the denomination if it was not possible to obtain the data from the individual units.

The general classifications in the report are the religious bodies, states, and cities of over 25,000 population. There are shown under each classification, the number of religious organizations, the number of members by sex, the number and seating capacity of church edifices, the total value of church property and of parsonages, the debt on church property, the number of Sunday schools, Sunday school teachers, and students. The number of members is shown for all denominations by states and cities and for the more important denominations by counties. The other data listed above are given for states and cities separately for only the more important denominations. Separate statistics are given for the colored organizations, but these are also included in the general tables giving data on all denominations; therefore, the figures on colored organizations should not be added to the figures in the general tables. The general tables are complete for all classes of the population, the figures for colored organizations being simply segregated from the total. Separate figures on white organizations may be obtained by subtracting the figures for colored churches from those for all churches. The report does not show the number of colored persons who are members of organized churches, as the statistics on colored churches give information only on churches maintained solely for colored persons. No figures are available regarding the number of colored persons who may be members of white church organizations.

In addition to the data mentioned above the general statistics give for each important denomination the number of ministers, the average salary of ministers, the date of establishment of the denomination, the seating capacity of churches, the language used in the conduct of church services, the number of educational and benevolent institutions maintained in the United States and the value of property and endowments used for this purpose, the number of churches, schools, and philanthropic institutions maintained in foreign countries, the value of property in foreign countries, and the amount contributed to foreign missions.

Volume II of the report is devoted entirely to statistics assembled by denominations. The data are classified by states and territories and also in the case of the highly organized church organizations, by the administrative divisions, such as the diocese, presbytery, conference, etc. This volume also contains brief accounts of the history, polity, and work of each denomination. As these accounts are based on material supplied by officers of authority in each denomination and were generally revised by such officers, they may be regarded as authoritative.

The statistics on church membership cannot be used as an index of the religious affiliations of the population, as the practice of various denominations in determining membership is not uniform. For instance, the Jewish congregations include only heads of families, while the Roman Catholic Church includes as members all persons baptized into the church. As the Protestant bodies generally include only adults on their membership rolls, the Bureau of the Census deducted 15 per cent of the number returned by the Roman Catholic Church in order to eliminate the children less than 9 years of age. Another feature which affects the reliability of the number of members is the fact that many churches carry on their rolls persons who have not formally relinquished their membership, but who may have become members of other congregations or who may not regard themselves as having any church affiliation.

The value of church property is an item which is subject to a wide margin of error. As the value was reported separately by each congregation, it is evident that there was no uniformity in the method of arriving at these figures. As a church building has no general commercial value and as it is difficult to make comparisons with neighboring property as can be done with real estate used for other purposes it is exceedingly difficult to arrive at a correct valuation. In the case of some of the older churches, which are located in the business districts, the chief element of value is the ground, the building being a liability in the case of sale. On the other hand, churches in residence districts may bring the cost of replacement. It is evident, therefore, that the figures given cannot be taken as representing approximately the value of church property. However, as the margin of error is probably constant, they can be taken as an index to the value of property of different denominations and in different sections.

## CHAPTER XII

### EDUCATION

Statistics relating to illiteracy and persons attending school have been collected at each decennial census beginning with the one for 1840, and are printed in the census reports. The character of the recent statistics has been fully set forth in Chapter III. The reports of the Bureau of the Census on financial statistics of states and cities (see Chapter XXX) contain figures on expenditures for schools. The reports on financial statistics of cities for 1910, 1911, and 1912 also contain figures for average daily attendance, school sittings, school buildings, and school rooms.

The annual reports of the Bureau of Animal Industry of the Department of Agriculture contain summary statistics on veterinary education. The figures are scant, but are nowhere else obtainable.

Statistics relating to schools and higher educational institutions have been collected annually or biennially by the Bureau of Education since its organization in 1867.<sup>1</sup> The scope of the statistics has gradually widened until they now comprise almost every phase of educational organization and activity. The greater part of these statistics was collected annually and published in Volume 2 of the annual report of the Commissioner of Education up to and including those for the school year 1915-16, which appeared in the annual report for 1917. In the report for 1914 and prior years the statistics are for the school year ending with the year of the report; that is, the report for 1914 contains statistics for the school year 1913-14. The annual report for 1915 did not contain the statistical section, as it was impossible to prepare the material within the time-limit set by new legislation for submitting all annual reports. Therefore, the statistics for the school year 1914-15 were given in the

<sup>1</sup>From 1867 to 1869 this organization was an independent establishment, known as the Department of Education.

report for 1916 and those for the school year 1915-16 in the report for 1917.

The statistics for the school year 1915-16 were the last prepared on the annual basis, as it was decided to collect the figures thereafter biennially. The next report was published in four parts as Bulletins of the Bureau of Education, 1919, Nos. 88 to 91, under the title "Biennial Survey of Education 1916-18, Vols. 1-4."<sup>1</sup> Bulletins 90 and 91 (Vols. 3 and 4) contain the statistics, Bulletins 88 and 89 (Vols. 1 and 2) being devoted to a text discussion of the progress of education, similar to that which appeared in Volume 1 of the annual report.

For the school year ending in June, 1920, the statistics are given in Bulletin, 1923, No. 29, entitled "Biennial Survey of Education, 1918-20." No text discussion was included in the report for 1920.

The biennial survey for the school year ending in June, 1922, is contained in Bulletins, 1924, Nos. 13 and 14. Bulletin 13 (Vol. 1) contains the text discussion, while Bulletin 14 (Vol. 2) includes the statistics.

It should be noted that the text volumes of both the annual reports of the Commissioner and of the biennial surveys do not contain interpretative comments on the statistics, as they deal with general reviews of the progress in various lines of educational activity in the United States and foreign countries without specific reference to a statistical basis. What interpretation is given of the figures is in the volumes containing the statistics.

Practically all the chapters of the biennial survey are published also as separate bulletins, so that statistics on a particular division of education, such as city school systems, are available in advance of the completed report. The separate reports so issued prior to 1923 are listed in Bulletin of the Bureau of Education, 1923, No. 35, entitled "History of Bulletins of the Bureau of Education, with Index, 1906-22."

While the greater portion of the statistics was published in the annual reports prior to 1917, some topics had already been treated in bulletin form. Statistics of state universities and other higher

<sup>1</sup> It should be noted that the serial numbers of the Bulletins of the Bureau of Education begin with 1 for each year, and therefore, the year is an essential part of the serial number.



educational institutions partially supported by the state were published annually in bulletin form, beginning with 1908, as follows:

1908—Bulletin 1908, No. 8.	1916—Bulletin 1916, No. 50.
1909—Bulletin 1909, No. 11.	1917—Bulletin 1917, No. 55.
1910—Bulletin 1910, No. 6.	1918—Bulletin 1918, No. 51.
1911—Bulletin 1911, No. 19.	1919—Bulletin 1919, No. 87.
1912—Bulletin 1912, No. 33.	1920—Bulletin 1920, No. 48.
1913—Bulletin 1913, No. 60.	1921—Bulletin 1921, No. 53.
1914—Bulletin 1914, No. 50.	1922—Bulletin 1923, No. 49.
1915—Bulletin 1915, No. 6.	1923—Bulletin 1924, No. 26.

Other earlier statistical compilations published in bulletin form are "Statistics of Public and Private High Schools," Bulletin, 1912, No. 22; "Statistics of Certain Manual Training, Agricultural, and Industrial Schools," Bulletin, 1915, No. 19, and "Statistics of Agricultural and Mechanical Colleges," Bulletin, 1918, No. 41.

Other bulletins of the Bureau of Education contain statistical material covering limited periods or areas collected in connection with special studies. Among these may be mentioned various surveys of city school systems, studies of the salaries of teachers, the history of education in the several states, and other topics connected with educational problems. These may be located by means of the list and index cited on page 144.

Statistics relating to individual libraries have been collected at several times by the Bureau of Education, the latest issue, containing figures for 1915, being Bulletin, 1915, No. 25, entitled "Public, Society, and School Libraries, 1915." Figures on expenditures of states and cities for libraries are given the reports of the Bureau of the Census entitled "Financial Statistics of States" and "Financial Statistics of Cities" discussed in Chapter XXX.

## CHAPTER XIII

### LABOR AND WAGES

#### WAGES AND HOURS OF LABOR

**Manufacturing and Mining.** The statistics on wages have been compiled mostly by the Bureau of Labor Statistics and its predecessors, although some material has been collected by other organizations. The cost of production reports listed on pages 323 to 325 generally contain data on wages. Many of the reports relating to women and children discussed in Chapter XIV include data on wages or earnings.

*Early Reports.* Statistics on wages in the United States and Europe, mostly between 1871 and 1874, are given in the publication of the Bureau of Statistics of the Treasury Department entitled "Labor in Europe and America . . .," by Edward Young, published also as House Executive Document 21, 44th Congress, 1st Session. This report contains also tables on wages in England during the thirteenth and fourteenth centuries and some material on prices.

A report generally known as the "Aldrich Report" was prepared in the Department of Labor, and was issued as Senate Report 1394, 52d Congress, 2d Session, under the title "Wholesale Prices, Wages, and Transportation." It gives information regarding the rate of wages of male and female employees and the hours of labor in nearly one hundred establishments of twenty-two industries by six-month periods from 1840 to 1891. In addition to the general trades, more detailed statistics on wages and earnings are given for the coal, iron, glass, and pottery industries for the same period. This report also includes statistics on the salaries of male and female school teachers in the principal cities for each year from 1840 to 1891.

Rates of wages for each month from June, 1889, to September, 1891, are given in Senate Report 986, 52d Congress, 1st Session, entitled "Retail Prices and Wages."

*Bureau of Labor Statistics.* The data shown in the Aldrich Report were continued in publications of the Department of Labor, the Bureau of Labor, and the Bureau of Labor Statistics,<sup>1</sup> which show prevailing rates per hour and per week, full-time and actual earnings, and the number of employees earning specified amounts during a selected week.

At first all industries for which data were collected were included in one report; later, separate reports were published giving the data for specific industries. The general reports and the period covered by each one are listed below. All of these reports give summary statistics for the entire period, but the more detailed figures are given only for the two latest years indicated.

1890 to 1903—Nineteenth Annual Report of the Commissioner of Labor, 1905.

1890 to 1904—Bulletin 59.

1890 to 1905—Bulletin 65.

1890 to 1906—Bulletin 71.

1890 to 1907—Bulletin 77.

Reports on specific industries have been issued as indicated below.<sup>2</sup>

The earlier data on these industries will be found in the general reports heretofore cited. All of these reports give statistics for the entire period, but the more detailed figures are given only for the two latest years.

<sup>1</sup>The Bureau of Labor was organized in 1885 as a part of the Interior Department; in 1888 this organization became an independent establishment under the name Department of Labor. In 1903 it became a bureau of the Department of Commerce and Labor under the name Bureau of Labor; in 1913 it became a bureau of the Department of Labor under the name Bureau of Labor Statistics. The Department of Labor from 1888 to 1903 must not be confused with the Department of Labor after 1913. The publications are divided among the organizations as follows: Department of Labor—First to seventeenth annual reports, First to ninth special reports, and Bulletins 1 to 47; Bureau of Labor—Eighteenth to twenty-fifth annual reports, Tenth to twelfth special reports, and Bulletins 48 to 111; Bureau of Labor Statistics—Bulletins after No. 111.

<sup>2</sup>Several of the earlier bulletins contained reports on more than one industry. The bulletin reference has been repeated under the heading for each industry in order to make the list for each industry complete.

**Boots and shoes.**

- 1890 to 1912—Bulletin 134.
- 1907 to 1913—Bulletin 154.
- 1907 to 1914—Bulletin 178.
- 1907 to 1916—Bulletin 232.
- 1907 to 1918—Bulletin 260.
- 1907 to 1920—Bulletin 278.
- 1907 to 1922—Bulletin 324.
- 1907 to 1924—Bulletin 374.

**Hosiery and underwear.**

- 1890 to 1912—Bulletin 134.
- 1907 to 1913—Bulletin 154.
- 1907 to 1914—Bulletin 177.
- 1922—Bulletin 328.
- 1907 to 1924—Bulletin 376.

**Lumber, mill work and furniture.**

- 1890 to 1912—Bulletin 129.
- 1907 to 1913—Bulletin 153.
- 1915, with summary figures for  
1907 to 1913—Bulletin 225.

**Lumber manufacturing.**

- 1921—Bulletin 317.
- 1923—Bulletin 363.

**Cigars.**

- 1911 and 1912—Bulletin 135.
- 1911 to 1913—Bulletin 161.

**Men's clothing.**

- 1911 and 1912—Bulletin 135.
- 1911 to 1913—Bulletin 161.
- 1911 to 1914—Bulletin 187.
- 1911 to 1914, 1919, 1922—Bulletin 329.
- 1911 to 1924—Bulletin 387.

**Iron and steel.**

- 1907 to 1912—Bulletin 151.
- 1907 to 1913—Bulletin 168.
- 1907 to 1915—Bulletin 218.<sup>†</sup>
- 1907 to 1920—Bulletin 305.
- 1907 to 1922—Bulletin 353.
- 1907 to 1924—Bulletin 381.

**Silk.**

- 1890 to 1912—Bulletin 128.
- 1907 to 1913—Bulletin 150.
- 1907 to 1914—Bulletin 190.

**Woolen and worsted goods.**

- 1890 to 1912—Bulletin 128.
- 1907 to 1913—Bulletin 150.
- 1907 to 1914—Bulletin 190.
- 1916—Bulletin 238.<sup>‡</sup>
- 1918—Bulletin 261.
- 1920—Bulletin 289.
- 1922—Bulletin 327.
- 1924—Bulletin 377.

**Petroleum industry.**

- 1920—Bulletin 297.

**Automobile industry.**

- 1922—Bulletin 348.

**Automobile tire industry.**

- 1923—Bulletin 358.

**Cotton goods.**

- 1890 to 1912—Bulletin 128.
- 1907 to 1913—Bulletin 150.
- 1907 to 1914—Bulletin 190.
- 1916—Bulletin 239.
- 1918—Bulletin 262.
- 1920—Bulletin 288.
- 1922—Bulletin 345.
- 1924—Bulletin 371.

**Building and repairing steam railroad cars.**

- 1890 to 1912—Bulletin 137.
- 1907 to 1913—Bulletin 163.

**Slaughtering and meat packing.**

- 1917—Bulletin 252.<sup>‡</sup>
- 1921—Bulletin 294.
- 1923—Bulletin 373.

**Coal mining.**

- Anthracite for 1919 and 1920,  
bituminous for 1919—Bulletin  
279.

- Anthracite, January, 1922, bitumi-  
nous, winter of 1921-22—Bul-  
letin 316.

**Foundries and machine shops.**

- 1923—Bulletin 362.

**Paper and pulp industry.**

- 1923—Bulletin 365.

<sup>†</sup> This bulletin contains an excellent glossary of occupations in this industry.

<sup>‡</sup> Contains also good description of methods of manufacture and of specific occupations.

<sup>‡</sup> Contains also description of departments and occupations.

Reports on the union scale of wages and hours of labor in organized industries in various cities have been issued by the Bureau of Labor and the Bureau of Labor Statistics for each year beginning with 1907. These reports differ from the reports on wages and hours of labor in specific industries in that they apply only to organized trades and do not give any information regarding earnings. They show the union rate for full time and for overtime and the union hours. The information is classified by cities with the occupations as the secondary classification, and by occupations with the cities as the secondary classification. The tables in which the city is the primary classification give figures for each year since 1907; the occupation classification gives figures for the latest years. The figures are for one date only in each year, either May 1 or May 15. The bulletins on this subject that have been issued and the year covered by each one are as follows:

1907 to 1912—Bulletin 131.	1918—Bulletin 259.
1913—Bulletin 143.	1919—Bulletin 274.
1914—Bulletin 171.	1920—Bulletin 286.
1915—Bulletin 194.	1921—Bulletin 302.
1916—Bulletin 214.	1922—Bulletin 325.
1917—Bulletin 245.	1923—Bulletin 354.

In addition to the periodic reports of the Bureau of Labor Statistics and its predecessors, the Bureau of Labor and Department of Labor, that have been specifically listed and described, many of the other publications of this service contain information regarding wages and hours of labor as incidental or collateral data to the main purposes of the inquiries.

The Fifth Annual Report of the Commissioner of Labor, 1889, contains statistics on hours of labor and average daily earnings of railroad employees in 1888 and 1889.

The Eleventh Annual Report of the Commissioner of Labor, 1895-96, "Work and Wages of Men, Women and Children," gives data regarding the wages of these three classes of the laboring population. More specific reference to this publication is made on page 169.

In the Thirteenth Annual Report of the Commissioner of Labor, 1898, an endeavor was made to show the labor cost in different industries of articles made by hand labor and by machinery. Statistics are given for 672 commodity units, each unit embracing a number of distinct operations.

Wages in the white pine lumber industry of the United States and Canada from 1891 to 1896 are given in a report prepared by the Commissioner of Labor, entitled "White Pine Lumber in the United States and Canada," published as Senate Document 70, 55th Congress, 1st Session.

A compilation of wage statistics for all countries issuing reports on wages is contained in the Fifteenth Annual Report of the Commissioner of Labor, 1900, entitled "Wages in Commercial Countries." This compilation contains data on about one hundred foreign countries and each state and territory in the United States. The statistics are not for any selected date or period, but for the dates on which information was given in the foreign reports. Most of the tables cover the nineteenth century, but in a few cases rates of wages in England are given as far back as 1725. The last year covered is 1900, the information for the later years being more extended than for earlier ones by reason of the greater amount of material available. Occupations are listed alphabetically, each table beginning with the earliest date and continuing chronologically, regardless of state or country. For the United States there are shown the highest, lowest, and average rates per hour and day and for foreign countries, the highest and lowest rates per hour and day.

A particularly valuable feature of this report is the list of 714 publications from which the figures were compiled. For the student of wage rates this list will serve as an excellent guide to all the statistical information on wages in the United States and foreign countries available in 1900. Each entry contains a reference to the publication from which the information was derived, so that the student may easily locate the reports that give wage statistics for various trades at different dates in all countries.

It should be noted that the data contained in this report were not secured through an original investigation, but were compiled from previously published official reports issued under a great variety of circumstances and by many different agencies. Due to the fact that there was no means of knowing whether the occupation titles employed in these various reports represented the same specific classes of work and to other facts, the figures cannot be considered as having any high degree of accuracy. At best they serve to show only

the most general facts regarding the remuneration of labor at different dates and in different localities and countries.

The Twelfth Special Report of the Commissioner of Labor, issued in 1905, entitled "Coal Mine Labor in Europe," contains a great amount of information on the coal mining industry in Austria, Belgium, France, Germany, and the United Kingdom. The principal statistics for each of these countries are the following:

**Austria.**

Production annually, 1875 to 1903, quantity and value, by provinces.

Number of employees, annually, 1875 to 1903, by provinces, sex and age groups.

Wages for various periods between 1882 and 1900.

Accidents, annually, 1875-1903.

**Belgium.**

Production, annually, 1831 to 1903, by provinces.

Imports and exports, annually, 1831 to 1903.

Employees, annually, 1831 to 1903, male and female.

Wages and earnings, at various periods.

Accidents, annually, 1851-1902.

**France.**

Production, annually, 1811-1903.

Exports and imports, by countries, annually, 1811 to 1903.

Employees, wages, and earnings, at various periods.

Accidents, annually, 1853 to 1901.

**Germany.**

Production, annually, 1860 to 1903; for Prussia, annually, 1817 to 1903.

Exports and imports, annually, 1878 to 1903.

Employees, annually, 1872 to 1903.

Wages and earnings at various periods.

Accidents in Prussia, annually, 1852 to 1903.

**United Kingdom.**

Production, annually, 1854-1903.

Exports, annually, 1844-1903.

Employees, annually, 1851-1903.

Wages and earnings at various periods.

Accidents, annually, 1851-1903.

Strikes and lockouts at various periods.

The results of an investigation of rates of wages and working conditions in the telephone business made by the Commissioner of Labor were published in 1909 as Senate Document 380, 61st Congress, 2d Session, entitled "Investigation of Telephone Companies." Statistics are given for all companies and for individual companies and include data on working conditions, rates of wages and earnings, sex of employees, length of employment, and number of employees at specified rates of pay. There is a good text descrip-

tion of the working conditions and occupations in the industry. There are also data on rates charged by various companies.

A similar study of the Postal and Western Union Telegraph Companies was made in 1908, the report being published as Senate Document 725, 60th Congress, 2d Session, under the title "Investigation of Postal and Western Union Telegraph Companies." The general plan of this report is similar to the one on telephone companies, separate tabulations being made for the employees of each company in different cities.

It should be noted that both these reports relate entirely to labor and wages, and contain no data on the operations and profits of the companies.

In 1910 the Commissioner of Labor made an extensive investigation of the iron and steel industry, the results of which were published in four volumes as Senate Document 110, 62d Congress, 1st Session, under the title "Conditions of Employment in the Iron and Steel Industry in the United States." The plants investigated employed 82 per cent of all workers in the industry, and embraced blast furnaces, steel works, and rolling mills, together with the shops that were appurtenant to the plants. Volumes I and II relate to wages and hours of labor.

Data are given for the industry as a whole and for individual plants, including the average rate of wages, earnings, and the classification of employees according to the amount earned. Volume III is devoted to working conditions and relations of employers and employees, and includes a discussion of occupations, processes, working conditions, overtime, time and method of payment, company stores, pension funds, etc. Volume IV contains statistics of accidents to various classes of employees.

A special report on hours of labor and earnings in the bituminous coal fields in the fall and winter of 1921 was prepared by the Bureau of Labor Statistics and published as Senate Document 171, 67th Congress, 1st Session.

*Tariff Commission.* Figures on wages in the United States, Great Britain, and Germany in several trades in May, 1921, are given in the report of the Tariff Commission entitled "Depreciated Exchange and International Trade."

*Bureau of the Census.* The first separate wage statistics published by the Census were those in Volume XX of the Reports of



the Tenth Census, which gave figures for typical establishments in fifty-three industries for each year from 1870 to 1880, and in some cases for a longer period. Beginning with the reports of the Census of 1850 the volumes on manufactures show the aggregate amount paid for wages and salaries in various industries.

The occupation statistics of the decennial census give information regarding the number of persons in specified occupations, classified by sex, age, race, or nativity, etc. These statistics are described on pages 106-114. The statistics of the Census of Manufactures\* give information regarding the number of wage earners in the separate industries, but give no data on specific occupations. It should be borne in mind that in the Census of Manufactures the industrial classification is determined by the major product of the industry, and the figures regarding wage earners are subject to a margin of error similar to that regarding value of products. For instance, the average number of wage earners in the babbitt metal industry in 1914 is given as 333. It would be erroneous to infer that this number represents all wage earners engaged in the manufacture of babbitt metal. Many of the establishments whose major product is babbitt metal make other metal products, and many establishments whose major product places them in other classifications make babbitt metal. The range of error discussed on page 262, regarding value of products applies also to the number of wage earners.

The reports of the Census of Manufactures give also statistics regarding the amount paid as wages. Even if the margin of error discussed in the preceding paragraph is disregarded, it is not possible to divide the amount paid as wages by the average number of employees in order to obtain figures on rates of wages or earnings. The amount reported as paid for wages in the statistics of the Census of Manufactures represents the labor cost of manufactures. To divide this by the average number of employees, without distinguishing between skilled or unskilled labor, or without regard to the length of time wage earners at high and low rates of pay are employed, gives neither average wages nor average earnings. Even for purposes of comparison between different periods, an average obtained in this manner is not correct unless the part time and full time, and the high paid and low paid wage earners are in the same

\* For list of reports of Census of Manufactures see page 258.

proportion, an assumption which is probably not correct and which has no statistical basis.

To remedy this defect at the Twelfth Census, in 1901 a special investigation was made to determine the rate of wages paid in the more important industries in 1890 and 1900. The results of this study were embodied in the report, entitled "Employees and Wages," published in 1903.

In order to obtain the information desired an examination was made of the pay rolls of 720 representative establishments in the following industries :

Agricultural implements.	Iron and steel.
Bakeries.	Knitting mills.
Breweries.	Lumber and planing mills.
Brickyards.	Paper mills.
Candy.	Pianos.
Carpet mills.	Potteries.
Chemicals.	Printing.
Cigars.	Railroad car shops.
Clothing.	Rubber.
Collars and cuffs.	Shipyards.
Cotton mills.	Shoes.
Distilleries.	Silk mills.
Dyeing and finishing textiles.	Slaughtering.
Flour mills.	Tanneries.
Foundries.	Tobacco.
Furniture.	Wagons and carriages.
Glass.	

For each of these industries there are shown the number of male and female employees in various occupations during a selected week and receiving specified rates of pay. For some establishments where the pay rolls did not show the time worked, the earnings are given. Weekly rates and earnings are given by fifty-cent gradations and hourly rates and earnings by one-cent gradations. The tables show for each rate the number of employees and the cumulative percentage, or the proportion of employees in each group at a specified rate or higher, receiving a wage as great as or greater than the lowest wage of group.

When the Census of Manufactures for 1904 was taken, no effort was made to obtain rates of wages for different occupations, but an attempt was made to obtain information regarding employees' earnings by specified amounts during the year covered by the investigation. The results were published in Part IV of the reports of the Census of Manufactures for 1905 and also in Bulletin 93 of the

Bureau of the Census, entitled "Earnings of Wage Earners." An endeavor was made to obtain the figures from all establishments reporting, but many failed to give satisfactory information. Out of 196,583 establishments reporting wage earners, 123,703, or 62.9 per cent, made satisfactory reports. The number of wage earners covered by the statistics was 3,297,819, which was 47 per cent of the greatest number reported by all establishments at any one time. Therefore, reports were received from enough establishments to make the statistics representative.

Earnings are shown by specific amounts for men, women, and children, separate figures being given for the following classes: Less than \$3, by one-dollar gradations from \$3 to \$10, \$10 to \$12, \$12 to \$15, \$15 to \$20, \$20 to \$25, and \$25 and over. No figures are given by occupations, the grouping being by industries, the character of which has already been discussed. The percentage distribution of wage earners in each class is also shown by states and by industries and states.

Since the Census of Manufactures of 1904 the Bureau of the Census has not attempted to compile any statistics on wages except the total amount paid in each industry.

**Railroads.** Statistics on wages and number of employees on railroads have been collected regularly only by the Interstate Commerce Commission, the other reports covering special periods.

*Interstate Commerce Commission.* For some years the annual volume entitled "Statistics of Railways" contained tables showing the number, total compensation, and average hourly compensation of sixty-eight classes of employees on all Class I roads. Beginning with 1921 these figures were given for only seven groups of employees the details being shown in the monthly statement entitled "Wage Statistics," described below.

For several years the Interstate Commerce Commission issued a quarterly mimeographed statement, giving the same information for each class of employees in service at the middle of each month in the quarter and the following figures for the quarter:

- Average number of employees in service.
- Total number of hours on duty.
- Total number of days on duty.
- Total compensation.
- Average compensation per day or hour.
- Average hours or days per employee per month.

Beginning with July, 1921, the Interstate Commerce Commission has published monthly sheets, entitled "Wage Statistics," for 148 classes of employees compared with sixty-eight classes in the earlier reports, annual figures being given in the issue for December. An analysis of the hours of service and compensation has also been introduced. The increased number of classes resulted not from a mere subdivision of the older classes, but from a classification study made by the Railroad Labor Board, the new wage statistics being designated to meet the needs of both the Railroad Labor Board and the Interstate Commerce Commission. The new classification is as follows:

CLASSIFICATION OF EMPLOYEES IN MONTHLY WAGE STATISTICS OF INTERSTATE  
COMMERCE COMMISSION

- I. Executives, officials and staff assistants.
  - Executives, general officers, and assistants.
  - Division officers, assistants, and staff assistants.
  - Total, executives, officials, and staff assistants.
- II. Professional, clerical, and general.
  - Architectural, chemical, and engineering assistants.
  - Subprofessional engineering and laboratory assistants.
  - Professional and subprofessional legal assistants.
  - Supervisory or chief clerks (major departments).
  - Chief clerks (minor departments) and assistant chief clerks and supervising cashiers.
  - Clerks and clerical specialists.
  - Mechanical device operators (office).
  - Stenographers and secretaries.
  - Stenographers and typists.
  - Storekeepers, sales agents, and buyers.
  - Ticket agents and assistant ticket agents.
  - Traveling auditors or accountants.
  - Telephone switchboard operators and office assistants.
  - Messengers and office boys.
  - Elevator operators and other office attendants.
  - Lieutenants and sergeants of police.
  - Patrolmen.
  - Watchmen (without police authority).
  - Supervising traffic agents.
  - Traffic agents, advertising and development agents.
  - Fire prevention, smoke, and time-service inspectors, and office building superintendents.
  - Claim agents and claim investigators.
  - Real estate and tax agents and investigators.
  - Examiners, instructors, and special investigators.
  - Miscellaneous trades workers (other than plumbers.).

CLASSIFICATION OF EMPLOYEES IN MONTHLY WAGE STATISTICS OF INTERSTATE  
COMMERCE COMMISSION—*Continued*II. Professional, clerical, and general—*Continued*.

Motor vehicle and motor car operators.

Teamsters and stablemen.

Janitors and cleaners.

Total, professional, clerical, and general.

## III. Maintenance of way and structures.

Roadmasters and general foremen.

Assistant general foremen.

Supervising maintenance of way inspectors and scale inspectors.

Maintenance of way inspectors.

Bridge and building gang foremen (skilled labor.)

Bridge and building carpenters.

Bridge and building ironworkers.

Bridge and building painters.

Masons, bricklayers, plasterers, and plumbers.

Skilled trades helpers.

Regular apprentices.

Portable steam equipment operators.

Portable steam equipment operator helpers.

Pumping equipment operators.

Gang foremen (extra gang and work-train laborers).

Gang foremen (bridge and building, signal, and telegraph laborers).

Gang or section foremen.

Laborers (extra gang and work-train).

Track and roadway section laborers.

Maintenance of way laborers (other than track and roadway) and gardeners and farmers.

General foremen and supervising inspectors (signal, telegraph, and electrical transmission).

Assistant general foremen (signal, telegraph, and electrical transmission) and signal and telegraph inspectors.

Gang foremen (signal and telegraph skilled trades labor.)

Signalmen and signal maintainers.

Linemen and groundmen.

Assistant signalmen and assistant signal maintainers.

Signalman and signal maintainer helpers.

Total, maintenance of way and structures.

## IV. Maintenance of equipment and stores.

General foremen (equipment).

Assistant general foremen and department foremen (equipment).

General foremen (stores).

Assistant general foremen (stores).

Equipment, shop, and electrical inspectors.

Material and supplies inspectors.

Gang foremen and gang leaders (skilled labor).

Blacksmiths.

Boilermakers.

CLASSIFICATION OF EMPLOYEES IN MONTHLY WAGE STATISTICS OF INTERSTATE  
COMMERCE COMMISSION—*Continued*

IV. Maintenance of equipment and stores—*Continued.*

Carmen.  
Electrical workers.  
Machinists.  
Molders.  
Sheet-metal workers.  
Skilled trades helpers.  
Helper apprentices.  
Regular apprentices.  
Gang foremen laborers (shops, enginehouses, power plants, and stores).  
Coach cleaners.  
Laborers (shops, enginehouses, power plants, and stores).  
Common laborers (shops, enginehouses, power plants, and stores).  
Stationary engineers (steam).  
Stationary firemen and oilers (steam and electrical plants).  
Coal passers and water tenders (steam station boiler rooms).  
Total, maintenance of equipment and stores.

V. Transportation (other than train, engine, and yard).

Chief train dispatchers, train dispatchers, and train directors.  
Station agents (supervisory—major stations—nontelegraphers).  
Station agents (supervisory—smaller stations—nontelegraphers).  
Station agents (nonsupervisory—smaller stations—nontelegraphers).  
Station agents (telegraphers and telephoners).  
Chief telegraphers and telephoners or wire chiefs.  
Clerk-telegraphers and clerk-telephoners.  
Telegraphers, telephoners, and towermen.  
Station masters and assistants.  
Supervising baggage agents.  
Baggage agents and assistants.  
Baggage, parcel room, and station attendants.  
General foremen (freight stations, warehouses, grain elevators, and docks).  
Assistant general foremen (freight stations, warehouses, grain elevators, and docks).  
Gang foremen (freight station, warehouse, grain elevator, and dock labor).  
Callers, loaders, scalers, sealers, and perishable freight inspectors.  
Truckers (stations, warehouses, and platforms).  
Laborers (coal and ore docks and grain elevators).  
Common laborers (stations, warehouses, platforms, and grain elevators).  
Stewards, restaurant and lodging-house managers, and dining-car supervisors.  
Chefs and first cooks (dining cars and restaurants).

CLASSIFICATION OF EMPLOYEES IN MONTHLY WAGE STATISTICS OF INTERSTATE  
COMMERCE COMMISSION—*Continued*V. Transportation (other than train, engine, and yard)—*Continued.*

- Second and third cooks (dining cars and restaurants).
- Waiters and lodging-house attendants.
- Camp and crew cooks and kitchen helpers.
- Barge, lighter, and gasoline launch officers and workers.
- Deck officers (ferryboats and towing vessels).
- Engine-room officers (ferryboats and towing vessels).
- Deck and engine-room workers (ferryboats and towing vessels).
- Deck and engine-room officers and workers (steamers).
- Floating equipment shore workers and attendants.
- Transportation and dining service inspectors.
- Parlor and sleeping car conductors.
- Train attendants.
- Bridge operators and helpers.
- Crossing and bridge flagmen and gatemen.
- Foremen (laundry) and laundry workers.

Total, transportation, other than train, engine and yard.

## VI(a). Transportation (yardmasters, switch tenders and hostlers).

- Yardmasters and assistants.
- Switch tenders.
- Outside hostlers.
- Inside hostlers.
- Outside hostler helpers.

Total, transportation (yardmasters, switch tenders, and hostlers).

## VI(b). Transportation (train and engine).

- Road passenger conductors.
- Assistant road passenger conductors and ticket collectors.
- Road freight conductors (through freight).
- Road freight conductors (local and way freight).
- Road passenger baggagemen.
- Road passenger brakemen and flagmen.
- Road freight brakemen and flagmen (through freight).
- Road freight brakemen and flagmen (local and way freight).
- Yard conductors and yard foremen.
- Yard brakemen and yard helpers.
- Road passenger engineers and motormen.
- Road freight engineers and motormen (through freight).
- Road freight engineers and motormen (local and way freight).
- Yard engineers and motormen.
- Road passenger firemen and helpers.
- Road freight firemen and helpers (through freight).
- Road freight firemen and helpers (local and way freight).
- Yard firemen and helpers.

Total, transportation—train and engine.

The rules and descriptions of the occupations included in each class are given in the publication of the Railroad Labor Board entitled "Rules for Reporting Information on Railroad Employees, together with a Classification and Index of Steam Railroad Occupations" (Wage Series, Report, 2). The rules alone are published by the Interstate Commerce Commission under the title "Rules Governing the Classification of Steam Railway Employees and Reports of their Service and Compensation, effective July 1, 1921."

Statistics for each of the above classes are given under the following headings:

- Number in middle of month.
- Number of full-time positions.
- Service in hours or days.
  - Straight time actually worked.
  - Overtime paid for at pro-rata rates.
  - Overtime paid for at punitive rates.
  - Time paid for but not worked.
  - Total time paid for.
- Time worked per employee.
  - Straight time.
  - Overtime.
- Compensation in dollars.
  - Straight time actually worked.
  - Overtime paid for at pro-rata rates.
  - Overtime paid for at punitive rates.
  - Time paid for, but not worked.
- Average earnings per employee per month.
- Piece work.
  - Hours.
  - Compensation.

It will be noted that the number of employees is given under two heads: Number of employees in middle of month and number of full-time positions.

The number at middle of month represents in addition to the employees in service on a particular day, all others subject to call for duty whether actually at work on the day of the count or not, and those on vacation or sick leave. The number of full-time positions in classes other than those in train and engine service, represents the number of employees required to man the service if each employee worked the full number of days or hours of the regular assignment and in addition such an average amount of overtime as is shown by the summary for each occupation. In the case of train



and engine service, the number of men required to perform the work, if there were no sick leave, vacations, or "Extra" men, is more nearly represented by an average of the four counts of men actually on duty during the month.

The term *straight time* refers to the time of the regular assignment as distinguished from overtime. Overtime is in some cases paid for at the same rate per hour as for straight time, and in other cases, a higher, or so-called *punitive rate*, is paid. It may be noted that in some reporting divisions the statistics show a lower rate per hour for overtime than for straight time. In the cases of passenger engineers and passenger firemen this is explained principally by the fact that for such employees five hours represent a basic day, while overtime is computed on one-eighth of the daily rate.

It will be observed that the forms do not distinguish the overtime hours actually worked from the overtime hours paid for, although straight time actually worked is shown separately. This is explained by the desirability of reducing the number of columns to a minimum. In the classes relating to train and engine service, there is a separate column for straight time paid for, the reporting of which, however, to save clerical expenses, is not required for road freight employees. This information can be approximated for these employees by dividing the total miles paid for by 12.5, since under the dual system of miles and hours, the pay for eight hours is equal to the pay for 100 miles.

As regards employees not in train service, "time paid for but not worked" includes such items as payment for holidays, and absence on definite leave and vacations; as regards employees in train service, this item relates to the *constructive hours* paid for which do not represent actual train service and for which mileage is not allowed. Such "constructive hours" should not be taken as equivalent to time paid for but not worked, as they frequently represent some additional service.

The columns relating to overtime and time paid for but not worked are not regarded as applicable to general and division officers. The straight time reported in such case generally represents the regular number of working days in the month.

The Act of March 4, 1907 (34 Stat. L., 1145), known as the Hours of Service Act, makes it unlawful for any common carrier to permit an employee to remain on duty longer than sixteen consecutive hours, for any carrier to permit an employee who has been on duty for sixteen consecutive hours to go on duty without ten con-

secutive hours off duty, or for any carrier to permit any employee who has been on duty sixteen hours in the aggregate out of twenty-four to go on duty again unless he has had eight consecutive hours off duty. There are special provisions for telegraph operators. The act provides that the penalties specified are not to be enforced if the extra service was the result of a cause which was not known to the agent of the carrier when the employee left the terminal and which could not have been foreseen. The enforcement of this act was placed in the hands of the Interstate Commerce Commission, which requires carriers to make monthly reports of all excess hours in order to determine whether prosecutions should be conducted.

Beginning with the fiscal year 1913 the reports of the carriers have been summarized in an annual publication entitled "A Statistical Analysis of Carriers' Monthly Hours of Service Reports." This publication gives separate figures for each road for the various causes of the instances in which train employees were on duty in excess of sixteen consecutive hours. They relate only to the hours in excess of those allowed by law and have no relation to the general field of hours of labor and compensation.

*Railroad Labor Board.* The report of the Railroad Labor Board, entitled "Average Daily Wage Rate of Railroad Employees on Class I Carriers" (Wage Series, Report 4), gives wage rates for the several classes of employees at the following dates:

As established in December, 1917.

As established by the Railroad Administration in January, 1920.

As established by the Railroad Labor Board.

May, 1920.

July, 1921.

July, 1922.

July, 1923.

Earlier data are given in Wage Series, Reports 1 and 3.

*Eight-Hour Commission.* The commission authorized by the act of September 3 and 5, 1916 (39 Stat. L., 721), to observe the operation and effect of the eight-hour law for railroad employees, made a voluminous report entitled "Report of the Eight-Hour Commission," published also as House Document 690, 65th Congress, 2d Session, which contains statistics of five classes of employees on certain roads for either January or May, 1917.

For all the roads, for all the roads in each district, and for each of the larger roads, there is given the information by classes of

service on the items listed below for one month for engineers, firemen, conductors, baggage masters, and brakemen and flagmen.

Number of men.

Per cent of total pay.

Number of runs.

Number of days.

Actual miles run.

Time on run.

Elapsed time.

Actual time on duty.

Compensation under schedule in effect September 5, 1916.

Compensation under eight hour law in effect January 1, 1917.

Straight or normal time—miles, hours and amount.

Overtime—hours and amount.

Allowances under special rules—miles, hours, and amount under their subdivisions.

Total pay.

Amount of increase.

This report also contains a classification for January, 1917, by wage groups and districts for thirteen classes of employees on roads that furnished information. This tabulation is of interest as it is the only one that has been published giving information for wage groups. The occupations for which figures are given are those of engineer, fireman, conductor, and brakeman in passenger, freight, and yard services, and baggageman in passenger service. The compensation classification is by thirty-one groups of a ten-dollar range in each one. For each compensation group of each of the classes mentioned above there are shown the following:

Total employees.

Employees working specified number of days per month (one classification of ten days each, one of two days).

Employees working specified number of hours per month (21 classifications with 20 hour range in each).

Employees receiving specified increase (5 classifications with \$10 range in each).

Employees receiving overtime compensation.

Employees not receiving overtime compensation.

Employees receiving additional allowances.

Employees not receiving additional allowances.

The student of labor conditions in the railway service will be interested in the three following special articles in the report of the Eight-Hour Commission:

Railway wage schedules and agreements, by William Z. Ripley.

Employment conditions in road and yard service, by Victor S. Clark.

The practicability of an actual eight-hour day in railroad train service, by Charles P. Howard.

## EMPLOYMENT

The Monthly Labor Review of the Bureau of Labor Statistics contains each month the total number of employees and the total amount of payroll in a large number of establishments for each of the following industries:

Agricultural implements.	Hosiery and knit goods.
Automobile tires.	Iron and steel.
Automobiles.	Leather.
Bakeries.	Lumber, millwork.
Boots and shoes.	Lumber, sawmills.
Brick.	Millinery and lace goods.
Car building and repairing.	Paper boxes.
Carpets.	Paper and pulp.
Carriages and wagons.	Petroleum.
Chemicals.	Pianos.
Clothing, men's.	Pottery.
Clothing, women's.	Printing, book and job.
Cotton finishing.	Printing, newspapers.
Cotton manufacturing.	Shipbuilding, steel.
Electrical machinery, apparatus, and supplies.	Shirts and collars.
Fertilizers.	Silk.
Flour.	Slaughtering and meat packing.
Foundries and machine shops.	Stamped ware.
Furniture.	Stoves.
Glass.	Tobacco: Chewing and smoking.
Hardware.	Tobacco: Cigars and cigarettes.
	Woolen manufacturing.

In March, 1923, reports were being received from over four thousand establishments, employing approximately 1,800,000 persons. Data are secured for the payroll period ending nearest the fifteenth of the month covered by the report.

Bulletin 310 of the Bureau of Labor Statistics, entitled "Industrial Unemployment," contains a discussion of available material on employment and unemployment, as well as some general statistical material. Among the detailed statistics are tables showing persons employed each month in Massachusetts from 1900 to 1920 and in New Jersey from 1895 to 1919.

## STRIKES AND LOCKOUTS

The earliest statistics on strikes and lockouts were those in Volume XX of the reports of the Tenth Census, which contained a brief report showing the number of strikes by states and industries

in 1880. There is no information regarding causes, nor any discussion.

Six general reports on this subject have been published by the Department of Labor and the Bureau of Labor covering the period from 1881 to 1905. No general compilation has been made since 1905, but data on this subject are published from time to time in the Monthly Labor Review of the Bureau of Labor Statistics. The general reports are contained in the following publications:

Tenth Annual Report of the Commissioner of Labor, 1894. Covers period from 1881 to 1886; gives also an account of strikes prior to 1881, but not detailed tabulation, as the data were largely fragmentary.

Tenth Annual Report of the Commissioner of Labor, 1894. Covers period from 1887 to 1894.

Bulletin 1 of the Department of Labor. This Bulletin covers the period from 1881 to 1894, being a summary of the material contained in the Third and Tenth Annual Reports.

Sixteenth Annual Report of the Commissioner of Labor, 1901. This report contains detailed statistics from 1894 to 1900 and summary tables for 1881 to 1894.

Bulletin 54 of the Bureau of Labor. This is a summary report covering the entire period from 1881 to 1900.

Twenty-first Annual Report of the Commissioner of Labor, 1906. This report contains detailed statistics from 1901 to 1905, and summary tables covering 1881 to 1900.

In these reports the statistics are classified by states and by industries. Data are given on the number of men and establishments affected, the causes of strikes, and the results. Available statistics on strikes in European countries are given in the Sixteenth and Twenty-first Annual Reports.

General summary statistics for 1881 to 1900, taken from the reports of the Department of Labor, were published in Volume XVII of the Report of Industrial Commission of 1898. This report also contains material on strikes and lockouts in foreign countries.

Current statistics on strikes and lockouts are published quarterly and annually by the Bureau of Labor Statistics in the Monthly Labor Review.

As the bureau has no authority to require reports relative to strikes from any one, it is obliged to obtain its information in such way as it can and from such sources as are available. This information is obtained chiefly from the following-named sources: Labor papers and trade-union journals; leading trade periodicals;

lists of strikes issued by labor, trade, and other organizations; clipping bureaus; daily newspapers; reports from the Director of Conciliation of the United States Department of Labor, and from State labor boards; also from reports of agents of the bureau in the field.

The bureau follows up the report of a strike by sending a questionnaire or schedule of inquiry to one or both of the parties to the dispute, whenever this is feasible.<sup>7</sup>

It should be noted that for the purpose of these statistics only cessations of labor lasting at least twenty-four hours were deemed to be strikes. Many strikes of shorter duration were, therefore, not embraced in the investigation. As no data are collected showing the results of negotiations between employers and employees, it is impossible to indicate the strikes that have been averted.

#### FARM LABOR

Wages of farm labor in each state over a series of years are given in Bulletin 99 of the Bureau of Statistics of the Department of Agriculture, entitled "Wages of Farm Labor in the United States", where separate figures are presented for wages with and without board for the month and for the day, and for ordinary labor. The years covered are as follows:

1866	1879	1888	1893	1898
1869	1882	1890	1894	1899
1875	1885	1892	1895	1909

Statistics on farm labor supply and demand are given in the publication of the Department of Agriculture entitled "Crops and Markets." Heretofore these figures have been published in the issues for January, April, July, October, November, and December.

Figures on wages of farm labor are also published in "Crops and Markets," the data heretofore appearing in January, April, July, and October. The figures on wages are also given in the Agriculture Yearbook. The figures on demand, supply, and wages of farm labor are obtained from the correspondents of the Bureau of Agricultural Economics in the same manner as the estimates relating to acreage and yield of crops (see page 203).

In Volume XI of the report of the Industrial Commission, there is a discussion of American farm labor, by J. R. Dodge, Statis-

<sup>7</sup> Bureau of Labor Statistics, Bulletin 326, p. 38.

tion of the Department of Agriculture, which gives statistics on wages of farm labor in the several states and territories for 1866, 1869, 1875, 1879, 1882, 1885, 1888, 1890, 1892, 1895, 1898, and 1899.

#### PRISON LABOR

Statistics on convict labor were contained in the Second Annual Report of the Commissioner of Labor for 1886 and in the Twentieth Annual Report for 1906. These reports contain data on the number and employment of convicts, systems of operation, industries represented, quantity and value of goods manufactured, receipts and expenditures, and cost of prison property.

Statistics on prison labor in representative states were collected by the Industrial Commission and published in Volume III of its report. These statistics generally give information regarding one or two fiscal years ending in 1898 or 1899. The statements for the various states were not prepared on uniform lines, and therefore, the operations in the different states can not be compared. In general, the tables give classified expenditures and receipts. The material is fragmentary and is more a contribution to information on the subject than a detailed analysis.

An account of prison labor in 1923 is contained in the publication of the Bureau of Labor Statistics entitled "Convict Labor, 1923," which gives data on the kinds and amount of goods produced in prisons and the system under which the work was done. This is a preliminary report, and it is announced that a more detailed report is to be published as a bulletin.

## CHAPTER XIV

### WOMEN AND CHILDREN

In addition to the reports discussed in this chapter additional data on wages of women and children are often given in the general reports on labor and wages described in Chapter XIII.

**Bureau of the Census.** As sex is a primary classification of the Census statistics of population, figures on the number of females will be found in connection with every other classification of the number of inhabitants (see page 32). Other general census statistics are the following: Number of children (see page 35); number of children in school (see page 42); number of women and children in specified occupations (see page 112); and number of women and children employed in the several industries (see page 266).

General data for children 10 to 15 and 10 to 17 are given in the report of the Fourteenth Census (1920) entitled "Children in Gainful Occupations," which contains also more detailed tables showing race, nativity, and ages of children employed in the important states in the following industries:

- Agricultural pursuits.
- Non-agricultural pursuits in general.
- Selected occupations.
  - Cotton mill operatives.
  - Silk mill operatives.
  - Woolen and worsted mill operatives.
  - Clothing industry operatives.
  - Shoe factory operatives.
  - Iron and steel industry operatives.
  - Lumber and furniture industry operatives.
  - Coal mine operatives.
  - Clerks.
  - Salesmen and saleswomen.
  - Newsboys.
  - Messenger, bundle, and office boys and girls.
  - Servants and waiters.

Two older reports on child labor of the Bureau of the Census are Bulletin 68, "Child Labor in the District of Columbia: 1900," and Bulletin 69, "Child Labor in the United States: 1900." Both



these reports embody in part new material tabulated from the schedules of the Twelfth Census and not printed in other publications. These reports contain figures on sex, age, race or nativity, occupation, and relationship to head of family. The report on the United States contains special tabulations on the following classes of wage earners, which include a large percentage of the children gainfully employed.

Cotton mill operatives.

Silk mill operatives.

Glass workers.

Tobacco and cigar factory operatives.

Miners and quarrymen.

Textile workers.

Messengers, errand and office boys.

The Bureau of the Census has issued one report dealing specifically with women in industry, entitled "Statistics of Women at Work," which contains material relating to 1900, derived from the schedules of the Twelfth Census and not contained in any of the other census reports. Women gainfully employed are classified by occupations, age, race, nativity, nativity of parents, marital condition, and relationship to head of family. Statistics are also given by selected cities.

**Bureau of Labor Statistics.** In 1887 the Department of Labor made an investigation of working women in large cities, the results of which were published in the Fourth Annual Report of the Commissioner of Labor. In this survey an endeavor was made to obtain statistics relating to a limited number of women who would be typical of the mass and give an accurate cross section. The inquiry was carried on in twenty-two cities, and information was secured from over 17,000 women. The results are presented by cities and industries, and show age at beginning work, state or country of birth, parentage, experience, conjugal condition, earnings, expenditures, church attendance, and home and shop conditions.

In 1895 and 1896 the Commissioner of Labor Statistics was directed by Congress to undertake an investigation of the earnings of women and children for the purpose of comparing their earnings with those of men of the same grade of efficiency. The report was published as the Eleventh Annual Report of the Commissioner of Labor, 1895-96, under the title "Work and Wages of Men, Women, and Children." Data were collected for 94,529 persons

employed in 1067 establishments. The rates of wages are shown for one week in 1895 or 1896 and one week at least ten years earlier. Statistics are given for various industries and occupations.

On January 29, 1907, an act was passed directing the Secretary of Commerce and Labor to make a report on conditions of labor of women and children. The work of collecting the material was done by the Bureau of Labor, and the results were published in 1910 in nineteen volumes as Senate Document 645, 61st Congress, 2d Session, under the general title "Report on Condition of Woman and Child Wage Earners in the United States." The titles of the volumes are as follows:

- Vol. I. Cotton textile industry.
- Vol. II. Men's ready-made clothing.
- Vol. III. Glass industry.
- Vol. IV. Silk industry.
- Vol. V. Wage-earning women in stores and factories.
- Vol. VI. The beginnings of child labor legislation in certain states; a comparative study.
- Vol. VII. Conditions under which children leave school to go to work.
- Vol. VIII. Juvenile delinquency and its relation to employment.
- Vol. IX. History of women in industry in the United States.
- Vol. X. History of women in trade-unions.
- Vol. XI. Employment of women in metal trades.
- Vol. XII. Employment of women in laundries.
- Vol. XIII. Infant mortality and its relation to the employment of mothers.
- Vol. XIV. Causes of death among woman and child cotton-mill operatives.
- Vol. XV. Relation between occupation and criminality of women.
- Vol. XVI. Family budgets of typical cotton-mill workers.
- Vol. XVII. Hookworm disease among cotton-mill operatives.
- Vol. XVIII. Employment of women and children in selected industries.
- Vol. XIX. Labor laws and factory conditions.

Only the volumes containing statistical material are discussed below. This work was not done by an enumeration of all industrial plants, but by collecting information from a sufficient number of establishments to afford results that would be typical of each industry as a whole. The statistics generally relate to the year 1908.

Volume I is devoted to the cotton manufacturing industry in the New England and Southern States. The material presented was derived by a personal inspection of the mills and their records. The mills investigated employed 81,335 wage earners, which was 32 per cent of the total number of wage earners in cotton mills reported at the census of manufactures for 1904. The topics covered include working and sanitary conditions and accidents for all classes of employees in the mills studied, processes and occupations,

housing conditions, and education of children. The principal topics on which statistics are given are as follows:

Number of employees, by age and sex in each state.

Conjugal condition of employees, by sex and states.

Earnings and average hours worked during a representative week, by sex, age, and states.

Average hours worked and average weekly earnings, in a representative week, in six selected occupations, by sex, age groups and states.

Families—members employed and unemployed, race and nativity of head of families.

Family income from various sources, by race and nativity, for New England states.

Home ownership, by race and nativity, for New England states.

Economic condition of families of children and women at work.

Literacy and school attendance of women and children, by states.

Age, occupation, literacy, and family income for children, single women and married women at work; data for selected families, by states.

The text of the report also contains a statement regarding processes and occupations in the cotton industry.

The men's ready-made clothing industry in New York, Chicago, Baltimore, Philadelphia, and Rochester is treated in Volume II. The detailed statistics are practically the same as those given in the report on the cotton industry described above. The text of the report contains excellent chapters on conditions of home work, the organization of the industry, processes of manufacture, and the history of the industry.

The glass industry, including the manufacture of mirrors and electric incandescent lamps, is discussed in Volume III. In addition to the detailed statistics similar to those given in the reports discussed above, there is a valuable contribution on the causes of death and diseases of glass workers, compiled from the records of the Glass Blowers' Association of the United States and Canada, a beneficial association of the employees of the industry. The text includes descriptions of processes and occupations, working conditions, and company stores.

Volume IV is devoted to a study of the silk industry in Paterson, New Jersey, and in the Pennsylvania cities where silk manufacturing is developed to a considerable extent. The statistics are of the same general character as those in Volumes I to III. There are also descriptions of processes, occupations, and working conditions.

An intensive study of wage earning women in stores and factories is given in Volume V. Individual statistics on social environ-

ment and living conditions were collected from almost eight thousand women working in stores and factories in New York, Chicago, Philadelphia, St. Louis, Boston, Minneapolis, and St. Paul. Separate figures are given for women living at home and women not living at home or adrift, the terms used in the report. Figures are given for each class showing the number earning specified amounts per week. For the women at home the table shows occupation, age, experience, weekly earnings, and contribution to family expenses. For the women adrift data are given on occupation, age, experience, nationality, years of schooling, earnings, grade of food and housing, and weekly expenditures for food and shelter. Separate figures are given for each city included in the investigation. Separate statistics are given for women in packing houses in Chicago and for waitresses.

The conditions under which children leave school to go to work are treated in Volume VII, which gives the results of an intensive study of 622 children in Pawtucket and Woonsocket, Rhode Island, Plymouth and Hazleton, Pennsylvania, Columbia, South Carolina, Columbus, Georgia, and the district surrounding Columbus. This report contains a number of tables dealing with the social, economic, and educational status of the children studied. The data include school attendance, retardation, family income, and other factors affecting this problem.

Volume VIII, which deals with juvenile delinquency and its relation to employment, is based on a study of police court records in Baltimore, Boston, Indianapolis, Newark, New York, Philadelphia, and Pittsburgh. A comparison is made between the number of offences committed by working and nonworking children.

The history of women in industry is the subject of Volume IX, the statistical portion being devoted to a compilation of the census statistics on women wage earners for each census from 1850 to 1890. The statistics are classified by occupations and by industries.

Volume XI is devoted mainly to a text discussion of the employment of women in the metal trades, the main feature of statistical interest being figures on accidents to workers in the metal trades, both male and female, during 1907 by character of establishments, class of workers, and hour of the day.

Infant mortality and its relation to the employment of mothers is discussed Volume XIII. The data relate entirely to the city of

Fall River and the state of Massachusetts, the state figures relating to 1900 to 1907 and the city figures to 1908. This report covers all phases of the relation of infant mortality to the employment of mothers.

Volume XIV gives analyses of the mortality records of Fall River, Massachusetts, Manchester, New Hampshire, and Pawtucket, Rhode Island for the years 1905 to 1907.

In Volume XVI are given statistics for fourteen cotton mill workers' families in Fall River, Massachusetts, ten in Atlanta, Georgia, six in Greensboro, North Carolina, and five near Burlington, North Carolina. The figures are for the individual families. There is also a chapter on standards of living of Southern mill workers.

General statistics on the employment of women and children in industries other than those treated in the first four volumes are given in Volume XVIII, "Employment of Women and Children in Selected Industries," which contains information on the following industries:

Canning and preserving fruit and vegetables.	Hosiery and knit goods.
Canning and preserving oysters.	Jewelry.
Cigar boxes.	Needles and pins.
Cigarettes.	Nuts, bolts, and screws.
Cigars.	Paper boxes.
Clocks and watches.	Pottery.
Confectionery.	Rubber and elastic goods.
Core making.	Shirts, overalls and underwear.
Corsets.	Stamped and enameled ware.
Crackers and biscuits.	Tin cans and boxes.
Hardware and metal specialties.	Tobacco and snuff.
	Woolen and worsted yarns.

Like the study of the industries discussed in Volumes I to IV, this investigation also was designed to give a typical cross sectional view. The number of establishments for which statistics were secured ranged from four to sixty-five for various industries, and the number of employees from 485 to 16,951. In only four industries was the number of employees less than one thousand, and in fifteen it was over two thousand, in seven over five thousand, and in three over twelve thousand. The report contains general information on conditions of work and statistics on the following topics:

Males and females, by age and race, during a representative week.  
 Conjugal condition of males and females, by ages and races.  
 Specified earnings of males and females of various ages during a representative week.

While the greater part of Volume XIX, "Labor Laws and Factory Conditions," is devoted to a text discussion, there is a considerable amount of statistical material on factory conditions, particularly with reference to individual plants. The investigation covered 563 establishments in fifty-three industries. The tables in the text give a summary on each topic by states for all establishments studied, and the general tables give figures for individual plants. There is no general summary by industries. The establishments are grouped by states, data being given for each establishment.

**Railroad Administration.** During the war the necessity for conserving the man-power of the country resulted in the employment of women in many occupations in which they had not previously been engaged. This was true of the railroads as well as of the manufacturing industries. The United States Railroad Administration issued reports for 1918 and 1919 entitled "Number of Women Employed and Character of their Employment," which gives statistics for roads having annual operating revenues in excess of one million dollars. These reports show by classes of occupations the number employed on the first of January, April, July, and October. Figures are given for the United States, districts, and individual roads.

**Interstate Commerce Commission.** In 1920, under the title "Employment of Women on Large Steam Roads," the Interstate Commerce Commission issued a report on the employment of women on railroads similar to the two published by the United States Railroad Administration. This report differs from the earlier ones, however, in that it does not give statistics for individual roads. The summary statistics for 1918 and 1919 are repeated in the Interstate Commerce Commission Report for 1920, so the earlier reports of the Railroad Administration are not needed unless figures for individual roads are desired. It is not known whether this report will be continued. As statistics of this character are not available for years earlier than 1918, it is not possible to make a comparison with pre-war conditions.

**Women's Bureau.** Some statistical studies of women in industry have been made by the Women in Industry Service and its suc-

cessor, the Women's Bureau of the Department of Labor. The Women in Industry Service was organized during the war and the Women's Bureau was created by the Act of June 5, 1920 (41 Stat. L., 987). The duties of this Bureau, as defined by the organic act, are "to formulate standards and policies which shall improve the welfare of wage earning women, improve their working conditions, increase their efficiency, and advance their opportunities for profitable employment. The said bureau shall have authority to investigate and report to the said department [of Labor] upon all matters pertaining to the welfare of women in industry."

An interpretation of the statistics of the Census of 1920 relating to working women is given in Bulletin 27 of the Women's Bureau, entitled "The Occupational Progress of Women," and a graphic presentation of the main census statistics of women in occupations is shown in Bulletin 46, entitled "Facts about Working Women."

This service has not collected statistics at regular intervals and is not likely to do so, as its statistical work will probably be confined to cross section surveys of areas or industries, or the collection of statistics regarding a particular industry in limited areas. Some of the publications of a more or less statistical character, which are typical of others, are the following:

**Bulletin of the Woman in Industry Service, No. 4, "Wages of candy makers in Philadelphia in 1919,"** is an intensive study of the employment of women in the candy industry in Philadelphia and includes data on the number of workers at various rates, working conditions, and other topics.

"Hours and conditions of work for women in industry in Virginia" is the title of Bulletin 10.<sup>1</sup> This publication, which deals with conditions in 1919 and 1920, contains also a few scattered statistics, the greater part of the report being devoted to comments on conditions.

Statistics relating to hours of work of women street car conductors and ticket agents in 1921 are given in Bulletin 11, entitled "Women street car conductors and ticket agents."

Bulletin 12, entitled "The new position of women in American industry," contains statistics showing the number of men and women employed in selected industrial plants before, during, and after the war. It is not an exhaustive survey, but it presents data showing the extent to which woman labor was used in certain industries as a result of the depletion of male labor by the war.

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<sup>1</sup>The bulletins of the Woman in Industry Service and the Women's Bureau are numbered consecutively; Bulletin 10 and later numbers were issued by the Women's Bureau.

The results of a study of the wages paid to women in selected industries in thirty-one cities in Kansas are presented in Bulletin 17, entitled "Women's wages in Kansas." The figures are for the year 1920.

**Children's Bureau.** The Children's Bureau of the Department of Labor is concerned with the study of questions relating to child life and a portion of its work has a statistical basis, the remainder being descriptive and expository and dealing with such subjects as child-labor laws, illegitimacy, and health of mothers and children.

The statistical publications of this Bureau are not issued at regular intervals, and do not form a series covering the same field for a number of years. Each one relates to a specific topic in a limited area, and is a complete study for the particular period, topic, and area covered.

One of the early publications of the Children's Bureau was a compilation of the statistics relating to children published by the Census of 1910, issued as Bureau Publication No. 5, and entitled "Handbook of Federal Statistics of Children." There are no new basic statistics in this report, but there is a considerable quantity of derivative material worked up from the figures of the census. For the person interested especially in statistics of children there are brought together in compact form the statistical data relating to children that are scattered through the larger report of the Bureau of the Census. The tables show the number of children in the various states, in urban and rural districts, and in cities with a population of 25,000 or over, classified by age, race, sex, nativity, and parentage.

All of the other statistical publications of the Children's Bureau relate to infant mortality, and embody the results of an intensive investigation based on the births during one year in a selected community. The basis of all these studies is the birth registration record of the municipality. From this record is obtained a complete list of all births reported. Schedules are then forwarded to the mothers, and supplemental information is obtained regarding the number of other children living or dead, the age of the mother, the medical care at time of birth, the earnings of the head of the family, and other facts which bear on the social and economic condition of the family or which are related to the health or welfare of the children.



## CHAPTER XV

### GENERAL AGRICULTURAL CONDITIONS

In this chapter are discussed certain basic data on agriculture contained mostly in the reports of the decennial censuses and not discussed elsewhere. Other statistics dealing with agriculture given in other portions of this volume are the following:

- Production of crops, Chapter XVI.
- Livestock, Chapter XVII.
- Livestock products, Chapter XVIII.
- Woodland on farms, page 544.
- Imports and exports of farm products, page 360.
- Farm wages, page 166.
- Prices of farm products, page 448.
- Marketing, pages 427-434.
- Number of persons engaged in agricultural pursuits, Chapter VII.

Data on certain lines of business or industries, such as the grain trade and the fertilizer industry, which have a bearing on agriculture, are discussed on pages 288 to 309, 315, and 319.

A mass of statistical material dealing with agricultural conditions is contained in Part I of the report of the Joint Commission of Agricultural Inquiry, prepared in 1921, entitled "The Agricultural Crisis and its Causes," published as House Report 408, 67th Congress, 1st Session. The greater part of this material is available in other publications discussed in this volume, but there are some data from private sources and some government data not heretofore published. The list of chapters given below indicate the statistical material:

1. The farmer's dollar in 1920-21.
2. The relation of prices of agricultural commodities to prices of other commodities.
3. Relative growth of agriculture and other industries in quantity production.
4. Wages and incomes in agriculture and other industries.
5. The break in prices in different countries and industries.
6. Was the break in farm prices due to overproduction of farm products?
7. Exports and imports of farm products and their effect upon prices.
8. Production and consumption of farm products and their relation to prices.
9. Factors influencing cost of production.

10. Farm mortgages.
11. Farm tenancy.
12. Transportation.
13. Retail prices.

The Census statistics relating to general agricultural conditions are found in the late reports only. As regards the topics referred to under this heading, the report of the Seventh Census (1850), showed the area of improved and unimproved land and the value of farms and of implements. The report of the Eighth Census (1860) entitled "Agriculture of the United States in 1860" gave figures on the number of farms, the area of improved and unimproved land in farms, the value of farms, the value of farming implements and machinery, the size of farms, and the number of slaveholders and slaves. At the Ninth Census (1870) the agricultural statistics were published in Volume III, entitled "Statistics of the Wealth and Industry of the United States." This volume contained figures on area of land in farms, subdivided into improved land, woodland, and other unimproved land, on value of farms, on value of farming implements and machinery, and on the size of farms.

The results of the Tenth Census were published in the volume entitled "Report on the Production of Agriculture." This report gave figures on the number of farms, area of improved land and of unimproved land in farms, value of lands, fences, and buildings, value of implements and machinery, value of livestock, size of farms, and tenure. At the Eleventh Census (1890) the Statistics were essentially the same as those of the Tenth Census. They were published in the volume entitled "Report on the Statistics of Agriculture in the United States." At the Twelfth Census (1900), the statistics here considered were published in Volume V, entitled "Agriculture, Part I, Farms, Livestock and Animal Products." This report gave statistics on number of farms, on size of all farms, number and size of farms operated by white and colored farmers, on tenure, with many classifications, on value of land and improvements (except buildings), on value of buildings, on value of implements and machinery, and on value of livestock.

The general agricultural statistics for the Thirteenth Census (1910) were published in the same volumes as the figures on production of crops and number of livestock. In the general report (Vol. V), the discussion is by topics, each chapter giving general and state statistics on the topic discussed. In the state reports

(Vols. VI and VII) are published all the statistics relating to each state as well as detailed statistics for counties. At the end of Volume V there is also a general table giving statistics by counties.

The agricultural statistics of the Fourteenth Census (1920) are given in Volumes V and VI, Volume VI being in three parts. Statistics on irrigation and drainage are given in Volume VII. The data dealing with general agricultural conditions and with production in the United States and the several states are given in Volume V; each part of Volume VI also contains a summary for the United States and for the North, the South, and the West. The detailed figures by state and counties are divided among the three parts of Volume VI as follows:

**Part 1.—THE NORTHERN STATES.**

**New England Division.**

Maine.

New Hampshire.

Vermont.

Massachusetts.

Rhode Island.

Connecticut.

**Middle Atlantic Division.**

New York.

New Jersey.

Pennsylvania.

**East North Central Division.**

Ohio.

Indiana.

Illinois.

Michigan.

Wisconsin.

**West North Central Division.**

Minnesota.

Iowa.

Missouri.

North Dakota.

South Dakota.

Nebraska.

Kansas.

**Part 2.—THE SOUTHERN STATES.**

**South Atlantic Division.**

Delaware.

Maryland.

District of Columbia.

Virginia.

West Virginia.

North Carolina.

South Carolina.

Georgia.

Florida.

**Part 2.—THE SOUTHERN STATES—Continued.**

## East South Central Division.

Kentucky.

Tennessee.

Alabama.

Mississippi.

## West South Central Division.

Arkansas.

Louisiana.

Oklahoma.

Texas.

**Part 3.—THE WESTERN STATES AND OUTLYING POSSESSIONS.**

## Mountain Division.

Montana.

Idaho.

Wyoming.

Colorado.

New Mexico.

Arizona.

Utah.

Nevada.

## Pacific Division.

Washington.

Oregon.

California.

## Outlying Possessions.

Alaska.

Hawaii.

Porto Rico.

Guam.

American Samoa.

Panama Canal Zone.

The general statistics on agriculture relate to the date on which the census was taken. This date has varied at recent censuses, being June 1 in 1900, April 1 in 1910, and January 1 in 1920. The variation in the date has little effect on the comparability of the general statistics.

It should be borne in mind that the census reports on agriculture do not give any details regarding the entire mass of the people engaged in agricultural pursuits. The persons referred to as farmers in Volumes V and VI are those who operate farms, the total number of operators being the same as the total number of farms. Volumes V and VI do not contain any information on agricultural laborers, such data as are available for this class of the population being given in Volume IV, Occupations. The total number of operators, for which data are given in Volumes V and VI, is over 6,000,000, but the total number of persons over 10 years

of age employed in agricultural pursuits was over 10,000,000. A comparison of the figures in Volume IV with those in Volumes V and VI will indicate the extent to which the agricultural population operates farms or works by the day or week.

At the Fourteenth Census, for the first time a count was made of the persons actually living on farms. These figures, which are given in Volume V and the Abstract, include all persons living on farms, regardless of whether they were actually engaged in farm work; they do not include persons living in towns or villages who may be engaged in agriculture. The figures are classified according to race and color, age, and sex. A schedule showing the classification is given on page 23.

The farm in the census statistics is the land directly farmed by one person managing and conducting agricultural operations, either by his own labor or with the assistance of members of his household or hired employees. The farm may consist of one tract of land or a number of separate tracts. However, if the land owner has one or more tenants, croppers, renters, or managers, the land operated by each is considered a farm. All tracts used for agricultural operations with an area of more than three acres were regarded as farms at the Census of 1920, regardless of the value of the products. Tracts of less than three acres were regarded as farms if they produced at least \$250 worth of farm products in 1919, or required for their agricultural operations the continuous services of at least one person. A more detailed description of the definition of the term at the Census of 1920 and previous censuses is given on pages 14 to 16 of Volume V of the reports of the Fourteenth Census.

**Farms and Farm Property.** The distribution of farm land and the value of land and improvements are classified under the following heads:

Value of farm property.	Number of farms,
Total.	Acreage of farms.
Land.	Total.
Buildings.	Improved land.
Livestock.	Woodland.
Implements and machinery.	Other unimproved land.

General statistics by the United States, divisions,<sup>1</sup> and states are given in the chapter devoted to farms and farm property in Volumes V and VI; statistics by counties are given also in Volume

<sup>1</sup> For list of geographic divisions see page 179.

VI. Other more detailed statistics on farm property are analyzed under the discussion of the following classifications on the pages cited :

Size of farms, page 185.

Tenure of operators, page 183.

Race, color, and nativity of operators, page 186.

Country of birth of foreign born white operators, page 187.

Sex of operators, page 187.

Age of operators, page 188.

**Farm Tenure.** The statistics on farm tenure differentiate between three classes of farm operators: (1) Owners, (2) hired managers, and (3) tenants. In some of the tables a further distinction is made between owners who operate their own land only and those who hire additional land, while tenants are subdivided into three groups (five groups in the South), according to the method of paying their rent. The three classes of tenants which are shown separately for the North and the West are share tenants, share-cash tenants, and cash tenants. For the South, in 1920, croppers were separated from the other share tenants; and standing renters were shown separately from cash tenants.

The several tenure classes used in the 1920 census reports have been defined as follows: <sup>2</sup>

*Farm owners* include (1) farmers operating their own land only and (2) those operating in addition to their own land some land hired from others. The latter are sometimes designated *part owners*, the term *full owners* being then used for those owning all the land they farm.

*Farm managers* are farmers operating a farm for the owner for wages or a salary.

*Farm tenants* are farmers who as tenants, renters, or croppers, operate only rented land. They were reported in 1920 in five classes: (1) *Share tenants*—those who pay a certain share of the products, as one-half, one-third, or one-quarter, for the use of the farm, but furnish their own work animals; (2) *croppers*—share tenants whose work animals are furnished by their landlords; (3) *share-cash tenants*—those who pay a share of the products for a part of the land and cash for a part; (4) *cash tenants*—those who pay a cash rental, as \$7 per acre of crop land or \$500 for the use of the whole farm; (5) *standing renters*—those who pay a stated amount of farm products for the use of the farm, as 3 bales of cotton or 500 bushels of corn. In some cases the character of the

<sup>2</sup> Fourteenth Census, Vol. V, p. 121.

tenancy was not indicated on the schedule; such tenants are shown in the tables as "unspecified."

In censuses prior to 1920 the question of assigning the tenure classification of the farmer was left largely to the enumerator, who was supplied with a set of more or less specific definitions. In 1920 a new method was adopted, and in place of requiring any tenure classification by the enumerator, six simple and direct questions relating to tenure were placed on the schedule, and the tenure classification of the farmer was determined in the office on the basis of the replies to those questions.

Statistics classified by owners, managers, and tenants, without further subdivision, are given for the following:

Area of farms and improved land, United States, divisions, and states. (Vol. VI; Abstract); counties (Vol. VI.)

Value of farm land and buildings, United States, divisions, states, and counties. (Vol. VI.)

Number of domestic animals—horses, mules, all cattle, dairy cows, sheep, and swine, United States, divisions, and states. (Vol. V.)

Value of domestic animals—horses, mules, all cattle, sheep, and swine, United States, divisions, and states. (Vol. V.)

Owners, managers and tenants.

Value of farm property: Total; land; buildings; implements and machinery; livestock; United States, divisions, and states (Abstract).

Statistics for all owners, full owners, part owners, managers, all tenants, share tenants, share-cash tenants, and cash tenants are given on the following topics:

Number of farms, United States, divisions and states (Vol. V, Vol. VI, Abstract); counties (Vol. VI).

Area of farms and of improved land, United States, divisions, and states. (Vol. V) <sup>2</sup>.

Value of farm property: Total; land; buildings; implements and machinery; and live stock, United States, divisions, and states (Vol. V) <sup>2</sup>.

Additional statistics by tenure are analyzed on pages cited below, on which the following classifications are discussed:

Sex of operators, page 187.

Race, color, and nativity of operators, page 186.

Country of birth of foreign born white, of operators, page 187.

Age of operators, page 188.

Years of operators on farm, page 188.

Amount of livestock, page 225.

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<sup>2</sup> For Southern states share tenants divided into share tenants proper and croppers; cash tenants are divided into cash tenants proper and standing renters.

A discussion of the significance of the figures of the 1920 Census relating to tenure is given in Monograph IV of the Bureau of the Census, entitled "Farm Tenancy in the United States," by E. A. Goldenweiser and Leon E. Truesdell. While the detailed statistics are those of the census, the text is supplemented by pertinent data from other sources. The main topics discussed in the text of this publication are the following:

- Growth of farm tenancy; 1880 to 1920.
- Significance of increase in tenant farms and leased land.
- Tenancy and type of farming.
- Geographic distribution of tenancy.
- Tenancy and farm values.
- Tenancy and the speculative element in land ownership.
- Race and nativity of farm tenants.
- Tenancy and farm increase.
- Relation of age to tenure.
- Relation of age to size of farm.
- Relation of experience to tenure.
- Mortality among tenants and graduation into ownership.
- Types of tenancy.
- Stability of tenancy.

In connection with each of the above topics are summary statistics generally applying to the United States as a whole, although there are some which contain details by states. At the end of the volume are more detailed tables giving the following data:

SCHEDULE OF DETAILED TABLES ON TENURE IN CENSUS MONOGRAPH 4.  
[C, County; D, Division; S, State.]

Classification	Owners and managers	Owners	Managers	All tenants	Share-cash tenants	Share and share-cash tenants
Number of farms.....	DS	DS	DS	CDS	DS	DS
Area of all land, and of improved land in farms.....	..	DS*	DS	DS	DS	..
Value of lands, buildings, implements and machinery, live stock, and all farm property .....	..	DS*	DS	DS	DS	..
Age groups of operators.....	..	DS	..	DS	..	..
Native white, foreign born white, and colored operators .....	..	DS	DS	DS	..	..

\* Separate figures for those owning entire farm and those owning additional land.



Classification	Share tenants			Cash tenants		
	All	Share tenants proper	Cropper	All	Cash tenants proper	Standing renters
Number of farms.....	CDS	DS	DS	DS <sup>b</sup>	DS	DS
Area of all land, and of improved land in farms.....	DS	DS	DS	DS	DS	DS
Value of lands, buildings, implements and machinery, live stock, and all farm property .....	DS	DS	DS	DS	DS	DS

<sup>b</sup> Including unspecified.

**Size of Farms.** Size was first used in the Census of 1860 in the general statistics of agriculture, but the size classification used at the censuses of 1860 and 1870 was based on the area of improved land rather than on the total farm acreage. The size groupings used in the reports of the Fourteenth Census, here called size groupings A to E, although not so termed in the census reports, are as follows:

Size grouping A.

- Under 20 acres.
- 20 to 49 acres.
- 50 to 99 acres.
- 100 to 174 acres.
- 175 to 499 acres.
- 500 to 999 acres.
- 1000 acres and over.

Size grouping B.

- Under 10 acres.
- Under 3 acres.
- 3 to 9 acres.
- 10 to 19 acres.
- 20 to 49 acres.
- 50 to 99 acres.
- 100 to 499 acres.
- 100 to 174 acres.
- 175 to 259 acres.
- 260 to 499 acres.
- 500 to 999 acres.
- 1000 acres and over.

Size grouping C.

- Under 3 acres.
- 3 to 9 acres.
- 10 to 19 acres.
- 20 to 49 acres.
- 50 to 99 acres.

Size grouping C—Continued.

- 100 to 174 acres.
- 175 to 259 acres.
- 260 to 499 acres.
- 500 to 999 acres.
- 1000 acres and over.

Size grouping D.

- Under 20 acres.
- 20 to 49 acres.
- 50 to 99 acres.
- 100 to 174 acres.
- 175 to 499 acres.
- 500 acres and over.

Size grouping E.

- Under 20 acres.
- Under 3 acres.
- 3 to 9 acres.
- 10 to 19 acres.
- 20 to 49 acres.
- 50 to 99 acres.
- 100 to 174 acres.
- 175 to 499 acres.
- 175 to 259 acres.
- 260 to 499 acres.
- 500 to 999 acres.
- 1000 acres and over.

The data shown for the several size groupings are as follows :

**Size grouping A.**

Number of farms, area of farms, improved land in farms—United States, divisions, and states. (Vol. V; Abstract.)

Value of farm property: Total; land; buildings; implements; machinery; livestock—United States, divisions, and states. (Vol. V.)

Value of farm property: Total; land and buildings; implements and machinery; livestock—United States, divisions, and states. (Abstract.)

Number of domestic animals: Horses; mules; all cattle; dairy cows; sheep; swine—United States, divisions, and states. (Vol. V.)

Value of domestic animals: Horses, mules; all cattle; sheep; swine—United States, divisions, and states. (Vol. V.)

**Size grouping B**—Number of farms—United States, divisions, and states. (Vol. V.)

**Size grouping C**—Number of farms—Counties. (Vol. VI.)

**Size grouping D**—Number of farms—United States, divisions, and states. (Vol. VI.)

**Size grouping E**—Number of farms—States. (Vol. VI.)

**Race and Nativity of Farm Operators.** The race and nativity of farm operators are given according to the following classifications :

Race and nativity of farm operators—United States, divisions, and states. (Vol. VI.)

Number of farms: Classified by white and colored farmers and by tenure<sup>4</sup>—United States, divisions, states. (Vol. V.)

All land in farms and improved land in farms; classified by white and colored farmers, and by tenure<sup>5</sup>—United States and divisions. (Vol. V.)

All land in farms and improved land in farms, classified by white and colored farmers and by tenure,<sup>6</sup>—United States and states. (Vol. V.)

Number of farms: Total land in farms, improved land in farms, classified by white and colored farmers, and by tenure<sup>7</sup>—United States, divisions, and states. (Vol. V.)

Value of farm property: Total; land; buildings; implements and machinery; livestock, classified by white and colored farmers and by tenure<sup>8</sup>—United States and divisions. (Vol. V.)

<sup>4</sup> Divided as follows: Owners and managers; owners; full owners; part owners; managers; tenants; share and share-cash tenants; share tenants; share-cash tenants; cash and unspecified tenants; cash tenants; unspecified tenants.

<sup>5</sup> Divided as follows: Owners; full owners; part owners; managers; tenants; share and share-cash tenants; cash and unspecified tenants.

<sup>6</sup> Divided as follows: Owners, managers, tenants.

<sup>7</sup> Divided as follows: Owners; full owners; part owners; managers; tenants; share tenants including croppers; share tenants proper; croppers; share-cash tenants; cash tenants including standing renters; cash tenants proper; standing renters; unspecified.

<sup>8</sup> Divided as follows: Owners; full owners; part owners; managers; tenants; share and share-cash tenants; cash and unspecified tenants.

- Number of domestic animals: Horses; mules; all cattle; dairy cows; sheep; swine, classified by white and colored farmers and by tenure<sup>9</sup>—United States, divisions, and states. (Vol. V.)
- Value of domestic animals: Horses, mules; all cattle; sheep; swine, classified by white and colored farmers and by tenure<sup>9</sup>—United States, divisions, and states. (Vol. V.)
- Number of farm operators by color,<sup>10</sup> nativity, and tenure—United States, divisions, and states. (Vol. V.)
- Area of all land in farms and of improved land in farms, by color<sup>10</sup> and nativity<sup>11</sup> and tenure<sup>9</sup>—United States, divisions, and states. (Vol. V.)
- Value of farms, by color,<sup>9</sup> nativity,<sup>11</sup> and tenure<sup>9</sup> of operator—United States, divisions, and states. (Vol. V.)
- Negro, Indian, Chinese, and Japanese farm operators, by tenure<sup>9</sup>—United States, divisions, and states. (Vol. V.)
- Area and value of farms operated by negroes, Indians, Chinese, and Japanese—United States, divisions, and states. (Vol. V.)
- White foreign born operators, by separate countries of birth and tenure<sup>9</sup>—United States, divisions, and states. (Vol. V.)
- Area of lands in farms, area improved land in farms, value of farms operated by foreign born white farmers, by separate countries of birth and by tenure<sup>9</sup>—United States, and divisions. (Vol. V.)
- Separate countries of birth of foreign born white farm operators—United States, divisions, and states. (Vol. VI.)
- Area of land in farms, by race and nativity, for United States, divisions, and states. (Vol. VI.)
- Area of land in farms and of improved land in farms and value of farms operated by foreign born white persons, by separate countries of birth—United States, divisions, and states. (Vol. V.)
- Color and nativity of all farmers, of owners, and of tenants, by countries. (Vol. VI.)

**Sex of Farm Operators.** Data on the sex of farmers were first tabulated for the Census of 1920, the classification showing number of farmers, area of all land in farms, area of improved land in farms, and value of lands and buildings; all the foregoing being subdivided into the three classes of owners, operators, and tenants. Figures are given for the United States, divisions, and states in Volume V.

In each part of Volume VI are given figures for the United States, divisions and states, showing sex of owners, operators, and tenants, and average area operated by male and females.

Volume VI also shows the sex of farm operators in each state and county, the northern states being in Part 1, the southern states in Part 2, and the western states in Part 3.

<sup>9</sup> Divided as follows: Owners, managers, tenants.

<sup>10</sup> White and colored; colored including all nonwhite.

<sup>11</sup> Divided into native white and foreign born white.

**Age of Farm Operators.** The periods used in age statistics of farmers are those under 25, four ten-year periods for 25 to 64, and those 65 years and over. The data are classified as follows:

Age, color and tenure,<sup>22</sup> for United States, divisions, and states. (Vol. V.)  
Age, without further subdivision, for United States, divisions, and states.  
(Vol. VI.)

At the Census of 1910 the data on age of farmers were published in the special bulletin entitled "Age of Farmers, by Color of Operator, Character of Tenure, and Size of Farm."

**Years on Farm.** Data on the stability of farm operators are presented by the figures showing the number of years on the particular farm occupied when the census was taken. The periods used in the compilations are less than one year, 1 year, 2 to 4 years, 5 to 9 years, and 10 years and over. The data are shown in Volume V according to the following classifications:

Color and tenure—all owners, full owners, part owners, managers, all tenants, share and share-cash tenants, and cash and unspecified tenants for the United States, divisions, and states.

Color and tenure—all tenants, share tenants, share tenants proper, croppers, share-cash tenants, cash tenants, cash tenants proper, and standing renters, for the United States, divisions, and states.

Volume VI contains one table for the United States, divisions, and states, indicating number of years on farm without regard to color or tenure. Data dealing with the number of years on farms were first collected at the Census of 1910, but they were not printed in the general report, being given in a special publication under the title "Stability of Farm Operators, or Term of Occupancy of Farms."

**Farm Experience.** Data on farm experience were first collected at the Census of 1920. For both owners and tenants classes of experience were recognized and tabulated as follows:

For owners:

Experience as—

- Owner, tenant and wage earner.
- Owner and wage earner.
- Owner and tenant.
- Owner only.

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<sup>22</sup>All owners; full owners without encumbrance; full owners; mortgaged; part owners; managers; all tenants; share and share-cash tenants; cash and unspecified tenants.

For tenants:

Experience as—

- Tenant wage earner and owner
- Tenant and wage earner.
- Tenant and owner.
- Tenant only.

The extent of the experience is divided into nine five-year groups, with a single group for those having experience of 45 years or over.

Figures are given in Volume V for the United States, divisions, and states, showing the experience of owners and tenants by the time periods and the classes of experience outlined above; and there is also a further analysis showing for the United States, divisions, and states, according to length of present tenure, the following facts:

Operators.

- Number of owners.
- Number of tenants.
- Average age.
- Owners.
- Tenants.

Owners reporting experience as owner, tenant, and wage earner.

- Number.
- Average age.
- Average farm experience.
- Total.
- As owner.
- As tenant.
- As wage earner.

Tenants reporting experience as tenant and wage earner.

- Number.
- Average age.
- Average farm experience.
- Total.
- As tenant.
- As wage earner.

**Farm Mortgages.** The data on farm mortgages relate only to debt secured by mortgages on real estate, and do not include indebtedness secured by chattels, crops, or collateral security. They also refer to farms operated by the owners and give no information regarding indebtedness on rented farms. Statistics are given according to the following classifications:

For United States, divisions and states.

- Farms mortgaged and free from mortgage. (Vol. V; VI; Abstract.)
- Farms mortgaged and free from mortgage, classified by full ownership and part ownership. (Vol. V; Abstract.)

For United States, divisions and states—*Continued.*

Mortgage debt and value of land and buildings. (Vol. V; Vol. VI; Abstract.)

Number of farms and amount of mortgage debt at several rates of interest, namely: less than 4, between 4 and 5, 5, between 5 and 5½; 5½; between 5½ and 6; 6; between 6 and 6½; between 6½ and 7; 7; between 7 and 8; 8; between 8 and 10; 10; over 10. (Vol. V.)

Amount of mortgage debt at several rates of interest, namely, less than 5; 5; between 5 and 6; 6; between 6 and 7; 7; between 7 and 8; 8; more than 8. (Abstract.)

Annual interest charge, classified by rate of interest less than 5; 5; between 5 and 6; 6; between 6 and 7; 7; between 7 and 8; 8; more than 8. (Vol. 5.)

Amount of mortgage debt classified by value of farms less than \$2,500; \$2,500 to \$4,999; \$5,000 to \$9,999; \$5,000 to \$7,499; \$7,500 to \$9,999; \$10,000 to \$49,999 in 8 groups of \$5,000 increase each; \$50,000 and over. (Vol. V.)

For counties.

Farms mortgaged and free, value of land and buildings, amount of mortgage debt; average rate of interest. (Vol. VI.)

Announcement has been made that the subject of farm mortgages will be treated in one of the monographs of the Fourteenth Census.

**Farm Expenses.** The last two censuses have collected figures on the expenditure for feed, and the last three censuses on the outlay for labor and fertilizer, the labor item being divided into cash and the value of rent and board furnished. Data are given for the United States, divisions, and states in Volume V, Volume VI, and the Abstract, and for counties in Volume VI.

**Coöperative Marketing and Purchasing.** Census inquiries regarding the extent of coöperative marketing and purchasing were first made at the Census of 1920, and were limited to the total value of sales and purchases made through coöperative organizations. Figures are given for the United States, divisions, and states, in Volumes V and VI and the Abstract.

**Farm Facilities.** At the Fourteenth Census (1920) statistics were collected for the first time showing the farm use of automobiles, motor trucks, tractors, telephones, water supply systems, and gas or electric light. For automobiles, motor trucks, and tractors there are shown both the number of farms and the number of vehicles reported. The number of farms only is given for those reporting telephones, water piped into the house, and the use of gas or electric light. Statistics are given for the United States, divisions, and states in Volume V and VI and the Abstract. The Agricul-

tural Census of 1925 contains an inquiry on the use of radio receiving sets.

**Irrigation.** The first statistics of irrigation were those collected at the Eleventh Census (1890) and published in the monograph entitled "Report on Agriculture by Irrigation in the Western Part of the United States." This report was issued separately and was also included in the volume with the title "Agriculture, Irrigation and Fisheries." The statistics collected at the Twelfth Census (1900) were published in Volume VI, "Agriculture, Part II, Crops and Irrigation." These statistics were very general, however, and in 1902, by direction of Congress the Bureau of the Census made a special compilation of statistics relating to irrigation, the results of which were published as Bulletin 16, with the title "Irrigation in the United States: 1902." The results of the inquiries regarding irrigation made at the Thirteenth Census (1910) are given in Volume V of the reports, entitled "Agriculture—General Report and Analysis." The statistics collected at the Fourteenth Census (1920) are contained in Volume VII of the reports, entitled "Irrigation and Drainage." This volume contains a general discussion of the results of irrigation, a summary for the United States as a whole, and detailed statistics for the several states in which irrigation is practiced. The data included the following:

Number of farms.

Area irrigated, classified by character of enterprises;<sup>23</sup> by kind of water supply, and by drainage basins.

Area capable of being irrigated from existing works and included in existing enterprises.

Capital invested.

Cost of operation and maintenance.

Quantity of water used.

Figures on number of diversion and storage dams; number and capacity of reservoirs, flowing wells, and pumped wells; number, capacity, and length of lateral ditches; length of pipe lines; number and capacity of pumping plants and pumps.

Acreage, yield and value of principal crops.

Drainage of irrigated land.

For the several counties data are given on the number of farms irrigated, the area irrigated, the area capable of being irrigated

<sup>23</sup> The classification by character of enterprise is according to the method by which the works were built or managed, and is as follows: U. S. Reclamation projects; U. S. Indian Service projects; Carey Act projects; irrigation districts; coöperative projects; commercial projects; individual and partnership projects.

from existing works ; the area included in irrigation enterprises ; the number, length, and capacity of main ditches ; the number and length of laterals ; the number and capacity of reservoirs, flowing wells, and pumping plants ; the capital invested ; the estimated final cost ; area available for settlement, with price and terms.

In addition to the statistics the reports contain a summary of the law of each state relating to water rights.

The following comments on the method of collecting information are quoted from the census report :<sup>14</sup>

The plan adopted for making the canvass for irrigation provided that the regular census enumerators should obtain from the persons controlling irrigation enterprises schedules representing small enterprises watering from one to three farms at the same time that they made the canvass for population and agriculture ; and that special agents should obtain schedules for the larger enterprises and any small ones missed by the enumerators, after the canvass by the enumerators was finished. This plan was followed, and proved quite satisfactory.

. . . There is no way in which the completeness of the canvass can be determined with absolute certainty, since there are no exact records against which returns can be checked. Both supervisors and enumerators, and most of the special agents, were local people who should know of the existence of all enterprises ; in the sections covered by the irrigation canvass almost all enumerators and all special agents were working on a per diem salary and consequently would not be tempted to omit enterprises difficult of access ; the farm schedule contained inquiries as to irrigation enterprises from which water was obtained, and all irrigation schedules were checked against the farm schedules to see that schedules were received for all enterprises shown on the farm schedules. In view of all these facts, it is believed that the canvass for irrigation was approximately complete.

As an offset to errors due to omissions, there is the possibility of duplication. Some farms receive water from more than one enterprise, and there is the possibility that they will be included in the areas served by all the enterprises from which they receive water ; some enterprises extend into more than one county or state, and they may be reported more than once ; and again, some enterprises are known by more than one name and may be reported more than once. Great care was exercised to eliminate duplication, and such as occurs tends to compensate for any incompleteness in the canvass that may have occurred.

<sup>14</sup> Fourteenth Census, Vol. VII, pp. 9-11.



The degree of probability of error on account of lack of knowledge of the facts varies considerably with the different inquiries on the irrigation schedule and the different classes of enterprises.

The inquiries which serve for classifying the data, namely—source of water supply, character of enterprise, and character of water rights—should be correctly answered since it is probable that the owners of practically all enterprises, large and small, have exact knowledge on these points.

With regard to many of the points covered by the description of irrigation works, there will be a lack of exact knowledge. This is particularly true of capacities of the smaller reservoirs, and the capacities of wells, pumps, and engines. Most of the owners of pumps and engines should know the capacities at which their pumps and engines were rated by their manufacturers, but, in many instances, these ratings vary widely from that attained in actual practice. Most wells have never been tested beyond the capacities of the pumps being used in them, and it is probable that in only a small percentage of cases have the volumes pumped been measured. Therefore, the reported capacities of pumped wells represent the owners' estimates of what has been pumped from them, based on the rated capacities of the pumps used, not the volume of water that can be pumped from them, as determined by tests or measurements.

The owners of the small individual and partnership irrigation enterprises are likely to have quite accurate knowledge of the areas irrigated in 1919, since they are also the users of the water. The officials of the organized enterprises are not so likely to know the exact areas irrigated, since their records show, generally, only the areas for which the water users are entitled to receive water or do receive water, and not what is done with the water delivered. Usually in the larger enterprises farmers obtain rights to water for their entire farms, while it is seldom that a farmer actually applies water to his whole farm. For these reasons there will be a tendency for the areas reported to exceed the areas actually irrigated.

The statements as to area to which enterprises were capable of supplying water in 1920 are estimates, based on the condition of the works and the expected water supply. Here, also, there is a tendency for the area reported to exceed that for which water is actually available.

The area included in enterprises represents the estimates of promoters and, no doubt, it is greater than the area to which the enterprises reporting will be able to supply water when they are completed.

The area of irrigated land available for settlement represents the estimates made by officials of enterprises of the area to be irrigated by their enterprises that is not included in farms already settled. There is some tendency toward overestimates in this item.

For capital invested in irrigation enterprises, the amounts reported for the individual and partnership enterprises are almost all estimates. The larger parts of the works of such enterprises were built by the owners or their predecessors without any records of expenditures of money or time, and the same is true of many of the cooperative enterprises. It is probable that the estimates for many of these enterprises are too small. The amounts reported for the larger enterprises are much more likely to be based on records and, therefore, to be much more accurate. The totals ought to be approximately correct, with a slight tendency to be too small.

For many enterprises the cost of operation and maintenance was not reported and no attempts to estimate this cost were made. It is probable, therefore, that the cost that is reported is based on records and is correct. In tables showing this item the areas represented are shown in order that the reader may form his own judgment as to the value of the averages given.

The same condition exists with reference to the data relating to the quantity of water used. No estimates have been made for enterprises for which this item was not reported, and the data representing estimates and those representing measurements are shown separately. In every case the area represented is given to serve as an index to the value of the averages.

The areas for which drains have been installed should be accurate, but the additional area in need of drainage is in the nature of things, an estimate, based on the opinion of the person supplying the information.

The returns for irrigated crops were taken from the farm schedules. These schedules contained inquiries as to whether any crops were irrigated and whether any crops were grown without irrigation and called for the area irrigated, in case any crops were irrigated. Enumerators were instructed to mark the crops that were irrigated, but there were many schedules reporting irrigated land on which the enumerators had marked no crops as being irrigated. Clerks were instructed to mark as irrigated, on such schedules, the crops most likely to have been irrigated in the sections from which the schedules came. Under these conditions, the reports for irrigated crops are not satisfactory, particularly as to total areas and yields. The areas correctly reported are sufficiently large to make average yields quite reliable. The values of irrigated crops are computed from the reported yields and average values per unit supplied by the Bureau of Crop Estimates of the United States Department of Agriculture.

The magnitude of the work and the speed with which it must be done preclude any checking by the agents of the bureau of the correctness of the information given by owners or officials of irrigation enterprises. The time and expense involved in making surveys to determine irrigated areas and in checking accounts to

determine capital invested would be so great that such courses are out of the question.

The schedules were all examined in the bureau for errors made by enumerators, and in cases in which questions applicable to the enterprises represented were not answered, and in cases in which answers that appeared to be unreasonable were given, letters were written to those supplying information asking them for additional information. Answers that seemed reasonable were not questioned. While enumerators may have made mistakes in entering such answers there is no way in which these mistakes can be detected, and it is not believed that they are numerous enough to affect the general accuracy of the results.

Annual statistics relating to the irrigation projects constructed by the government are given in the annual reports of the Bureau of Reclamation,<sup>14</sup> which has charge of this work. In addition to the administrative statistics which relate to the operation of the service, this report shows the area under irrigation, the value of crops, the amount of water supplied, and the sources of water supply. Summary figures on various aspects of government reclamation work from 1902 to 1923 are given in the report to the Secretary of the Interior of the Committee of Special Advisers on Reclamation, published as Senate Document 92, 68th Congress, 1st Session. This publication contains also a review of the development and problems of federal reclamation work.

**Drainage.** No provision was made for obtaining data on drainage prior to the Census of 1920. The act providing for the Fourteenth Census specified that "inquiries shall be made as to the quantity of land reclaimed by . . . drainage and the crops produced; also as to the location and character of drainage enterprises, and the capital invested in such enterprises." The results of the enumeration are published in Volume VII of the Fourteenth Census reports, entitled "Irrigation and Drainage."

The data presented in the drainage report include the following for the United States, the several states, and counties:

- Number of farms having drainage.
- Number of farms needing drainage.
- Area provided with drainage.
- Area needing drainage and clearing.
- Capital invested.
- Classification of land in drainage enterprises.

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<sup>14</sup> Called Reclamation Service from its beginning to 1923.

Drainage works constructed.  
Principal crops reported.  
Cost per acre.  
Development of land.

The report contains also a summary of the laws governing the organization and administration of drainage districts in the several states.

The following comment is quoted from the report of the Fourteenth Census: <sup>16</sup>

In gathering these statistics, some difficulties have been encountered incident to a new investigation, and some due to the nature of an improvement that is partly hidden beneath the ground surface and that usually operates more or less effectively for a few years, at least, without expenses or attention. . . . It is believed, however, that the information obtained gives a reasonably accurate idea of the amount of farm land provided with artificial drainage; also of the extent and condition of land in enterprises organized for securing drainage in units of considerable size, which are larger than individuals could undertake and which affect many landowners; of the utilization of that land for agriculture; of the nature and extent of the drainage improvement works of those enterprises; and of the capital invested in them. . . .

The information regarding number of farms and farm acreage provided with artificial drainage or needing drainage, and the number of farms in drainage and levee districts, was obtained from the farm operators as a part of the general agricultural information by the enumerators who visited every farm.

The statistics relating to organized enterprises were secured on a special drainage schedule by special agents, except that enumerators were instructed to secure those schedules in the more remote sections where it was expected that few or no drainage enterprises would be found. The information relating to the enterprises was obtained from a present or former official of each enterprise, or from some landowner having personal knowledge of the undertaking, wherever practicable. Where a county board or some county official serves as the executive authority for all or a large number of drainage enterprises in the county, as is provided by the laws of several states, it was necessary that the statistics be compiled by the special agents from county records and other available sources. This information was verified as far as possible by consultation with county officials and with other persons having knowledge of drainage in the locality.

<sup>16</sup> Fourteenth Census, Vol. VII, pp. 347-348

## CHAPTER XVI

### PRODUCTION OF CROPS

Statistics of crop production are collected every five years by the Bureau of the Census, and estimates are made annually during the growing season and after harvest by the Bureau of Agricultural Economics of the Department of Agriculture.

**Decennial Census Statistics.** A general census of agriculture has been taken every ten years since 1840 in connection with the regular decennial census of population. The data collected during recent censuses include not only crop and livestock production, but also figures on the size of farms, value of farm property, mortgages, tenure, etc. The crop statistics are discussed on the pages that immediately follow, the other statistics being treated under other headings.<sup>1</sup> For recent censuses many of the chapters have been issued separately, and the agricultural statistics for each state have been issued in separate form. The reports of the several censuses of agriculture are as follows:

Sixth Census: 1840.

Statistics of the United States of America.

Compendium of the enumeration of the inhabitants and statistics of the United States.

Seventh Census: 1850.

Seventh Census of the United States.

Statistical view of the United States—Compendium of the Seventh Census.

Abstract of the Seventh Census, 1850.

Eighth Census: 1860.

Agriculture in the United States in 1860.

Preliminary report of the Eighth Census.

Ninth Census: 1870.

Statistics of the wealth and industry of the United States.

Compendium of the Ninth Census.

Statistical atlas of the United States.

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<sup>1</sup> Size of farms, value of farm property, tenure, etc., are discussed under general agricultural conditions on pages 177-195; livestock is discussed on page 221.

Tenth Census: 1880.

- Vol. III. Statistics of agriculture.
- Compendium of the Tenth Census.

Eleventh Census: 1890.

- Report on statistics of agriculture in the United States.<sup>3</sup>
- Compendium of the Eleventh Census, Part III.
- Abstract of the Eleventh Census.
- Statistical atlas of the United States.

Twelfth Census: 1900.

- Vols. V and VI. Agriculture, Parts I and II.
- Abstract of the Twelfth Census.
- Statistical atlas.
- Supplementary analysis and derivative tables.

Thirteenth Census: 1910.

- Vol. V. Agriculture—General report and analytical tables.
- Vol. VI. Agriculture—Reports for states, with statistics for counties.
- Statistical atlas of the United States.
- Abstract of the Census.

Fourteenth Census: 1920.

- Vol. V. Agriculture—General report and analytical tables.
- Vol. VI. Agriculture—Reports for states, with statistics for counties. Parts 1, 2, and 3.
- Vol. VII. Agriculture—Irrigation and drainage; general report and analytical tables and reports for states, and statistics for counties.
- Abstract of the Fourteenth Census of the United States.

The first quinquennial census of agriculture was taken on January 1, 1925, and the results are now being tabulated.<sup>3</sup> This census will be along the same general lines as the decennial enumeration, but there will not be the same detail for minor crops.

The information is collected by enumerators who visit each farm in order to obtain the figures, a separate schedule being prepared for each farm. The date of enumeration has varied at recent censuses. For the census of 1900 it was June 1, for that of 1910, April 1, and for those of 1920, and 1925, January 1.

The advantages and disadvantages of the change of date are summarized by the Director of the Census as follows: <sup>4</sup>

<sup>3</sup> Issued in two forms: (1) In volume containing three reports on agriculture, irrigation and fisheries, and (2) in volume containing two reports on agriculture and fisheries. In both volumes the reports have separate pagination. The report on agriculture is the same in both volumes.

<sup>4</sup> The act providing for the Thirteenth Census (1910) directed that a census of agriculture be made every five years thereafter. This work, however, was not undertaken in 1915, as Congress made no appropriation for the expenses.

<sup>5</sup> Fourteenth Census, Vol. V, page 11.

The date January 1, 1920, was fixed by the Fourteenth Census Act as that to which the census should relate. This census is the first which has been taken in the winter, all previous enumerations having been made in the spring or summer. January 1 was recommended by the Bureau for incorporation in the law as the census date in deference to the wishes of the Department of Agriculture and of the various interests making use of agricultural statistics. In some respects this date has decided advantages over any other for the purposes of an agricultural census. The past year's work on all farms has been finished by January 1, and the coming year's work has not as a rule been begun. Practically all farmers are occupying the farms which they operated during the preceding year, whereas a few months later many of the renters will have removed to other farms. Again, young farm animals are born in large numbers during the spring and early summer but not in December or January, and therefore a live-stock census referring to January 1 is of far more value than one taken several months later.

But against these manifest advantages must be offset the pronounced disadvantage due to the inclement weather which is apt to prevail in many sections of the country in January. It happened that the weather in January, 1920, was worse than usual. In some of the enumeration districts the cold was so extreme and the snow had drifted to so great an extent as seriously to delay the work in the rural districts, and farther south the rains were so heavy as to make the country roads well-nigh impassable.

The schedule of the Census of 1920 specifically called for figures on acreage harvested and production of the following crops:

**Sirup and sugar crops.**

Sweet sorghum acreage harvested for sirup.

Sweet sorghum sirup made on farm.

Sugar beet acreage harvested for sugar.

Sugar cane acreage harvested for sirup or sugar.

Sugar cane sold for crushing.

Sugar cane sirup made on farm.

Maple trees tapped in 1919.

Maple sirup made in 1919.

Maple sugar made in 1919.

**Hay and forage.**

Timothy alone.

Timothy and clover mixed.

Clover alone (including lespedeza).

Alfalfa.

Small grains cut for hay, including wheat, oats, barley, and rye.

Annual legumes cut for hay, including cowpeas, soy beans, peanuts, and vetches.

Hay and forage—*Continued.*

Other tame or cultivated grasses cut for hay, including Bermuda, Johnson, crab grass, orchard grass, redtop, millet, sudan grass, etc.

Wild, salt or prairie grasses cut.

Crops cut for silage.

Corn cut for forage or fodder.

Kafir, milo, durra, sweet sorghum, and sugar cane cut for forage or fodder.

Root crops for forage, including sugar beets, turnips, sweet potatoes, rutabagas, mangels, carrots, etc., grown for forage.

Mature crops grazed or hogged off, including corn, velvet beans, soy beans, peanuts, sweet potatoes, rape, kale, etc.

## Grains and seeds.

Mixed crops not separated in harvesting (oats and barley, oats and peas, etc.).

Corn, not including sweet- or pop-corn.

Wheat

    Winter.

    Spring.

Oats.

Barley.

Rye.

Buckwheat.

Kafir, milo, feterita, and durra.

Rough rice.

Flaxseed.

Grass seed.

    Red clover seed, including medium and mammoth.

Other clovers and alfalfa seed.

Timothy seed.

Seeds of other grasses.

Soy beans.

Navy, pinto, lima, and other ripe field beans.

Canada, cow and other ripe field peas.

Peanuts.

Other grains and seeds.

Potatoes (Irish or white).

Sweet potatoes and yams.

Other field crops.

    Cotton.

    Broom corn.

    Tobacco.

    Hops.

    Hemp.

    Velvet beans (total acres alone or mixed with other crops).

    Other crops.

Farm garden.

    Value of all vegetables, including white potatoes and sweet potatoes, grown in 1919 for home use only.



Vegetables produced in 1919 for sale, not for home use.

- Cabbages.
- Cantaloupes and muskmelons.
- Celery.
- Cucumbers.
- Green beans.
- Green peas.
- Lettuce.
- Onions.
- Sweet corn.
- Tomatoes.
- Watermelons.
- Other.

Orchard fruits.

- Apples.
- Peaches.
- Pears.
- Plums and prunes.
- Cherries.

Subtropical fruits.

- Oranges.
- Lemons.
- Grapefruit.
- Figs.
- Other.

Nuts.

- Almonds.
- Pecans.
- Persian or English walnuts.

Small fruits.

- Strawberries.
- Raspberries.
- Blackberries and dewberries.
- Loganberries.
- Cranberries.
- Currants.
- Other berries.

Fruit products, from fruit grown on this farm.

- Dried fruits, not raisins, produced in 1919.
- Cider produced in 1919.
- How much of this cider was made, or will be made, into vinegar?

While data on the crops listed above were specifically called for, there was also space on the schedule for any other crops, so that the enumeration of all farm products would be complete. The data on these minor crops are subject to a wider margin of error, as some of them were likely to be overlooked by the farmer making the report.

For almost all crops the census reports show acreage, production, and value. In the case of fruits, nuts, and grapes, the number of

trees or vines of bearing age and not of bearing age is given instead of the acreage. For vegetables, acreage and value are given. At some censuses the value of the crop was reported by the farmer and total value was obtained by adding the figures on all the schedules. At the Census of 1920 the value was computed by the Bureau of the Census on the basis of average values obtained from special reports made by the crop reporters of the Bureau of Crop Estimates.

In the reports of the Fourteenth Census, Volume V contains statistics by states for all crops, and the Abstract gives statistics by states for the more important products, by principal states for some minor crops, and for the entire United States for other products. Statistics by states are given also in Volume VI, which likewise contains figures for counties.<sup>a</sup>

General statistics on crop-yield at each census from 1850 to 1900 are reprinted in Bulletin 24 of the Division of Statistics of the Department of Agriculture entitled "Relations of Population and Food Products in the United States."

The value of nursery and greenhouse products is given in the decennial census reports on agriculture, figures being given by states for the following items:

**Nurseries.**

Number of farms or establishments.

Acreage.

Receipts from sale of products.

**Greenhouses.**

Number of farms or establishments.

Square feet under glass.

Receipts from sale of products.

Flowers and flowering plants.

Vegetables and vegetable plants.

**Department of Agriculture.** The crop reporting work of the Department of Agriculture embraces both forecasts made during the growing season and final estimates after the crop is harvested.

While essentially the same organization has collected these statistics for a number of years, it has been known at various times as the Division of Statistics, the Bureau of Statistics, the Bureau of Crop Estimates, the Bureau of Markets and Crop Estimates, and the Bureau of Agricultural Economics. The fore-

<sup>a</sup> Volume VI is in three parts. For states for which data are given in each part, see page 179.

casts are published in the monthly publication entitled "Crops and Markets," while the final estimates are given in "Crops and Markets" and in the "Agriculture Yearbook." The monthly report has been issued under several titles, which are as follows:

Monthly report on condition of crops, May to December, 1863.

Bimonthly reports of Agricultural Department, February to December, 1864.

Monthly report of Agricultural Department, January, 1865, to December, 1876.

Department of Agriculture Special Reports, January, 1877, to September, 1883.

Department of Agriculture, Division of Statistics, new series, October, 1883, to March, 1898.

Department of Agriculture, Division of Statistics, crop circulars, May, 1898, to April, 1900.

Crop Reporter, May, 1899, to June, 1913.

Agricultural Outlook, September 11, 1913 to April 23, 1915; published as Farmers' Bulletins, 558, 560, 563, 570, 575, 581, 584, 590, 596, 604, 611, 615, 620, 629, 641, 645, 651, 665, and 672.

Monthly Crop Report, May, 1915, to January, 1919.

Monthly Crop Reporter, February, 1919, to December, 1921.

Weather, Crops, and Markets, weekly from January 7, 1922, to December, 1923.

Crops and Markets, weekly from January, 1924, with monthly supplement devoted mainly to statistics.

A list and index of the publications of the Department of Agriculture from 1863 to 1920 relating to crop statistics is given in Department of Agriculture Circular 150, "Statistical Data Compiled and Published by the Bureau of Crop Estimates, 1863-1920."

The figures published by the Bureau of Agricultural Economics are not obtained by the collection of schedules for each farm, as this method is not practicable on account of the expense and the long delay that would result from the tabulation of the large number of schedules. The forecasts of production are obtained by using as samples or cross-sections reports on the acreage planted, condition, and yield per acre, submitted by correspondents in all parts of the country. Estimates of production are obtained in the same manner from reports on the acreage harvested and the yield per acre. These cross-sections are then applied to the entire country in order to obtain the total estimate.

The acreage reports on planting made by the correspondents indicate the area planted in each crop expressed as percentages of the preceding year. When these reports are received, the Bureau

of Agricultural Economics has estimates from all agricultural sections showing the acreage planted expressed as a percentage of the acreage harvested during the preceding year. By applying these percentages to the figures for the previous year, the Bureau estimates the area planted to each crop during the current year.<sup>6</sup> The percentages for the various counties are weighted according to the importance of each county in the crop of the state in order to give a true weighted average for each state, and the average for each state is similarly weighted in order to give a true weighted average for the entire country.

It should be noted that the local correspondents deal only with percentages of the acreage planted compared with the preceding year. This course is followed because the local correspondent cannot obtain figures of actual acreage planted without visiting each farm, but he is believed to be able to make a fair estimate of the percentage of acreage compared with the previous year.

The acreage reports by the local correspondents are followed by reports on condition of crops. Condition reports are made also for many crops for which acreage estimates are not submitted. The condition report is expressed in percentages and is a comparison not with the condition at any earlier date, but with a normal condition of growth and vitality such as would be expected in a crop starting out under favorable conditions and not afterwards subjected to unfavorable weather, insect pests, or other injurious agencies. The reasons for using the normal as the basis of condition reports are given by the Department of Agriculture as follows:<sup>7</sup>

Special consideration has been given for many years to the so-called "normal," representing a condition or yield of 100 per cent, in terms of which all the crop condition estimates of this bureau are expressed. An objection to the use of this term and what it represents, as a basis for crop reporting, arises from its apparent vagueness and the fact that the yield represented by it is different for each locality and even for each farm, thus requiring

<sup>6</sup> Prior to 1920 the figures of the decennial census were taken as the base on which to apply the percentages of increase or decrease. For some states the Bureau of Agricultural Economics has used the figures of the Fourteenth Census for acreage, but for other states it has developed a base figure independent of the census.

<sup>7</sup> Government crop reports: Their value, scope and preparation; Bureau of Crop Estimates, Circular 17, Revised 1915, pp. 20-25.

explanation in order to be understood. The principal advantage of the term "normal" is psychological in that it is based on a fundamental conception which is fairly uniform and clear in the minds of all practical farmers, from whom over 99 per cent of the crop condition reports of this bureau are received.

But little observation and experience is required to demonstrate that the average farmer thinks of his crop as "crops" and not in mathematical terms of percentages or averages, although he can readily express the estimated yield of the crop in terms of bushels, pounds, or tons. When the farmer sows the seed in spring he knows just what the field ought to yield, and if the season is favorable he expects to harvest that yield. This expected yield is a "full crop," such as he has harvested in the past in favorable seasons. It is neither a maximum possible or even a bumper crop, which occurs only at rare intervals when conditions are exceedingly favorable, nor a medium or small crop grown under one or more adverse conditions. Neither is it an average crop, which rarely occurs because of the effect on the average of extremely low or extremely high yields in exceptional seasons. It is rather the typical crop represented by the average of a series of good crops, leaving out of consideration altogether the occasional bumper crop and the more or less frequent partial crop failure. This expected yield at planting time, the full crop that the farmer has in mind when he thinks of the yield he expects to harvest, or the typical crop represented by the average of good crops only, is the "normal," or standard adopted by this bureau for expressing condition during the growing season and yield at harvest time.

The observation is sometimes made, as a criticism of the use of the normal, that a normal crop is almost never shown in the reports of the bureau. A little reflection will show that a normal yield for an entire state or the United States is not to be expected except on rare occasions. Imagine the yields of 10 different farmers in widely scattered parts of the United States; by definition of the term normal as a "full crop," or expectation of yield at planting time, an individual will not secure a normal yield every year, or even every two years. Suppose each individual secured a normal crop on the average every three years, by the law of probability the chance of all ten farmers getting a normal crop in the same year is one to thirty. If returns of individuals were published, many normals would be shown, but the frequency would be less in a county average, still less in a state average, and rare in a United States average.

The crop prospect is a subject of vital interest to farmers and, like the weather, it is a perennial topic of discussion during the crop season. Almost invariably farmers speak of the prospects as fine, good, fair, or poor, and they describe the crop as "full crop," "good crop," "average crop" (meaning less than a full

crop but a little better than the real average), "three-fourth of a crop," or "one-half of a crop," or less frequently "75 per cent of a crop," "50 per cent of a crop," etc. In the South the cotton crop prospect is usually spoken of in terms of bales, as "three-fourth bale per acre," "one-half bale per acre," or "one-third bale per acre." Few farmers think of their crops in terms of exact mathematical averages or, in fact, know what the exact average really is, because very few of them keep accurate records or take the trouble to strike averages from them. It is equally true that farmers do not generally speak of crop conditions and crop prospects in terms of a normal, but when the farmer crop reporters are told that the normal is the same as their conception of a full crop, the crop which their farms ought to yield and are expected to yield in favorable seasons, and that this normal is represented by 100, they have no difficulty in clearly understanding what is meant by the normal or in expressing their estimates in percentages of normal. . . .

The question is frequently asked why the crop estimates are not (1) based on the average crop (presumably the average for the past, 5, 10, or 20 years), or (2) on the crop of the preceding year, or (3) simply estimated for the present year in terms of bushels, pounds, or tons.

The answer to the first proposition is that no "average crop" can properly be said to exist, or rather it would not correspond to any crop actually harvested, because the average for any given period is unduly influenced by the exceptionally low or high yields of abnormal seasons. In other words, the average is a fluctuating instead of a fixed standard. Furthermore, it would be exceedingly difficult to obtain satisfactory estimates of crop prospects based on average yields from farmer crop reporters, who constitute the bulk of the bureau's field force in reporting on crop conditions during the growing season. Farmers as a rule do not keep a record of average yields on their farms or for their communities. They do, of course, remember abnormally high or low yields, but they invariably leave such yields out of consideration when estimating crop prospects. If the average crop, say, for a period covering the last five years, were adopted as the standard, it would be necessary for the bureau to estimate the average condition for each month of the growing season and the average yield for each year in each county and township in the United States (over 30,000) for each of the crops included in the estimates (50 or more) and to furnish each crop reporter with the average production of each crop in his territory for use in making up his monthly estimates during the year. This would entail an enormous amount of additional work, and the average would be unsatisfactory because the smaller the unit of territory the greater would be the fluctuation in the average or standard caused by crop failures or occasional bumper yields. A single illustration will suffice to make this point clear.

Taking the corn crop of Kansas as an example, the average yield of corn per acre in the State of Kansas for each of 10 years, beginning with 1903, was as follows: 20.9, 27.7, 28.9, 22.1, 22, 19.9, 14.5, 23, 3.2. The average for the 10 years is 20.1 bushels; the average for the last 5 years is 15.9 bushels; for the preceding 5 years 24.3 bushels. On the other hand, the idea of a normal crop, or a full crop, was nearly constant, being 31.7 for the last 5 years, 31.5 for the preceding 5 years, and 31.6 for the 10 years.

The answer to the second proposition, namely, a comparison of this year's crop with the crop of the preceding year, is that while farmers remember fairly well the condition and yield of crops for the past year, they do not remember them with sufficient clearness or accuracy to be able to use them as a standard of comparison for this year. Furthermore, the crops of last year may have been abnormally high or low, and would therefore make a very poor basis of comparison. For instance, the yield of corn per acre in Kansas was 23 bushels in 1912, or 159 per cent of the yield per acre in 1911 (14.5 bushels). The yield in 1913, an abnormally dry season, was only 3.2 bushels per acre, which was 14 per cent of the yield of 1912. If the yield per acre of corn in Kansas for 1914 should be 21 bushels per acre, it would be 656 per cent of the yield of 1913. It is apparent, therefore, that the abnormally low yield of 1913 is a most unsatisfactory basis of comparison for the year 1914.

The third proposition, namely, the estimating of crops directly in terms of bushels, pounds, or tons, is sometimes advanced. The objection to this system is the difficulty that most people experience in estimating accurately, until near harvest, the number of bushels or pounds which an acre will yield, even though they may be good judges and have the field before them. Experience has demonstrated repeatedly that it is much easier to estimate proportions and differences in comparing one period with another, or the production of one year with the production of another year, or condition and prospective yield with some standard, such as a normal, than it is to estimate quantitatively what the condition or yield for a given area actually is at any given time. Anyone can demonstrate this principle to his own satisfaction while looking at a shelf partly filled with books or a glass jar partly filled with beans. The shelf or jar becomes in each case the standard or normal represented by 100 per cent. He will probably find that he can readily estimate that the shelf or jar is three-fourths or 75 per cent full, and while he may be able to guess within 25 per cent of the actual number of books, he may overestimate the actual number of beans in the jar more than 100 per cent. So with cereals or other crops. It is relatively easy for the crop reporter to estimate the prospects at 90 per cent of the normal or other standard, but he may have difficulty in estimating within 25 per cent of the actual prospects in terms of bushels.

Having computed from the reports of correspondents the area devoted to each crop, the Bureau uses the condition reports to compute the forecast of the probable yield. It should be noted that in computing forecasts one necessary factor—the yield per acre—is not reported by the correspondents. The Bureau obtains this factor by averaging the yield per acre in each state over a series of years, making due allowance for any decided increase or decrease in productivity during late years. Suppose, for instance, that the estimated area planted to a crop in one state computed from the correspondent's reports, is 100,000 acres; from the previous reports the Bureau estimates that the normal yield per acre should be forty bushels; the weighted average of the condition reports shows that the condition of the crop is 90 per cent of normal. The probable yield is then  $100,000 \times 40 \times .90$  or 3,600,000 bushels.

For fruits and other crops for which acreage planted and yield per acre cannot be determined, the condition is reported also in terms of percentages of normal. From its earlier records the Bureau estimates the normal crop in a given area and by applying the condition percentage obtains a forecast of the probable yield.

It is evident, however, that an accurate forecast of the crop viewed in the light of conditions in the early summer will not serve as an estimate for the final crop, as weather conditions between the date of forecast and the harvest may materially increase or decrease the total yield. Therefore, after the harvest the correspondents report the yield in terms of bushels or other unit per acre, or in percentage of a full crop. Yield per acre is used for such crops as wheat, for which acreage estimates are made; percentage of a full crop is used for fruits and other crops for which acreage is not reported and which are not generally computed on an acreage basis.

The reports on yield per acre are reduced to a weighted average for each state and for the United States, and the resultant figure is then multiplied by the acreage planted as determined by the methods described on page 204. In the case of crops not computed by acres the correspondents' reports on percentage of a full crop are applied to the normal crop as estimated by the Bureau. The preliminary estimates are published from month to month in "Crops and Markets," with such corrections as may be necessary. The final estimates by states are also published in the Agriculture Yearbook, figures by states being given for the three latest years. It is important to use the latest Yearbook containing the figures



desired, as often the estimates are revised as the result of information received from other sources, such as on the quantity of the crop moved by the railroads.

The following table indicates the variations in the production figures for 1919 as given in the Yearbook for 1919, 1920, and 1921 :<sup>a</sup>

WHEAT PRODUCTIONS FIGURES FOR 1919 AS GIVEN IN YEARBOOKS FOR 1919, 1920, AND 1921

States	1919 Yearbook	1920 Yearbook	1921 Yearbook
United States ....	940,897,000	934,265,000	967,979,000
Maine .....	228,000	150,000	263,000
West Virginia..	5,400,000	5,400,000	4,023,000
Kentucky .....	12,029,000	10,350,000	9,660,000
Montana .....	10,729,000	10,650,000	9,889,000
Kansas .....	151,001,000	152,079,000	160,276,000
Oklahoma .....	52,640,000	54,040,000	66,052,000

The production estimates for wheat, corn, oats, rye, buckwheat, potatoes, and hay for 1879, and 1889 to 1909 have also been materially revised (see page 215).

It should be borne in mind that a discrepancy between the forecast and the final estimate does not indicate an error in the forecast, but a change in the condition affecting the crop. A crop may be in such condition in June that a normal crop may be reasonably expected if weather conditions are favorable. However, unseasonable weather or other factors may so affect the crops in the months before harvest that the yield will be materially diminished. Thus, in 1911 the forecast for spring wheat made in June indicated an average yield of 13.7 bushels per acre. Each succeeding forecast indicated a lower yield, the final estimate of the crop being 9.4 bushels per acre. These figures do not indicate that there was an error of 31 per cent in the June forecast, but should be interpreted as indicating a change of 31 per cent in the condition of the crop between June and harvest time.

The discussion on the preceding pages indicates the basic data that are used by the Bureau of Agricultural Economics in making its forecasts and estimates. The following quotation shows in more

<sup>a</sup> Not all the variations are shown in this table, the items given are merely illustrative.

detail the several sources for the basic data and the methods used in developing the final figures:\*

The data upon which such estimates are based are obtained through a field service consisting of a corps of paid State field agents and crop specialists and a large body of voluntary crop reporters composed of the following classes: County reporters, township reporters, individual farmers, and several lists of reporters for special inquiries.

The field service consists of trained field agents, one assigned to a single State or group of smaller States which in the aggregate corresponds in area and crop production to one of the larger States, who devote their entire time to the work and who travel throughout their territory during the crop season, personally inspecting crop areas, conferring with State and local authorities, private and commercial agencies, and others interested in crop-reporting work. Each agent supplements his own observation with reports from a corps of selected crop reporters in his territory, who report directly to him and are wholly independent of the regular crop reporters who report directly to the bureau.

In addition to the regular force of State field agents the bureau has a small force of crop specialists, one or more for each of the important special crops, such as cotton, tobacco, rice, and truck crops, possessing the same qualifications and performing the same duties as the field agents, but devoting their entire time to specializing on the particular crops to which they are assigned and traveling throughout the entire region in which they are grown. These crop specialists also have selected lists of crop correspondents reporting directly to them. . . .

There are approximately 2,800 counties of agricultural importance in the United States. In each the department has a principal county reporter who maintains an organization of several assistants. The county reporters are selected with special reference to their qualifications and constitute an efficient branch of the crop-reporting service. They make the county the geographical unit of their reports, and, after obtaining data each month from their assistants and supplementing these with information obtained from their own observation and knowledge, report directly to the department at Washington.

In practically all of the townships and voting precincts of the United States in which farming operations are extensively carried on the department has "township" reporters who make their immediate neighborhood area with which they are personally familiar the geographical basis of reports, which they also send

\* Government crop reports; their value, scope and preparation. Bureau of Crop Estimates, Circular 17, Revised 1915, pp. 14-16.

directly to the department each month. There are about 32,000 township reporters.

Finally, at the end of the growing season a large number of individual farmers and planters report on the results of their own individual farming operations during the year; valuable data are also secured from 30,000 mills and elevators.

Because of the specialized nature of the cotton crop the reports concerning it are handled separately from reports on all other crops. In addition to the regular estimates of the State agents, the cotton crop specialist, and the county and township reporters, the bureau obtains reports on acreage, yields, percentage ginned, etc., from many thousand special reporters who are intimately concerned in the crop, including practically all the ginnerers.

Previous to the preparation and issuance of the bureau's reports each month the correspondents of the several classes send their reports separately and independently to the Department at Washington.

In order to prevent any possible access to reports which relate to speculative crops, and to render it absolutely impossible for premature information to be derived from them, all of the reports from the State field agents, as well as those from the crop specialists, are sent to the Secretary of Agriculture in specially prepared envelopes. By an arrangement with the postal authorities these envelopes are delivered to the Secretary of Agriculture in sealed mail pouches. These pouches are opened only by the Secretary or Assistant Secretary, and the reports, with seals unbroken, are immediately placed in a safe in the Secretary's office, where they remain sealed until the morning of the day on which the bureau report is issued, when they are delivered to the statistician by the Secretary or the Assistant Secretary. The combination for opening the safe in which such documents are kept is known only to the Secretary and the Assistant Secretary of Agriculture. Reports from field agents and crop specialists residing at points more than 500 miles from Washington are sent by telegraph, in cipher. The reports from the county correspondents, township correspondents, and other voluntary crop reporters are sent to the Chief of the Bureau of Crop Estimates [Agricultural Economics] by mail in sealed envelopes.

The reports received by the department from the different classes of individual correspondents are tabulated and compiled and the figure for each separate State computed. After the reports from the different counties are tabulated a true weighted figure for the State is secured by taking into consideration the relative value which the total acreage or production of each county in the State bears to the total acreage or production of the State. The weight figure showing the value of the county is applied to the acreage, yield per acre, or condition, whichever it may be and from the

totals of the weights and the extensions a weighted average for the State is ascertained. The averages for speculative crops (corn, wheat, oats, and cotton) are determined by computers who to not know the particular State to which their figures relate.

The work of making the final crop estimates each month culminates at sessions of the crop reporting board, composed of five members, presided over by the statistician and chief of bureau as chairman, whose services are brought into requisition each crop-reporting day from among statisticians and officials of the bureau, and field agents and crop specialists who are called to Washington for the purpose.

The personnel of the Board is changed each month. The meetings are held in the office of the statistician, which is kept locked during sessions, no one being allowed to enter or leave the room or the bureau, and all telephones being disconnected.

When the Board has assembled, reports and telegrams regarding speculative crops from field agents and crop specialists, which have been placed unopened in a safe in the office of the Secretary of Agriculture, are delivered by the Secretary, opened, and tabulated; and the figures, by States, from the several classes of correspondents and agents relating to all crops dealt with are tabulated in convenient parallel columns; the Board is thus provided with several separate estimates covering each State and each separate crop, made independently by the respective classes of correspondents and agents of the bureau, each reporting for a territory or geographical unit with which he is thoroughly familiar.

Abstracts of the weather condition reports in relation to the different crops, by States, are also prepared from the weekly bulletins of the Weather Bureau. With all these data before the Board, each individual member computes independently, on a separate sheet or final computation slip, his own estimate of the acreage, condition, or yield of each crop, or of the number, condition, etc., of farm animals, for each State separately. These results are then compared and discussed by the Board under the supervision of the chairman, and the final figures for each State are decided upon.

The estimates by States as finally determined by the Board are weighted by acreage or other figures representing the relative importance of the crop in the respective States, the result for the United States being a true weighted average for each subject.

From 1863 to 1893 the annual statistics will be found in the annual reports of the Statistician of the Department of Agriculture, which form part of the annual reports of the Department of Agri-

culture, but which were also published separately for some years. The detailed figures for 1894 and 1895 will be found in the December issues of the "Reports of the Division of Statistics of the U. S. Department of Agriculture," new series, for these years. Beginning with 1896 the annual statistics have appeared in the Yearbook.

The crop estimating organization of the Department of Agriculture has also published a number of special statistical compilations on the yield of various crops. A complete list of these is given in Department of Agriculture Circular 150, entitled "Statistical Data Compiled and Published by the Bureau of Crop Estimates, 1863-1920." Those listed below give statistics over long periods.

Bulletin of the Division of Statistics. No. 9. Production and price of cotton for 100 years (1791-1895).<sup>10</sup>

Bulletins of the Bureau of Statistics.

No. 56. Corn crops of the United States, 1866-1906.<sup>11</sup>

No. 57. Wheat crops of the United States, 1866-1906.<sup>11</sup>

No. 58. Oat crops of the United States, 1866-1906.<sup>11</sup>

No. 59. Barley crops of the United States, 1866-1906.

No. 60. Rye crops of the United States, 1866-1906.<sup>11</sup>

No. 61. Buckwheat crops of the United States, 1866-1906.<sup>11</sup>

No. 62. Potato crops of the United States, 1866-1906.<sup>11</sup>

No. 63. Hay crops of the United States, 1866-1906.<sup>11</sup>

Circular of the Bureau of Statistics.

No. 32. Cotton crops of the United States, 1790-1911.

No. 33. Tobacco crop of the United States, 1612-1911.

No. 34. Rice crop of the United States, 1712-1911.

No. 35. Hop crop of the United States, 1790-1911.

<sup>10</sup> This Bulletin contains statistics for the United States on annual crops from 1791 to 1895, on consumption for 1800, 1801, 1805, 1810, 1811, 1815, 1827, and annually thereafter, on annual exports 1791 to 1895, on stocks at close of each year from 1828 to 1895, and on annual prices from 1791 to 1895. For Great Britain it shows annual imports from 1791 to 1825, annual consumption from 1791 to 1825, stocks at close of each year from 1801 to 1825, and annual prices from 1791 to 1895. For Europe it gives annual imports from 1826 to 1895 and stocks at close of each year from 1826 to 1895.

Data on cotton crops of later years are given in the following publications—Division of Statistics: Circular 7 (1896), Circular 8 (1896-97), Circular 9 (1897-98); Bulletin 17 (1898-99), Bulletin 19 (1899-1900); Bureau of Statistics: Bulletin 28 (1900-01, 1901-02, 1902-03), Bulletin 34 (1903-04). See page 217 for census statistics on cotton crops.

<sup>11</sup> Revised figures compiled for 1879 and 1889 to 1906 are given in the Yearbook for 1920.

Bulletins of the U. S. Department of Agriculture.

No. 66. Statistics of sugar in the Untied States and its insular possessions, 1881-1912.

No. 514. Wheat, yields per acre and prices, by states, 1866-1915.<sup>23</sup>

No. 515. Corn, yields per acre and prices, by states, 1866-1915.<sup>23</sup>

The annual production of grain in the United States and the principal producing states for a series of years is given in Bulletin 982 of the Department of Agriculture, entitled "Market Statistics." The period for which figures are given for each grain are as follows:

Wheat—1901-1920.

Corn—1901-1920.

Oats—1910-1920.

Barley—1911-1920.

Rye—1910-1920.

Buckwheat—1910-1920.

**Discrepancy Between Statistics of the Bureau of the Census and of the Department of Agriculture.** For each year for which the Bureau of the Census collects statistics there will be found two sets of figures—those of the Census and those of the Department of Agriculture—for the average yield per acre, production, and value of important crops. This necessarily results from the circumstance that the Department of Agriculture depends on estimates for two factors—increase or decrease in acreage and yield per acre. For censuses prior to that for 1920 the Department of Agriculture accepted the Census figures for acreage, and applied to these the estimated percentage of increase or decrease. If the percentage of increase or decrease is wrong, there will be a corresponding error in the acreage. An error in the estimate of the yield per acre introduces a further error in the estimate of production, as the production figures of the Department of Agriculture are obtained by multiplying the estimated acreage by the estimated yield per acre.

The Census figures for wheat for 1899 were 52,589,000 acres with a production of 658,534,000 bushels. The Department of Agriculture figures for 1899, obtained by taking the census figure of acreage in 1889, and adding or subtracting each year according to the estimated percentage of increase or decrease, were 44,593,000 acres, with a production of 547,304,000 bushels.

<sup>23</sup> Revised figures for 1879 and 1889 to 1906 are given in the Yearbook for 1920.

While the Department of Agriculture figures for the years of 1901 to 1909 were apparently built on the Census base for 1899, no attempt was made, prior to 1920, to adjust the figures for the years between two censuses in order to eliminate the cumulative error.

In the Yearbook for 1920 there are given both the original and the revised figures for 1879 and for each year from 1889 to 1909 for wheat, corn, oats, rye, buckwheat, potatoes, and hay. In these revised estimates the Census acreages for 1889, 1899, and 1909, are accepted, and the difference between the acreage figures of succeeding census is spread over the intervening years. This spread is not based on a simple arithmetical division between the several years, but takes account of the data on file in the Department of Agriculture regarding conditions during each year. Thus there is a decrease of 8,327,000 acres of wheat in the ten years from 1899 to 1909; but the acreage shown for 1901, 1903, and 1905 is greater than during the preceding years.

A simple arithmetical spread would show the acreage for each year smaller than for the preceding one, but the use of other data gives figures for 1901, 1903, and 1905, greater than during the years immediately preceding. A curve showing the ten years would not show a uniform decline or a continuous decline; it would go up and down in accordance with the conditions peculiar to each year.

The differences for some years are material; for instance, the original production estimate for 1895 was 467,103,000 bushels, while the revised estimate is 569,456,000 bushels, an increase of 22 per cent. Later Yearbooks give the revised figures only; those for 1921 and 1922 give ten-year averages for the years from 1866 to 1895, but the Yearbook for 1923 again gives single years. The revised estimates have been published for the United States as a whole, but no separate revised figures are available for each of the states; revised figures for principal states from 1901 to 1909 are given in Department of Agriculture Bulletin 982.

The figures of the Census for 1919 have been adopted by the Department of Agriculture for some states, but have been rejected for others. For some states the difference between the two figures is less than the probable margin of error in either one, but for other states the difference is material. For South Dakota the figures for wheat acreage of the Department of Agriculture are

about one-tenth of one per cent greater than those of the Census, but for Montana the figures of the Department of Agriculture are 113 per cent greater than those of the Census.

The differences in acreage and production are more marked for the several states than for the United States as a whole. For some crops, however, the difference for the United States is material, as is shown by the following table giving final Department of Agriculture estimates and Census figures for the principal crops of 1919:

CENSUS AND DEPARTMENT OF AGRICULTURE FIGURES FOR PRINCIPAL CROPS  
IN 1919

Crop	Census figures	Department of Agriculture figures	Increase (+) or decrease (-) of Department of Agriculture compar- ed with Census
<b>Wheat.</b>			<i>Per cent</i>
Acreage .....	73,099,421	75,694,000	+ 3.5
Production ....	945,403,215	967,979,000	+ 2.4
Value .....	\$2,074,078,801	\$2,080,056,000	+ .3
<b>Corn.</b>			
Acreage .....	87,771,600	97,170,000	+10.7
Production ....	2,345,832,507	2,811,302,000	+19.8
Value .....	\$3,507,797,102	\$3,780,597,000	+ 7.8
<b>Oats.</b>			
Acreage .....	37,991,002	40,359,000	+ 6.2
Production ....	1,055,182,798	1,184,030,000	+12.2
Value .....	\$855,255,468	\$833,922,000	- 2.5
<b>Rye.</b>			
Acreage .....	7,679,005	6,307,000	-17.9
Production ....	75,992,223	75,483,000	- .7
Value .....	\$116,537,965	\$100,573,000	-13.7
<b>Buckwheat.</b>			
Acreage .....	742,627	700,000	- 5.8
Production ....	12,690,384	14,399,000	+13.5
Value .....	\$19,715,305	\$21,032,000	+ 6.7
<b>Potatoes.</b>			
Acreage .....	3,251,703	3,542,000	+ 8.9
Production ....	290,427,580	322,867,000	+11.2
Value .....	\$639,440,521	\$514,855,000	-19.5
<b>Hay.</b>			
Acreage .....	55,653,403	56,888,000	+ 2.2
Production ....	74,724,252	86,359,000	+15.6
Value .....	\$1,726,646,510	\$1,734,085,000	+ .4



In using the statistics of the two organizations the following conditions should be borne in mind. In the Census figures the acreage and the production are basic figures obtained from the enumerators' reports, and the yield per acre is a derivative figure obtained by dividing the production by the acreage. In the statistics of the Department of Agriculture the two bases are an estimated acreage and an estimated yield per acre, the production being a derivative figure obtained by multiplying the yield per acre by the acreage.

**Annual Statistics of the Bureau of the Census.** In addition to the decennial statistics the Bureau of the Census has for some years published annual statistics on the production of cotton and tobacco.

*Cotton.* Statistics on the production of cotton have formed a part of the agricultural statistics of each decennial census beginning with 1840. At the Tenth Census (1880) Volumes V and VI, devoted entirely to cotton production, contained a great amount of detailed information dealing with the cultural and economic details of cotton production, agricultural conditions in each county and state in the cotton belt, and the position of cotton as compared with other crops.

Beginning with 1899 annual statistics have been issued by the Bureau of the Census showing the production during each year. For 1905 and each year thereafter there has also been issued a report giving statistics on stocks on hand, distribution, etc., in addition to the report on production alone. During the season reports are issued monthly on cotton consumed, cotton on hand, active cotton spindles, and exports and imports, and at intervals on the amount of cotton ginned and cotton seed crushed.

The report on production and distribution contains data on the following subjects: Production; consumption; stocks; number of spindles by states; number of spindles in counties having more than 100,000; imports and exports of raw cotton and cotton manufactures; world production and consumption, by countries; amount ginned to specified dates; production of cotton seed and cotton seed products. The more important tables give figures for several years, but some of the detailed tables contain statistics for one year only.

The serial numbers or titles of the preliminary reports on production alone are as follows:

- 1899—Bulletin 58 of the Twelfth Census.
- 1900—Bulletin 98 of the Twelfth Census.
- 1901—Bulletin 206 of the Twelfth Census.
- 1902—Bulletin 2.<sup>23</sup>
- 1903—Bulletin 10.
- 1904—Bulletin 19.
- 1905—Bulletin 40.
- 1906—Bulletin 76.
- 1907—Bulletin 95.
- 1908—Bulletin 100.
- 1909—Bulletin 107.
- 1910—Bulletin 111.
- 1911—Bulletin 114.
- 1912—Bulletin 116.
- 1913—Bulletin 125.
- 1914—Cotton production, 1914.
- 1915 and later—Separate publication each year under title "Cotton Production in the United States."

The general reports on production and distribution have been issued under the following bulletin numbers:

- |                    |                    |
|--------------------|--------------------|
| 1905—Bulletin 25.  | 1915—Bulletin 131. |
| 1906—Bulletin 63.  | 1916—Bulletin 134. |
| 1907—Bulletin 90.  | 1917—Bulletin 135. |
| 1908—Bulletin 97.  | 1918—Bulletin 137. |
| 1909—Bulletin 106. | 1919—Bulletin 140. |
| 1910—Bulletin 110. | 1920—Bulletin 145. |
| 1911—Bulletin 113. | 1921—Bulletin 147. |
| 1912—Bulletin 115. | 1922—Bulletin 150. |
| 1913—Bulletin 117. | 1923—Bulletin 153. |
| 1914—Bulletin 128. |                    |

The Bureau of Agricultural Economics publishes in Crops and Markets, throughout the growing season, forecasts of the probable amount of the crop obtained from its correspondents in the same manner as forecasts of other crops reported (see page 203). The production figures of the Bureau of the Census, however, are based on the actual amount of cotton handled by the gins and made available to trade. It should be borne in mind that each of the forecasts of the Department of Agriculture refers to the entire crop for the

<sup>23</sup> It should be noted that there are two series of Census Bulletins—those of the Twelfth Census and those of the permanent Bureau of the Census. The Bulletins of the Bureau of the Census are meant unless there is specific indication that the publication belongs to the Twelfth Census.

season, while the figures of the Bureau of the Census refer to the amount actually ginned. Any forecast made by the Department of Agriculture may be greater or less than the preceding forecast, depending on condition, but every report of the Bureau of the Census, therefore, will show an increase as more and more of the crop is transported from the plantations to the gins. The forecasts of the Department of Agriculture are issued during the growing season, while the statistics of the Bureau of the Census are collected only after the crop is harvested.

*Tobacco.* Statistics on the production of leaf tobacco are compiled at each decennial census, the figures being given in the Census report on agriculture. The Bureau of Internal Revenue collects statistics on the amount of tobacco used by the manufacturers of tobacco products, on the amount of tobacco products manufactured, and on the revenue derived from the tax. Forecasts of the crop are made during the growing season, and estimates of production are made annually after the crop has been harvested by the Bureau of Agriculture Economics of the Department of Agriculture.

All of the above material, as well as information regarding stocks of leaf tobacco on hand at various dates, is brought together in the annual publication issued by the Bureau of the Census, entitled "Stocks of Leaf Tobacco and the American Production, Import, Export, and Consumption of Tobacco Products."

Annual reports have been issued as follows :

1917—Bulletin 136.  
1918—Bulletin 139.  
1919—Bulletin 143.  
1920—Bulletin 146.

1921—Bulletin 149.  
1922—Bulletin 151.  
1923—Bulletin 155.

The statistics collected by the Bureau of the Census are those of leaf tobacco held on the first of January, April, July, and October of each year by manufacturers who manufactured during the preceding year more than 50,000 pounds of tobacco, 250,000 cigars, or 1,000,000 cigarettes, or from dealers in leaf tobacco who, on an average, had more than 50,000 pounds of leaf tobacco in stock at the end of the preceding year. The limitation of the concerns from which data are collected is fixed by law, and all concerns falling within these limits are required by law to make the return on the form prescribed by the Director of the Census. It will be seen that

the statistics do not include any stock in the hands of growers or the smaller dealers. However, as the statistics are collected from the same class of dealers they may be taken as indexes to the supply that is available for manufacture. As soon as the quarterly reports from dealers and manufacturers are tabulated the summary statistics are made available to the public.

The annual publication gives statistics for each quarter for a series of years, and in addition contain the following statistics generally for a series of years compiled from reports of other departments.

Acreage and production.

Average price to producers.

Leaf tobacco sales by farmers, by states and by principal counties.

Imports, by countries, and by customs' districts.

Quantity in bonded warehouses.

Exports by countries and by customs' districts.

Number of tobacco factories, by states and collection districts.

Leaf tobacco used in the manufacture of tobacco products.

Production of cigars, cigarettes, and other tobacco products; total for a series of years and by internal revenue districts for one year.

Internal revenue collected on tobacco products, total for a series of years and by districts for a single year.

## CHAPTER XVII

### LIVESTOCK

Data on the amount of livestock have such a close relation to the general agricultural situation on the one hand, and to output of livestock products on the other that it has been deemed advisable to place the discussion at this point.

Statistics on the quantity of livestock are collected at each decennial census, and beginning with 1925 will be collected also at each quinquennial census of agriculture. Annual estimates are also made by the Bureau of Agricultural Economics of the Department of Agriculture.

**Decennial Census Statistics.** Statistics on the number of livestock have been collected at each decennial census beginning with 1840, but the Census of 1920 is the first one for which statistics of pure-bred cattle were tabulated. All census statistics of livestock are obtained through enumerators who visit each farm and obtain the basic data directly from the farm operator.

The census statistics on livestock include separate tabulations for animals on farms, not on farms, total of those on farms and not on farms, and those in cities of 25,000 or more inhabitants. The statistics for poultry and bees are for farms only.

The main statistics on livestock are found in Volumes V and VI and the Abstract. Volume V, the general report on agriculture, contains statistics by divisions, states, and cities. The Abstract contains similar statistics of a somewhat more general character. Volume VI, the detailed report on agriculture by states and counties, is published in three parts, the states for which data are given in each part being listed on page 179. At the beginning of each part of Volume VI are identical tables giving summary figures for each state and for the North, South, and West.

The schedules below show the volumes of the reports of the Fourteenth Census in which will be found statistics of livestock for divisions, states, counties, and cities:

SCHEDULE OF LIVESTOCK STATISTICS FOR DIVISIONS AND STATES IN  
REPORTS OF FOURTEENTH CENSUS

Classes	Number of farms or inclosures reporting <sup>a</sup>	Number of animals	Value
<b>On farms.</b>			
<b>Horses.</b>			
Total .....	Vol.V,Abstract.	Vols.V,VI,Abstract.	Vols.V,VI,Abstract.
Classified <sup>b</sup> .....	Vol.V.	Vols.V,VI,Abstract.	Vol.V.
<b>Pure bred.</b>			
Total .....	Vol.V.	Vols.V,VI,Abstract.	.....
Sex .....	.....	Vol.V.	.....
Breed .....	.....	Vols.V,VI,Abstract.	.....
Breed and sex .....	.....	Vol.V.	.....
<b>Horses, asses and burros</b>			
Total .....	.....	Vol.V.	Vol.V.
<b>Mules.</b>			
Total .....	Vol.V,Abstract.	Vols.V,VI,Abstract.	Vols.V,VI,Abstract.
Classified .....	Vol.V.	Vols.V,VI,Abstract.	Vols.V,VI,Abstract.
Asses and burros .....	Vol.V,Abstract.	Vol.V,Abstract.	Vols.V,VI,Abstract.
<b>Beef cattle.</b>			
Total .....	Vol.V.	Vols.V,VI,Abstract.	Vol.V,Abstract.
Classified .....	Vol.V.	Vols.V,VI,Abstract.	Vol.V.
<b>Pure bred.</b>			
Total .....	.....	Vol.V.	.....
Sex .....	.....	Vol.V.	.....
Breed .....	.....	Vols.V,VI,Abstract.	.....
Breed and sex .....	.....	Vol.V.	.....
<b>Dairy cattle.</b>			
Total .....	Vol.V.	Vols.V,VI,Abstract.	Vol.V,Abstract.
Classified .....	Vol.V.	Vols.V,VI,Abstract.	Vol.V.
<b>Pure bred.</b>			
Total .....	.....	Vol.V.	.....
Sex .....	.....	Vol.V.	.....
Breed .....	.....	Vols.V,VI,Abstract.	.....
Breed and sex .....	.....	Vol.V.	.....
<b>All cattle.</b>			
Total .....	Vol.V,Abstract.	Vols.V,VI,Abstract.	Vols.V,VI,Abstract.
<b>Pure bred.</b>			
Total .....	Vol.V.	Vols.V,VI,Abstract.	.....
Sex .....	.....	Vol.V.	.....
Breed .....	.....	Vols.V,VI,Abstract.	.....
Breed and sex .....	.....	Vol.V.	.....
<b>Swine.</b>			
Total .....	Vol.V,Abstract.	Vols.V,VI,Abstract.	Vols.V,VI,Abstract.
Classified .....	Vol.V.	Vols.V,VI,Abstract.	Vol.V.
<b>Pure bred.</b>			
Total .....	Vol.V.	Vols.V,VI,Abstract.	.....
Breed .....	.....	Vols.V,VI,Abstract.	.....
<b>Sheep.</b>			
Total .....	Vol.V,Abstract.	Vols.V,VI,Abstract.	Vols.V,VI,Abstract.
Classified .....	Vol.V.	Vols.V,VI,Abstract.	Vol.V.
<b>Pure bred.</b>			
Total .....	Vol.V.	Vols.V,VI,Abstract.	.....
Breed .....	.....	Vols.V,VI,Abstract.	.....
<b>Goats.</b>			
Total .....	Vol.V,Abstract.	Vols.V,VI,Abstract.	Vols.V,VI,Abstract.
Classified .....	Vol.V.	Vols.V,VI,Abstract.	Vol.V.
<b>Poultry.</b>			
All poultry .....	Abstract.	Vol.VI,Abstract.	Vol.VI,Abstract.
Chickens .....	Vol.V,Abstract.	Vols.V,VI,Abstract.	Vol.V,Abstract.
Turkeys .....	Vol.V.	Vols.V,VI,Abstract.	Vol.V,Abstract.
Ducks .....	Vol.V.	Vols.V,VI,Abstract.	Vol.V,Abstract.
Geese .....	Vol.V.	Vols.V,VI,Abstract.	Vol.V,Abstract.
Guinea fowls .....	Vol.V.	Vols.V,VI,Abstract.	Vol.V,Abstract.
Pigeons .....	Vol.V.	Vols.V,VI,Abstract.	Vol.V,Abstract.
Bees .....	Vol.V,Abstract.	Vols.V,VI,Abstract. <sup>c</sup>	Vol.VI,Abstract.

<sup>a</sup> The number of inclosures is given for stock not on farms.

<sup>b</sup> See page 225 for classes shown.

<sup>c</sup> Number of hives.

SCHEDULE OF LIVESTOCK STATISTICS FOR DIVISIONS AND STATES IN  
REPORTS OF FOURTEENTH CENSUS—Continued.

Classes	Number of farms or inclosures reporting*	Number of animals	Value
<b>Not on farms.</b>			
<b>Horses.</b>			
Total .....	Vol.V.	Vols.V,VI,Abstract.	.....
Classified .....	.....	Vol.V.	.....
<b>Mules.</b>			
Total .....	Vol.V.	Vols.V,VI,Abstract.	.....
Classified .....	.....	Vol.V.	.....
Asses and burros.....	Vol.V.	Vol.V,Abstract.	.....
All cattle .....	Vol.V.	Vols.V,VI,Abstract.	.....
<b>Beef cattle.</b>			
Total .....	Vol.V.	Vol.V.	.....
Classified .....	.....	Vol.V.	.....
Dairy cows .....	Vol.V.	Vols.V,VI,Abstract.	.....
<b>Dairy cattle.</b>			
Total .....	Vol.V.	Vol.V.	.....
Classified .....	.....	Vol.V.	.....
<b>Sheep.</b>			
Total .....	Vol.V.	Vols.V,VI,Abstract.	.....
Classified .....	.....	Vol.V.	.....
<b>Swine.</b>			
Total .....	Vol.V.	Vols.V,VI,Abstract.	.....
Classified .....	.....	.....	.....
<b>Goats.</b>			
Total .....	Vol.V.	Vols.V,VI,Abstract.	.....
Classified .....	.....	Vol.V.	.....
<b>On farms and not on farms.</b>			
<b>Horses.</b>			
Total .....	.....	Vol.V,Abstract.	.....
Classified .....	.....	Vol.V.	.....
<b>Mules.</b>			
Total .....	.....	Vol.V,Abstract.	.....
Classified .....	.....	Vol.V.	.....
Asses and burros.....	.....	Vol.V,Abstract.	.....
All cattle .....	.....	Vol.V,Abstract.	.....
<b>Beef cattle.</b>			
Total .....	.....	Vol.V.	.....
Classified .....	.....	Vol.V.	.....
<b>Dairy cattle.</b>			
Total .....	.....	Vol.V.	.....
Classified .....	.....	Vol.V.	.....
<b>Sheep.</b>			
Total .....	.....	Vol.V,Abstract.	.....
Classified .....	.....	Vol.V.	.....
<b>Goats.</b>			
Total .....	.....	Vol.V,Abstract.	.....
Classified .....	.....	Vol.V.	.....
<b>Swine.</b>			
Total .....	.....	Vol.V,Abstract.	.....
Classified .....	.....	Vol.V.	.....

\* The number of inclosures is given for stock not on farms.

SCHEDULE OF LIVESTOCK STATISTICS FOR COUNTIES IN REPORTS OF  
FOURTEENTH CENSUS (VOL. VI, PARTS 1-3)

Classification	Number	Value
<b>On farms.</b>		
All domestic animals.....	..	×
<b>Horses.</b>		
Total .....	×	×
Classified .....	×	..
<b>Mules.</b>		
Total .....	×	×
Classified .....	×	..
Asses and burros.....	×	×
All cattle .....	×	×
<b>Beef cattle.</b>		
Total .....	×	×
Classified .....	×	..
<b>Dairy cattle.</b>		
Total .....	×	×
Classified .....	×	..
<b>Sheep.</b>		
Total .....	×	×
Classified .....	×	..
Goats .....	×	×
<b>Swine.</b>		
Total .....	×	×
Classified .....	×	..
All poultry .....	..	×
Chickens .....	×	..
Other poultry .....	×	..
<b>Not on farms.</b>		
Horses .....	×	..
Mules .....	×	..
Asses and burros.....	×	..
All cattle .....	×	..
Dairy cows .....	×	..
Sheep .....	×	..
Goats .....	×	..
Swine .....	×	..



For individual cities of 25,000 population or over there are shown in Volume V the number of inclosures and the number of animals for horses, mules, asses and burros, all cattle, dairy cows, sheep, goats, and swine. The Abstract gives figures on number of horses and of mules only.

In some of the more detailed tables the statistics are subdivided according to sex or age or both, the detailed classification of the several species being as follows:

CLASSIFICATION OF LIVESTOCK IN CENSUS REPORTS

Horses.	Dairy cattle— <i>Continued.</i>
Colts under 1 year of age.	Cows and heifers 2 years old and over.
Colts 1 year old and under 2 years.	Bulls 1 year old and over.
Mares 2 years old and over.	Sheep.
Geldings 2 years old and over.	Lambs under 1 year of age.
Stallions 2 years old and over.	Ewes 1 year old and over.
Mules.	Rams 1 year old and over.
Colts under 1 year of age.	Wethers 1 year old and over.
Colts 1 year old and under 2 years.	Goats.
Mules 2 years old and over.	Kids under 1 year of age raised for fleeces.
Beef cattle.	Goats 1 year old and over raised for fleeces.
Calves under 1 year of age.	All other goats.
Heifers 1 year old and under 2 years.	Swine.
Cows and heifers 2 years old and over.	Pigs under 6 months old.
Steers 1 year old and under 2 years.	Sows and gilts for breeding, 6 months old and over.
Bulls 1 year old and over.	Boars for breeding, 6 months old and over.
Steers 2 years old and over.	All other hogs, 6 months old and over.
Dairy cattle.	
Calves under 1 year of age.	
Heifers 1 year old and under 2 years.	

The statistics of amount of livestock reported at each census from 1850 to 1900 are reprinted in Bulletin 24 of the Division of Statistics of the Department of Agriculture, entitled "Relations of Population and Food Products in the United States."

All the statistics heretofore described are for all classes of farms and farmers without subdivision. In Volume V there are also statistics of livestock, classified by size of farm, tenure of farmer, and color and tenure of farmer. These tables give for divisions and states the number of horses, mules, all cattle, dairy cows, sheep,

and swine, and the value of the same animals with the exception of dairy cows. The secondary classification for livestock under each of these headings is as follows:

Size of farm.	Color and tenure.
Under 20 acres.	White farmers.
20 to 49 acres.	Total.
50 to 99 acres.	Owners.
100 to 174 acres.	Managers.
175 to 499 acres.	Tenants.
500 to 999 acres.	Colored farmers.
1000 acres and over.	Total.
Farm tenure.	Owners.
Owners.	Managers.
Managers.	Tenants.
Tenants.	

**Annual Livestock Estimates of the Department of Agriculture.** Annual estimates of the number of horses, mules, milk cows, other cattle, sheep, and swine on farms are published in "Crops and Markets" and in the "Agriculture Yearbook."

The estimates of livestock made by the Department of Agriculture are obtained in the same manner as those of crop acreage discussed on page 203. The local correspondents of the Department report livestock in percentage of the number of the previous year, and the weighted average of the local correspondent's reports is applied to the figures for the previous year.

Prior to 1920 the estimates of the Department of Agriculture were built on the figures of the preceding census in the same manner as the estimates of crop production, but the census returns for that year were adopted by the Department of Agriculture only for horses, mules, and swine, the estimate on cattle and sheep being based on other information. The differences between the figures of the Census and the Department of Agriculture for cattle are immaterial, but the figures of the Department of Agriculture for sheep are 11 per cent greater than those of the Census; in individual Western states the difference is much greater, reaching 50 per cent for New Mexico.

While the Department of Agriculture prior to 1920 accepted the figures of the Census as the bases on which to estimate livestock, it has never revised the estimate for livestock on farms for intercensal years. Comparison of the census figures with those for

intercensal years indicates that the intercensal estimates are too high for some years and too low for others. Estimates for dairy cattle, beef cattle, total cattle, sheep, and swine on farms and not on farms readjusted to January 1 of each year from 1867 to 1924 appear in Circular 241 of the Department of Agriculture, entitled "Food Animals and Meat Consumption in the United States."<sup>1</sup> In these estimates the census figures are used as the base except those for sheep in 1920. As the table brings all estimates to January 1 of each year it has been necessary to readjust the census figures prior to 1920, as the earlier censuses were taken on different dates. It should be particularly noted that the estimates in Circular 241 apply to animals on farms and not on farms, while those in the Yearbook apply only to animals on farms.

The number and value of farm animals in the United States, according to the estimates of the Department of Agriculture, for each year 1867 to 1907 are given in Bulletin 64 of the Bureau of Statistics of the Department of Agriculture.

Data on sheep and wool are given in Statistical Bulletin 3 of the Department of Agriculture, entitled "Sheep, Lamb, Wool, and Mutton Statistics." For sheep and lambs the data relate to stockyard receipts and shipments and to slaughter, monthly figures being given for each of the principal markets for 1900 to 1923 and weekly figures from 1921 to 1923. For wool there are given monthly figures on stocks, consumption, and production from 1918 to 1922. For lambs, sheep, wool, and mutton, export and import statistics are given.

<sup>1</sup> This was issued in two editions dated September, 1922, and May, 1924. In the second edition the figures for recent years are revised, as the figures of the Census of 1920 were not available when the first edition was prepared.

## CHAPTER XVIII

### LIVESTOCK PRODUCTS

As the result of differences in the method or place of production, statistics of livestock products are found in the census reports on agriculture and manufactures and in the reports of the Department of Agriculture. For instance, products such as eggs, milk, and wool are the direct result of the operations of the farm; others such as cheese and butter, are made both on the farm and in factories in rural districts; while still others, such as meats, are produced to some extent on the farm, but to a much larger degree in the packing plants located in the industrial centers.

**Decennial Census of Agriculture.**<sup>1</sup> The statistics of the decennial census of Agriculture, contained in Volumes V and VI of the reports of the Fourteenth Census, show only the immediate product of the farm, except that the factory production of butter and cheese is given, as the establishments manufacturing these products are located almost exclusively in rural districts. Like other census statistics of agriculture these are collected by enumerators, who obtain the basic data directly from each farm operator. All the figures relate to the year preceding the one in which the enumeration was made.

The earliest census figures on livestock products are for 1849, for which data are available on butter made on farms, cheese made on farms, wool, and honey and wax. For 1859 separate figures are given for honey and wax. For 1869 and 1879 the quantity of milk sold was reported, but similar returns were not made for 1889; these figures are again given in the reports for 1899 and later years. Statistics on eggs produced, fowls raised, and butter made in factories were first compiled for 1879. Production of mohair and amount of cream, butter, and cheese sold

<sup>1</sup> A quinquennial Census of Agriculture was taken early in 1925; the report will give production figures for 1924.

were first reported for 1899, and figures on eggs and fowls sold were first published for 1909.

Prior to 1899 the statistics applied to quantities only, but for 1899 and thereafter values were reported, except for cheese made on farms, butter made on farms, and wax produced, for which value figures are first available for 1909.

The statistics on livestock products are given in the general reports on agriculture listed on page 197.

The data shown by divisions and states in Volumes V and VI and the Abstract of the Fourteenth Census are as follows:

CLASSIFICATION OF CENSUS STATISTICS OF LIVESTOCK PRODUCTS FOR  
DIVISIONS AND STATES

Products	Number of farms reporting	Quantity	Value
Total dairy products.....	.....	.....	Vols.V,VI,Abstract.
Receipts from sale of dairy products.....	.....	.....	Vol.V.
Milk produced.....	Vol.V,Abstract.	Vols.V,VI,Abstract.	Vol.V,Abstract.
Milk sold.....	Vol.V,Abstract.	Vols.V,VI,Abstract.	Vol.V,Abstract.
Cream sold.....	Vol.V,Abstract.	Vols.V,VI,Abstract.	Vol.V,Abstract.
Butter fat sold.....	Vol.V,Abstract.	Vols.V,VI,Abstract.	Vol.V,Abstract.
Butter sold.....	Vol.V,Abstract.	Vols.V,VI,Abstract.	Vol.V,Abstract.
Butter made on farms.....	Vol.V,Abstract.	Vols.V,VI,Abstract.	Vol.V,Abstract.
Butter made in factories.....	.....	Vol.V.	.....
Butter made on farms and in factories.....	.....	Vol.V.	.....
Cheese made on farms.....	Vol.V,Abstract.	Vol.V,Abstract.	Vol.V,Abstract.
Cheese made in factories.....	.....	Vol.V.	.....
Cheese made on farms and in factories.....	.....	Vol.V.	.....
Wool produced.....	Vol.V.	Vols.V,VI,Abstract.	Vol.V,Abstract.
Mohair produced.....	Vol.V.	Vols.V,VI,Abstract.	Vol.V,Abstract.
Wool and mohair produced.....	.....	.....	Vol.VI,Abstract.
Chickens raised.....	Vol.V.	Vols.V,VI,Abstract.	Vol.V,Abstract.
Chickens sold.....	Vol.V,Abstract.	Vol.V,Abstract.	Vol.V,Abstract.
Chicken eggs produced.....	Vol.V.	Vols.V,VI,Abstract.	Vol.V,Abstract.
Eggs and chickens produced.....	.....	.....	Vol.VI,Abstract.
Chicken eggs sold.....	Vol.V,Abstract.	Vol.V,Abstract.	Vol.V,Abstract.
Honey produced.....	.....	Vols.V,VI,Abstract.	Vol.V,Abstract.
Wax produced.....	.....	Vols.V,VI,Abstract.	Vol.V,Abstract.
Honey and wax produced.....	.....	.....	Vol.VI,Abstract.
Domestic animals raised.	.....	.....	.....
Calves.....	Vols.V,VI,Abstract.	Vols.V,VI,Abstract.	.....
Pigs.....	Vols.V,VI,Abstract.	Vols.V,VI,Abstract.	.....
Lambs.....	Vols.V,VI,Abstract.	Vols.V,VI,Abstract.	.....
Domestic animals slaughtered.	.....	.....	.....
Total.....	.....	.....	Vol.V,Abstract.
Cattle and calves.....	Vols.V,VI,Abstract.	Vols.V,VI,Abstract.	.....
Swine.....	Vols.V,VI,Abstract.	Vols.V,VI,Abstract.	.....
Sheep and lambs.....	Vols.V,VI,Abstract.	Vols.V,VI,Abstract.	.....
Meat and meat products sold.	.....	.....	.....
Cattle and calves.....	.....	Vols.V,VI,Abstract.	.....
Swine.....	.....	Vols.V,VI,Abstract.	.....
Sheep and lambs.....	.....	Vols.V,VI,Abstract.	.....

The data given for each county in Volume VI of the Fourteenth Census are as follows:

CLASSIFICATION OF COUNTY STATISTICS ON LIVESTOCK PRODUCTS (VOL. VI)

Products	Quantity	Value
Total dairy products.....	..	×
Dairy products sold.....	..	×
Milk produced .....	×	..
Milk sold .....	×	..
Cream sold .....	×	..
Butter fat sold.....	×	..
Butter made on farms.....	×	..
Butter sold .....	×	..
Cheese made on farms.....	×	..
Chickens raised .....	×	..
Chickens sold .....	×	..
Eggs produced .....	×	..
Eggs sold .....	×	..
Chickens and eggs produced.....	..	×
Chickens and eggs sold.....	..	×
Honey produced .....	×	..
Wax produced .....	×	..
Honey and wax produced.....	..	×
Wool produced .....	×	×

**Census of Manufactures.** The statistics on livestock products reported in the Census of Manufactures relate in general to the industry and are subject to the limitations discussed on page 262. There are, however, detailed statistics on the output of particular products. For the butter, cheese, and condensed milk industry, statistics are given by states showing the quantity and cost of milk, cream, and skimmed milk used, and the quantity and value of the following products:

Butter.	Condensed and evaporated milk.
Total.	Total.
Packed solid.	Condensed.
Prints or rolls.	Sweetened.
Cheese.	Unsweetened.
Total.	Evaporated.
Full cream.	Powdered milk.
Part cream.	Sugar of milk.
Skimmed and all other kinds.	Casein sold.

In the report on the slaughtering and meat-packing industry statistics are given by states, showing the number, cost, and gross and net weight of the four principal kinds of animals slaughtered, namely, cattle, calves, sheep and lambs, and hogs. This report also contains statistics by states showing the quantity and value of the following products :

Beef.	Sausage.
Veal.	Lard.
Mutton and lamb.	Hides, cattle and calf.
Pork.	Sheep pelts.
Pork, pickled, and other cured.	

The report on slaughtering and meat-packing contains figures on the quantity and value of the total output of the products listed below, but no details according to state in which produced :

Edible offal and other fresh meat.  
 Poultry, dressed.  
 Beef, pickled and cured.  
 Pork, pickled and cured.  
 Canned goods.  
 Sausage.  
     Canned.  
     All other.  
 Meat pudding, scroffle, head cheese, etc.  
 Lard compound and substitutes.  
 Oleo oil.  
 Other oils.  
 Tallow.  
 Oleo stock.  
 Grease.  
 Soap-stock.  
 Stearin.  
 Oleomargarine.  
 Casings.  
 Hoofs, horns and horn tips, stubs, etc.  
 Fertilizer and fertilizer materials.  
 Glue.  
 Hides and pelts.  
     Cattle.  
     Calf.  
     Sheep, lambs, kids, and goats.  
     All other.  
 Hair, hog and cattle.  
 Wool.

The figures on the slaughtering industry relate only to wholesale establishments and do not pertain to any plants slaughtering for the retail trade.

**Meat Production Estimates of Department of Agriculture.** Statistics on the amount of meat produced have never been collected, but must be estimated from the number of animals slaughtered. Statistics on slaughter on farms and ranges are collected at each decennial census and are given in the chapter on livestock products of the volume devoted to agriculture. Figures showing the number of animals slaughtered by establishments engaged in interstate trade and subject to federal inspection are collected by the Bureau of Animal Industry, monthly figures being published in "Crops and Markets" and annual figures in the "Agriculture Yearbook." Statistics on the wholesale packing-house industry have been published by the censuses of manufactures for 1899, 1904, 1909, 1914, 1919, 1921, and 1923, and will be collected biennially hereafter. These statistics show the number of animals slaughtered, the total live weight, the total dressed weight, and the weight of various kinds of meats and meat products. At the Census of 1910 statistics were also collected for the slaughter of animals in retail slaughter houses in 1909. These figures, combined with those of the Census of Manufactures and the Census of Agriculture give the entire slaughter for 1909, the only year for which such figures are available. They will be found on page 345 of Volume X of the Reports of the Thirteenth Census (1910) and on page 332 of Volume II of the Census of Manufactures for 1910. Figures on the dressed weight of food animals are published during the year in "Crops and Markets" and annually in the "Agriculture Yearbook."

By use of the data given above the Bureau of Animal Industry has estimated the meat production for each year since 1907, when the federal inspection began. These estimates are published in the "Agriculture Yearbook" and also in Department of Agriculture Circular 241, entitled "Food Animals and Meat Consumption in the United States."<sup>3</sup> Both these publications also contain estimates of consumption.

The Food Administration also issued a report entitled "Production of Meat in the United States and its Distribution during the War," which contains monthly statistics for 1916 to 1918 and annual figures for 1911 to 1915. The results obtained by the Food

<sup>3</sup> Issued in two editions dated September, 1922, and May, 1924. In the second edition the figures for recent years are revised, as the figures of the Census of 1920 were not available when the first edition was compiled.



Administration and the Bureau of Animal Industry do not agree, owing to the fact that different ratios were used for the relation of live weight to dressed weight and for the relation of total slaughter to inspected slaughter.

**Other Statistics of the Department of Agriculture.** During recent years the Department of Agriculture has published statistics annually and at times oftener on wool, dairy products, and eggs, annual statistics appearing in the Agriculture Yearbook and monthly or quarterly statistics in Crops and Markets.

Figures on wool production have been computed for each year beginning with 1914. The figures by states relate only to fleece wool or that cut from live sheep, while those for the United States as a whole apply also to pulled wool or that taken from the skins of slaughtered animals, the production of pulled wool being about 20 per cent of that of fleece wool. The census statistics apply only to fleece wool, but the figures for 1919 of the Census and the Department of Agriculture do not agree; the figures of the Department of Agriculture for the United States are almost 10 per cent greater than those of the Census, but the differences for some of the Far Western sheep-raising states are materially greater.

Figures on the more important dairy products, such as butter, cheese, ice cream, and condensed milk, have been compiled beginning with 1918. Annual egg and chicken production on farms has been shown since 1919.

Monthly figures on stocks, consumption, and production of wool from 1918 to 1922 are given in Statistical Bulletin 3, of the Department of Agriculture, entitled "Sheep, Lamb, Wool, and Mutton Statistics." Export and import statistics are also given.

**Other Sources.** General statistics on wool up to 1893 are contained in the report of the Bureau of Statistics of the Treasury Department entitled "Wool and Manufactures of Wool," also issued as House Misc. Document 94, 52d Congress, 2d Session. Among the features of this report worth mentioning are imports from 1822 to 1893, prices from 1824 to 1893, and prices and trade in foreign countries over a long series of years, the period varying according to the amount of material available.

Other publications on livestock and livestock products are discussed on pages 304 to 306.

## CHAPTER XIX

### PRODUCTION OF MINERALS

Annual statistics on the production of all minerals of commercial importance have been collected annually by the Geological Survey, which also has issued weekly or monthly reports on some of the more important mineral products. By the executive order of June 4, 1925, the collection of mineral statistics was transferred from the Geological Survey to the Department of Commerce. The same order transferred the Bureau of Mines to the Department of Commerce, and it is reported that the collection of annual mineral statistics will be made by the Bureau of Mines. Annual statistics on the production of precious metals are contained in the annual report of the Director of the Mint. Production and other statistics relating to the mineral industry have been compiled by the Bureau of the Census, in coöperation with the Geological Survey, and issued as the volume on "Mines and Quarries" of the decennial census.

**Annual Statistics on All Minerals.** Annual statistics on the production of minerals in the states and territories west of the Rocky Mountains were published by the Treasury Department for the years 1866 to 1875. Beginning with 1882 similar statistics for the continental United States and Alaska have been issued annually by the Geological Survey. From 1882 to 1893 these reports were issued under the title, "Mineral Resources of the United States"; from 1894 to 1899 the reports on mineral resources were published as parts of the annual reports of the Director of the Geological Survey; beginning with 1900 they have again been published under the original title. Each chapter is issued in separate form in advance of the complete volume. All of the reports give comparable figures for at least one earlier year if they are available; for many minerals figures are given for a series of previous years.

The statistics are collected primarily by means of schedules sent to all mineral producers, although some field work is carried on. Heretofore the chapters have been written by geologists who were

familiar with the development of the industry, and were thus able to question reports showing undue increases or decreases. The reports made by the operators are not required by law, but are entirely voluntary. However, this fact does not affect the value of the work, as producers in general cooperate willingly, as they realize the importance of obtaining complete and accurate information regarding the progress of the industry.

The reports give production statistics by both quantity and value. For all minerals, statistics are published by states, unless the state figures will reveal the operations of individual establishments. For some minerals statistics are given for well-defined districts or by counties. There are also general summary tables by states, which show the total net value of the mineral output, the duplications being eliminated. The values used are described in the report for 1917 as follows:<sup>1</sup>

. . . Many of the ores of the precious and semiprecious metals are complex associations of several metals and gangues, and the same ore may have different values, or none, its value depending on the metallurgic and other treatment it may require. The quantities and values of such ores are therefore best measured by the metal actually extracted from them and made marketable. Chromic iron ore, manganese ore, manganiferous ore, and bauxite, on the other hand, are marketed as such. The quantities and the values of the non-metals are likewise placed upon the products in the condition in which they are first sold. The quantities and value of the fuels, phosphate rock, and some other non-metals therefore represent raw or only very slightly dressed products, in the condition in which they first become articles of trade. Salt appears as the content of brine, in various refined conditions, or as rock salt. Gypsum is sold as crude, as ground, or as calcined. Cement, however, is the commercial product reported, rather than the raw material from which it is made. The clay products, except very small quantities of special clays that are sold raw, first appear in statistics as brick, terra cotta, tile, porcelain, pottery, etc. As quarry products are sold in three forms—rough, partly dressed, or finished—there is no way of determining their quantities and values except by considering them in the condition in which they are first marketed.

The statistics are for the quantity marketed or sold and not for the amount produced regardless of disposition.<sup>2</sup>

<sup>1</sup> Mineral resources, 1917, Part I, p. 22a.

<sup>2</sup> See page 242 for discussion of difference between figures of Geological Survey and those of the Census.

In the earlier years the reports were confined almost entirely to statistics of production in the United States, but during later years an endeavor has been made to include other data bearing on the economic status of the industry. For all important minerals there are included statements of imports and exports, compiled from the records of the Bureau of Foreign and Domestic Commerce; and in some cases more detailed figures are obtained from exporters. For many minerals only total figures for imports and exports are given, and if statistics showing countries of shipment or destination are desired, recourse must be had to the reports of the Bureau of Foreign and Domestic Commerce described on pages 326 to 354. For some minerals there are statistics of stocks on hand at the beginning and end of each year. Information is also given regarding range in prices, compiled from the leading trade journals, and figures on production in foreign countries, obtained from official reports of foreign countries and from reports of foreign representatives of the Bureau of Foreign and Domestic Commerce and Consular officers.

In addition to the purely statistical data there is considerable material on the uses, occurrence, and other technical features of the several minerals. Many of the reports contain excellent bibliographies. The economic and technical history of the various mineral industries may be obtained by consulting the successive annual reports for a series of years. The annual report for 1917 contains a list of the particularly full reviews of various industries published in the volumes for 1908 to 1917. The volume for 1915 contains a summary showing the production of each mineral from 1880 to 1915.

The earlier reports as a rule contained statistics for primary raw materials only, but during recent years figures have been collected and published on many mineral compounds, some of which fall within the field of manufactured products. For some of the minerals there are figures on the uses by various industries, and for others, data on equipment in use and on topics other than production.

In the list below are indicated some products and topics on which data have been published at various times. Figures on all these have not been compiled each year, but the list is given in order to indicate what might be expected in this publication.

- Abrasive bauxite.
- Abrasive materials.
- Abrasives, artificial.
- Aluminum sulphate.
- Ammonia and ammonium sulphate from coke plants.
- Antimonial lead.
- Ballast, railroad.
- Barium compounds.
- Benzol and benzol products from coke plants.
- Blanc fixe.
- Borate materials.
- Brass and bronze.
- Brass castings, rods, sheets, tubing and wire.
- Brick.
- Brick, clay.
- Briquet, fuel.
- Building operations.
- Building sand.
- Building stone.
- Bunker coal.
- Cadmium sulphide.
- Calcium chloride.
- Caustic soda.
- Cement plant capacity.
- Chemical porcelain and stone ware.
- China.
- Clay products.
- Coal.
  - Box car loaders, number and capacity.
  - Consumption by states.
  - Consumption by uses (railroads, bunker for steamship, mines, coke ovens, coal gas, electrical utilities, domestic purposes, industrial purposes).
  - Destination of product of each district.
  - Destination of tide-water shipments.
  - Labor statistics.
    - Production per man.
    - Days in operation.
    - Miners employed.
    - Length of working day.
    - Strikes.
    - Men involved.
    - Days lost.
  - Mining methods (hand, machine, shot from solid, steam shovel).
  - Production by classes of mines, rated by amount produced.
- Coke.
  - Active and idle ovens.
  - Coal used, amount, source, and character.
  - Consumption by uses and by states.
  - Destination of coke produced in each state.
  - Number of ovens in each by-product coke plant.
  - Production by states since 1880.
  - Shipments by originating railroads and waterways.

Coke breeze.  
Concrete ships.  
Copper wire and copper-clad wire.  
Copper castings, rods, tubing, sheets and plates.  
Copper sulphate.  
Crucibles, refractory.  
Crushed stone.  
Earthen ware.  
Electrical supplies, porcelain.  
Engine sand.  
Ferroalloys.  
Filter sand.  
Fire clay.  
Flagging.  
Furnace flux.  
Furnace sand.  
Ganister.  
Gas from coke plants.  
Gasoline from natural gas.  
Glass sand.  
Glauber's salt.  
Hardware supplies, clay.  
Hypo.  
Iron ore.  
    Reserves in Minnesota and Michigan.  
    Stocks at Lake Erie ports.  
    Wages in mines in Lake Superior district.  
Jade.  
Lead pigments.  
Lime consumption by agriculture and industries.  
Marbles, toy.  
Molding sand.  
Monumental stone.  
Natural gas.  
    Acreage owned and leased.  
    Cities and towns supplied.  
    Consumption by industries.  
    Lime kilns using.  
    Wells drilled.  
Naphtha from coke plants.  
Naphthalene from coke plants.  
Niter cake.  
Paving blocks.  
Paving sand.  
Petroleum.  
    Acreage owned and leased.  
    Pipe line runs.  
    Stocks.  
    Wells drilled.  
Pipes for tobacco, clay.  
Porcelain.  
Potash.

Potter's supplies (refractory ware).  
 Pottery.  
 Producer gas, lime kilns using.  
 Railroad ballast.  
 Refractory clay products, production and use in various industries.  
 Riprap.  
 Road metal.  
 Rock salt.  
 Red lead.  
 Rolled zinc.  
 Rubble.  
 Sand-lime brick.  
 Sal soda.  
 Salt cake.  
 Sanitary ware, clay.  
 Sewer pipe.  
 Ships, concrete.  
 Silica.  
 Sodium compounds.  
 Stoneware.  
 Street paving.  
 Strikes in coal mines.  
 Strontium salts.  
 Sulphuric acid.  
 Talc.  
 Terra cotta, architectural.  
 Tile.  
 Tobacco pipes, clay.  
 Toluol, from coke plants.  
 Water glass.  
 Water, mineral.  
 White lead.  
 Wire, brass.  
 Wire, copper and copper clad.  
 Zinc boiler plates and special sheets, dust, pigments, sheets and strips.

**Weekly and Monthly Statements: Geological Survey.** Weekly mimeographed statements have been issued by the Geological Survey showing the production of coal and beehive coke, unbilled cars of coal at the mines, the time lost at mines through various causes, the all-rail movement to New England, and the weekly tidewater movement through Hampton Roads. Monthly figures are also given in one of the weekly bulletins. Monthly figures on the production of bituminous coal, anthracite coal, beehive coke, and by-product coke are given also in the "Survey of Current Business," issued by the Department of Commerce.

Monthly statistics on crude petroleum have been issued by the Geological Survey. These show the production by states, principal

districts, and fields; stocks by fields; imports and exports, classified by principal countries, and estimated consumption. The Survey of Current Business shows the total production, stocks, consumption, imports, and shipments from Mexico.

A monthly mimeographed statement has been issued by the Geological Survey on Portland cement, showing the production, shipments, and stocks on hand.

**Gold and Silver.** Annual statistics on the production of gold and silver have been published in the annual report of the Director of the Mint since 1909. From 1866 to 1877 this information was contained in the series of reports entitled "Mineral Resources West of Rocky Mountains." In 1880 the Bureau of the Mint published the first report under the title "Statistics of Production of Precious Metals"; in 1883 the title was changed to "Production of Precious Metals," which title was used until 1909. Beginning with 1910 the production statistics were made a part of the annual report of the Director of the Mint. The production statistics for gold and silver have been issued jointly by the Bureau of the Mint and the Geological Survey. These statistics are probably the most accurate of any published. The Geological Survey collected its figures from the mines, while the Bureau of the Mint worked backward from mint deposits through refineries, smelters, and other reduction works to the figures of mine production. This check eliminates the possibility of serious error.

In addition to figures on the production of gold and silver in the United States, on the operations of the mints, and on the coinage of the United States, the annual reports of the Director of the Mint bring together important data relating to the production of gold and silver in foreign countries, laws relating to coinage and currency in foreign countries, and statistics of foreign monetary systems. The more important statistical data include the following:

- Gold and silver used in the industrial arts.
- Import and export of gold and silver, by countries.
- Imports and exports of gold and silver, by customs districts.
- Deposits and purchase of gold and silver, by mints.
- Deposits of gold at mints and assay offices since 1873.
- Deposits of silver at mints and assay offices since 1885.
- Coinage of mints, by denominations since 1793.
- Stocks and location of coins and currency in the United States.
- Stock of gold and silver in the United States for each year since 1873.



Exports of silver from London to India, China, and Straits Settlement since 1881.

Gold and silver imported into British India since 1873.

Ratio of silver to gold since 1687.

Price of silver since 1833.

Values of foreign coins.

Monetary statistics of foreign countries including coinage, production of gold and silver, bank note circulation, metallic reserves, statements of central banks of issue, monetary stocks. In addition to the purely statistical matter this report contains abstracts of principal laws of foreign countries relating to currency and coinage and notes on topics relating to production and use of gold and silver.

Annual statistics for the United States and foreign countries covering a long period of years up to 1894 on the production, imports, and exports of gold and silver, and the amount of coinage are given in the publication entitled "Coinage Laws of the United States, 1792-1894," published by the Finance Committee of the Senate.\*

Several of the reports of the National Monetary Commission contain compilations on gold and silver for a period of years, the more important being the following:

Vol. 21. Statistics for the United States, 1867-1909.

Excess of imports of exports of gold and silver, by calendar years, 1867-1909.

Production of gold in the World and in the United States, annually, 1867 to 1909.

Gold supply of the United States and its distribution annually, 1867 to 1909.

Exports and imports of gold at New York, monthly 1889 to 1909, weekly 1899 to 1909.

Gold in the Treasury at the end of each month from 1878 to 1909 and the maximum and minimum gold holdings during each month.

Vol. 20. Trade balance of the United States.

Imports and exports of gold, annually, 1821-1909.

Imports and exports of silver, annually, 1825-1909.

Vol. 22. Seasonal variations in demands for currency and capital.

Imports and exports of gold, monthly, 1890 to 1908.

Imports and exports of gold at New York, weekly, 1899 to 1908.

Deposits of gold bullion at mints and assay offices, monthly, 1890 to 1908.

Data on the coinage of gold and silver in the United States and foreign countries over a series of years are given in the report of the Monetary [or Silver] Commission of 1876; published also as Senate Report 703, 44th Congress, 2d session. A similar but more

\* Three earlier editions of this work were issued in 1893; the last edition was published in 1894.

extensive compilation, containing also much information on the production and movement of gold and silver, was prepared by the Senate Commission of Gold and Silver Inquiry and published in 1923 in the pamphlet entitled "Gold and Silver Statistics" (Serial 3).

**Coal Distribution, 1918-1919.** The distribution of coal from August, 1918, to February, 1919, is shown in the publication of the Fuel Administration entitled "Report of the Distribution Division, 1918-1919." This volume shows the weekly movement of coal between the producing and consuming regions and between the various states. During this period the distribution of coal was controlled by the Fuel Administration, and the data can not be taken as indicating the movement of coal under normal conditions.

**Decennial Statistics on Mineral Industry.** Statistics of mines and quarries have been collected in connection with each decennial census beginning with 1810, except those for 1820, 1830, and 1900. A special enumeration was made in 1902. Following is a list of the reports of those censuses containing such statistics:

**Third Census: 1810.** A statement of the arts and manufactures of the United States for the year 1810. [Brief and fragmentary.]

**Sixth Census: 1840.**

Statistics of the United States of America.

Compendium of the enumeration of the inhabitants and statistics of the United States.

**Seventh Census: 1850.** Digest of the statistics of manufactures.

**Eighth Census: 1860.**

Manufactures of the United States in 1860.

Preliminary report of the Eighth Census.

**Ninth Census: 1870.**

Statistics of the wealth and industry of the United States.

Compendium of the Ninth Census.

Statistical atlas of the United States.

**Tenth Census: 1880.**

Vol. XV. Mining industries (exclusive of precious metals).

Vol. XIII. Precious metals.

Vol. X. Petroleum, coke, and building stones.

Compendium of the Tenth Census, Part II.

Vol. VIII. The newspaper and periodical press; Alaska; Seal Islands; ship building. [Contains statistics on mineral resources of Alaska.]

**Eleventh Census: 1890.**

Mineral industries.

Compendium of the Eleventh Census, Parts II and III.

Abstract of the Eleventh Census.

Eleventh Census: 1890—*Continued*.

Statistical atlas of the United States.

Population and resources of Alaska. [Contains mining and mineral statistics.]

Intercensal publication: Mines and quarries, 1902.

Thirteenth Census: 1910.

Vol. XI. Mines and quarries.

Abstract of the Census.

Statistical atlas of the United States.

Fourteenth Census: 1920.

Vol. XI. Mines and quarries—General report and analytical tables and reports for states and selected industries.

Abstract of the Fourteenth Census of the United States.

With the exception of the report on mines and quarries for 1902 all the mining statistics relate to the calendar year preceding the census year. The report for 1902 is a special report covering that year. The earlier censuses contained little detailed information. The enumerations made up to 1902 are described as follows in the report for that year:<sup>4</sup>

. . . The first attempt to collect any industrial statistics was made in connection with the Third Census, under the provisions of a special amendatory act, passed May 1, 1810, which required the "marshals' secretaries and their assistants . . . to take . . . an account of . . . manufacturing establishments and manufactures." From the digest of these statistics prepared by Tench Coxe under the direction of the Secretary of the Treasury, it appears that the schedule secured information concerning the cutting and dressing of marble, slate, and other stones, the quarrying of slate, the mining of saltpeter, and the production of red and yellow ocher, but that no reference was made to minerals from which metallic substances are derived save in the classification "lead and manufactures of lead." There was included under this classification the substance known as black lead (graphite). Although the law providing for the census of 1820 contained a provision similar to that of the law of 1810 concerning industrial statistics, there is no evidence that statistics of mines and quarries were taken. The section concerning industrial statistics was omitted from the law providing for the census of 1830.

No further attempt appears to have been made to collect statistics for mines and quarries until the census of 1840, which was taken in conformity with the Act of March 3, 1839. This was the first census law to contain a specific provision for the collection of statistics of mines. Section 13 of the law provided that "the afore-

<sup>4</sup> Mines and quarries, 1902, pp. 1-3.

said marshals and their assistants . . . also shall collect and return in statistical tables under proper heads, according to such forms as shall be furnished, all such information relating to mines, agriculture, commerce, manufactures, and schools as will exhibit a full view of the pursuits, industry, education, and resources of the country. . . .”

The Seventh, Eighth, and Ninth Censuses were taken under the Act of May 23, 1850, which authorized not only the enumeration of all inhabitants, but also the collection of “all the other statistical information . . . specified in the instructions which shall be given by the Secretary of the Interior and in the tables annexed.” Under this provision statistics of mines continued to be taken, but only in a scattering way and in connection with other statistics until the census of 1870, when they were given separately and with comparative fullness.

Section 18 of the Act of March 3, 1879, providing for the census of 1880, contains the following provision: “And said Superintendent may employ experts and special agents to investigate in their economic relation the manufacturing, railroad, fishing, mining, and other industries of the country. . . .” The form of the inquiries concerning mining and other productive industries was left to the discretion of the Superintendent of the Census and the Secretary of the Interior.

The only direct reference to a mining census that is made in the Act of March 1, 1889, which provided for the Eleventh Census is contained in section 17. This section provided that the only volumes to be published in connection with that census were those relating to population and social statistics, manufactures, mining, agriculture, mortality and vital statistics, valuation and public indebtedness, recorded indebtedness, and statistics relating to railroad corporations and incorporated express, telegraph, and insurance companies. But among the reports which the Superintendent was “required to obtain,” if directed to do so by the Secretary of the Interior, were those “from all corporations or establishments reporting products other than agricultural products.”

The Act of March 3, 1899, providing for the Twelfth Census, was the first census law to describe the scope of the mining census and to make a definite line of demarcation between the statistics of mines and those of manufactures. Section 8 provides “that after the completion and return of the enumeration and of the work upon the schedules relating to the products of agriculture and to manufacturing . . . the Director of the Census is hereby authorized to collect statistics relating to . . . mines, mining, and minerals, and the production and value thereof, including gold in divisions of placer and vein, and silver mines, and the number of men employed, the average daily wage, average working time, and aggre-

gate earnings in the various branches and aforesaid divisions of the mining industry. . . ." Before the reports on population, agriculture, and manufactures were completed the Act of March 6, 1902, providing for the establishment of a permanent Census Office became a law, and it was therefore in conformity with this law rather than that of March 3, 1899, that the census of mines and quarries of 1902 was taken. No material change was made, however, in the provisions of section 8, cited above.

The census of 1840 was the first, except for the fragmentary information collated in 1810, to include statistics of mining and quarrying. Statistics were shown of capital, employees, and product—in combination, however, with the manufactures of the metal or mineral in each case—for coal, anthracite and bituminous; gold; granite, marble, and other stone; iron ore; and lead. . . .

. . . In 1850 and 1860 statistics for mines and quarries were included with those for manufactures. The first separate census of mines and quarries was in 1870; then followed the censuses of 1880 and 1890. . . .

The law governing the census of mines and quarries of 1920, which was essentially the same as that for 1910, was as follows:

The schedule of inquiries relating to . . . mines and quarries shall include the name and location of each establishment; character of organization, whether individual, coöperative, or other form; amount of capital actually invested; number of proprietors, firm members, copartners, stockholders, and officers, and the amount of their salaries; number of employees and the amount of their wages; . . . principal miscellaneous expenses; quantity and value of products; time in operation during the year; character and quantity of power used; and character and number of machines employed.

During recent census years the statistics for mines and quarries have been collected in coöperation with the Geological Survey, but the figures of the two organizations do not agree, as the Geological Survey statistics are for specific commodities, while the census statistics are for the products of the industry. As in the case of the Census of Manufactures the product of an industry may include commodities not covered by the industry classification, the establishments being classified according to its product of greatest value. For instance, copper mines may produce silver or other metals as subordinate products. In the census reports the value

of all these subordinate products is included in the value of the product of the industry, in the Geological Survey reports separate figures are given for the production of each mineral. The values for products given in the reports on mines and quarries are those for the product mined, while those of the Geological Survey are for product marketed, the differences being described in part by the Census Bureau as follows: <sup>5</sup>

Between these methods there is—first, the fundamental difference that the Bureau of the Census endeavors to present the total actual output and its value to the producer for the calendar year, whereas the Geological Survey reports “marketed production,” sales, or shipments, including the amount used by the producers; the two sets of statistics may therefore be quite different; and second, the Geological Survey shows separately the quantity and value of each mineral product, whereas the Bureau of the Census presents the value of products of each mining industry or group of mining enterprises, classified for purposes of tabulation as an industry. Thus the Bureau of the Census figures for an industry include the value of some products not indicated by the industry designation, whereas the Geological Survey tabulates the value of each product under its proper designation, irrespective of its source.

For example, the crude or mine products of a metalliferous-lode-mining enterprise include varying combinations of the metals gold, silver, copper, lead, and zinc, and sometimes other metals. The Bureau of the Census classifies each of such enterprises according to the metal of predominant worth in ores produced, and tabulates the amount received by the producer for ore and concentrates, etc., as the total value of products in the industry classification to which the particular enterprise is assigned. The Geological Survey, on the other hand, presents separately the quantity and value of the several metals recoverable from ores, etc. Therefore the statistics compiled by the two bureaus for the gold, silver, copper, lead, and zinc-mining industries are not comparable. Similar differences in presenting results apply also to the rare-metals-mining industry. Again, the total value of all products of the mica mines is not identical with the value of the output of mica, but, as reported by the Bureau of the Census, includes the value of some feldspar or other products mined in connection with the principal product.

<sup>5</sup> Fourteenth Census, Volume XI, page 16; other details resulting in differences are given as well as figures of differences between the two reports.

The report on mines and quarries for 1919 contains separate chapters on the following industries :

Coal.	Stone.
Petroleum and natural gas.	Phosphate rock.
Iron ore.	Gypsum.
Gold, silver, copper, lead, and zinc.	

The census report for 1909 contains special chapters on the coal, iron and petroleum and natural gas industries ; for these industries only are production statistics given by quantities.

The report for 1902 contains a large amount of descriptive material on the industries and their raw materials and finished products. This report gives comparative figures for each industry for preceding census years, as well as annual statistics of production and imports for each mineral reported for a series of years. For some minerals statistics of world production for several years are given if available. These tables are generally taken from Mineral Resources of the United States for 1902. The following tables of historical interest are worth noting separately :

Copper production of the world (quantity) by countries, annually 1879 to 1902.

Copper production of the world (quantity) by decades, 1801 to 1900.

Copper production and consumption (quantity) by countries, annually 1895 to 1902.

Copper trade of principal exporting countries with Europe (quantities), annually, 1895-1902.

Copper, average annual prices in New York and London, 1879 to 1902.

Lead, annual world production and consumption (quantity) by countries, 1889 to 1902.

Silver, commercial ratio to gold annually, 1700 to 1902. /

Silver, average annual prices, 1843 to 1902.

Lead, average annual prices, 1843 to 1902.

Platinum, production in Russia (quantity) 1824 to 1901, five year periods to 1890, thereafter annually.

Coal, anthracite, annual shipments (quantity) from producing districts, 1820 to 1902.

Petroleum products, annual production and exports (quantity) 1864 to 1902, annual exports by countries 1894 to 1902.

Petroleum, annual production (quantity) by states and territories, 1859 to 1902.

Petroleum, annual production in Russia (quantity) 1889 to 1902.

There is some overlapping of the statistics of mines and quarries and of manufactures, as the Bureau of the Census has found it impossible to make a sharp distinction between mining and quarrying operations on the one hand and manufacturing on the other.

The crude products of mines and quarries are almost always subjected to some treatment at the mine which may be regarded as manufacturing. If the processes at the mine are of a simple character such as sorting of coal, the business is treated as belonging to the mining and quarrying industry. If, on the other hand, the processes are elaborate, that portion of the work has been included in the statistics of manufactures. This is particularly true if operations carried on at the mines are the same as those conducted at establishments at a distance. For instance, copper smelters are operated in connection with copper mines and also as a separate industry. If the Census of Manufactures is to represent the copper smelting industry as a whole it obviously must take account of the smelting done at the mines. The policy pursued by the Census Bureau at the Fourteenth Census in regard to border line industries was as follows: \*

(1) In the brick and tile, pottery, cement, and lime industries the digging of clay and the quarrying of stone are a simple and minor part of the business in which much the greater part of the activities are of a manufacturing character. Statistics for establishments in these industries, engaged in both mining and manufacturing, are included only in the census of manufactures.

(2) In the coal and coke industry complete segregation was made of all coal-mining statistics and coke-manufacturing statistics. If the operating establishment did not keep separate accounts by means of which absolute segregation of data could be obtained, an estimated segregation was made.

(3) In the copper and lead and zinc industries mining statistics were completely segregated from manufacturing, *i. e.*, smelting and refining, by estimate, as for coal and coke, if necessary.

(4) On the other hand, in other industries in which establishments conducted both mining or quarrying operations and more or less elaborate manufacturing operations, segregated reports for each class of operations were secured whenever possible. When this was not possible the data for each such establishment as a whole has been included in both the census of mines and quarries and also in the census of manufactures. Industries in this category include basalt or trap rock, granite, limestone, marble, sandstone, and slate quarrying, the mining of abrasive materials, feldspar, fuller's earth, graphite, gypsum, mineral pigments, quartz or silica, talc and soapstone. In the stone-quarrying industries the establish-

\* Fourteenth Census, Vol. XI, p. 13.



ments included in both the mining and manufacturing statistics were chiefly producers of crushed and ground stone and were classified by the census of manufactures as in the roofing and paving-material industries. There were also included, moreover, in both sets of statistics full data on a few establishments cutting and dressing stone for construction and other purposes which did not report separately for mining and for manufacturing, and for which no basis for segregation was available. In the other industries, above enumerated, the data on most of the establishments which mined and prepared their product by processes of grinding calcining, etc., necessarily were included in both the mining and manufacturing tabulations.

The data collected for mines and quarries are much the same as those for manufactures. For each industry, for all industries in each state, and for the several principal industries in each state, figures are given for the following topics :

Number of enterprises.

Number of quarries, mines or wells.

Land controlled.

Mineral lands.

Operated.

Owned.

Leased.

Timber lands.

Capital.

Principal expenses.

Total.

Services.

Salaries of officers of corporations, superintendents and managers.

Salaries of clerks and other subordinate employees.

Wages.

Supplies and material.

Fuel and rent of power.

Royalties and rent of mines.

Taxes.

Contract work.

Rent of offices and other sundry expenses.

Value of products.

Persons engaged.

Proprietors and officials.

Total.

Proprietors and firm members.

Total.

Performing manual labor.

Salaried officers of corporations.

Superintendents and managers.

**Persons engaged—Continued.****Technical employees.****Clerks and other subordinate salaried employees.****Wage earners on December 15, by classes.<sup>†</sup>****Wage earners employed on fifteenth of each month.****Primary power.****Aggregate horsepower.****Total horsepower.****Steam engines, not turbine.<sup>‡</sup>****Steam turbines.****Internal combustion engines.<sup>‡</sup>****Water wheels and turbines.<sup>‡</sup>****Electric motors operated by purchased current.<sup>‡</sup>****Electric motors run by current generated by the enterprise.<sup>‡</sup>****Fuel used, by classes.**

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<sup>†</sup> Figures given for number above ground and below ground.

<sup>‡</sup> Number and horsepower given under each.

## CHAPTER XX

### PRODUCTS OF THE FISHERIES

Statistics on the fisheries were collected during early years in connection with the decennial censuses, but recent statistics have been compiled by the Bureau of Fisheries.

An early independent report of considerable historical interest was that by Lorenzo Sabine, published as an appendix to the Report of the Secretary of the Treasury for 1852.<sup>1</sup> This report applies to the deep sea fisheries from 1504-1852, and is mostly historical and descriptive. It covers the entire period from the time the North American fisheries were first used by Europeans, and contains considerable discussion of the various treaties relating to the subject. Scattered through the text are tables giving figures for the colonies and for European countries with no indications of the source. Among the compilations based on official reports may be mentioned the exports of fish from 1789 to 1851; tonnage engaged in the cod fishery, 1789 to 1851; and exports of fish from Newfoundland and the eastern provinces of Canada over a series of years.

**Bureau of the Census.** Statistics of fisheries were collected at each decennial census from 1840 to 1890. By the act of June 7, 1906 (34 Stat. L., 218), the Bureau of the Census was authorized to collect decennially in other than census years information in regard to the fisheries. The first investigation under this authority was made for 1908; normally the statistics should have been collected again in 1918, but owing to the war the work was not undertaken in that year. At present statistics of canned fish products only are collected by the Bureau of the Census, the results being published in connection with the data on the canning industry in the report on the Census of Manufactures.

<sup>1</sup> Issued also as House Ex. Doc. 23, 32d Cong., 2d sess., and as Sen. Ex. Doc. 22, 32d Cong., 2d sess. The Sabine report was reprinted in 1872 as House Misc. Doc. 32, 42d Cong., 2d sess.; the reprint contained also a report on the cod and whale fisheries, made by Thomas Jefferson, Secretary of State, to the House of Representatives on February 1, 1791.

The census publications containing statistics of fisheries are as follows:

Sixth Census: 1840.

Statistics of the United States of America.

Compendium of the enumeration of the inhabitants and statistics of the United States.

Seventh Census: 1850.

Statistical view of the United States—Compendium of the Seventh Census.

Eighth Census: 1860.

Preliminary report on the Eighth Census.

Statistics of the United States in 1860.

Ninth Census: 1870.

Statistics of wealth and industry of the United States.

Compendium of the Ninth Census.

Tenth Census: 1880.<sup>2</sup>

Compendium of the Tenth Census, Part II.

The oyster industry.

The newspaper and periodical press; Alaska, seal islands, shipbuilding.

[Data on fisheries limited to Alaska.]

Eleventh Census: 1890.

Report on statistics of fisheries in the United States.<sup>3</sup>

Compendium of the Eleventh Census, Part III.

Abstract of the Eleventh Census.

Population and resources of Alaska.

Intercensal publication.

Fisheries of the United States, 1908.

In general the decennial census reports give data on capital invested, number of men employed, and quantity and value of products of various kinds. The material in the early reports is brief and to a certain extent fragmentary. In the reports for 1840 the statistics relating to the fisheries are not assembled, but are scattered through the tables giving statistics for states, counties, and other minor civil divisions. In the reports for the Census of 1850 and in later reports the data were assembled in a section devoted entirely to the fishery industry. Statistics on the whale fisheries are given in all the reports except the one for 1870.

<sup>2</sup>The census of fisheries for 1880 was made jointly by the Bureau of the Census and the Fish Commission and the results published by the Fish Commission. See page 254.

<sup>3</sup>Issued in two forms: (1) In volume containing three reports on agriculture, irrigation, and fisheries and (2) in volume containing two reports on agriculture and fisheries. In both volumes the reports have separate pagination. The fisheries report is the same in the two volumes.

The report for 1908, under the Act of June 7, 1906, included general statistics on persons employed, salaries, wages, capital invested in plant and equipment, number and value of various types of apparatus, quantity and value of products by species and by states, detail figures on the products of the principal fisheries, and detailed statistics on the industry in each state. None of the earlier reports gives such detailed information.

**Bureau of Fisheries.** A mass of statistical material relating to the fisheries of the United States and foreign countries is contained in the publications of the Fish Commission, which was organized as an independent establishment in 1871, and which in 1903 became the Bureau of Fisheries of the Department of Commerce and Labor (since 1913 the Department of Commerce). With the exception of the periodical and special publications described below, these statistics were all the results of special investigations or compilations. There are too many of these studies for separate listing, but an excellent guide will be found in the publication of the Bureau of Fisheries entitled "Analytical Subject Bibliography of the Publications of the Bureau of Fisheries, 1871 to 1920," Appendix V to the annual report of the Commissioner of Fisheries for 1920, Bureau of Fisheries Document 899. References to general compilations will be found on pages 150 to 159 of the publication, but references to statistics relating to particular products will be found under the subhead "fisheries" of the main divisions of the bibliography. Thus, references to statistics on shrimp will be found under the main heading "Crustacea," subheads "Fisheries" and "Shrimp." References to the fisheries of a particular state or region will be found under "fishes," "fisheries and fishery industries," and "fisheries considered geographically." References to particular species will be found under the heading "special fisheries." Another classification containing references to statistical material is "fish trade." The user of this index would do well to become familiar with the detailed contents at the beginning of each part and section.

With the exception of the reports which are clearly biological studies or which relate to methods of the industry, most of the publications contain statistical material.

Fishery products as reported in the publications of the Bureau of Fisheries comprise all forms of marine life, such as oysters, clams, shellfish used for industrial purposes, and sponges. In connection with the industrial use of shells, the Bureau has published the following reports on the button industry:

- Fresh water mussels and mussel industries of the United States. Bulletin, Vol. XXXVI, Bureau of Fisheries, Document 865 (1919).  
The mussel fishery and pearl-button industry of the Mississippi River. Bulletin, Vol. XVIII, Bureau of Fisheries, Document 414 (1899).  
Fresh water pearl-button industry in the United States in 1912. Annual Report for 1914, pages 31-34.

Of special historical interest are the statistics of the fisheries industry in 1880, collected jointly by the Tenth Census and the Commission on Fish and Fisheries. The Tenth Census published only the report on the oyster industry referred to on page 252, but the Commission on Fish and Fisheries published the material collected under the general title "The Fisheries and Fishery Industries of the United States," which appeared in five sections. The statistical material is contained in Section II, entitled "A Geographical Review of the Fisheries Industries and Fishing Communities for the Year 1880," and in Section V (in two volumes), entitled "History and Methods of the Fisheries." In addition to the statistical material this series of reports contains a mass of information dealing with the character of the fisheries, methods employed, and history of the fishing industry in various communities.

At present the Bureau of Fisheries publishes the following statistics regularly: Monthly report of fishery products landed at Boston and Gloucester, Massachusetts; Portland, Maine; and Seattle, Washington; monthly report of cold storage holdings; an annual report on one section of the United States; an annual report on the fisheries of Alaska, and an annual report on canned fishery products of the United States. The report on Alaskan fisheries is discussed on page 512, together with other reports on that territory.

The monthly reports on fish landed have been published for Boston and Gloucester since about 1891 and for Portland and Seattle since 1916. The information is collected by agents of the Bureau stationed at these ports, who forward the schedules at intervals to the Washington office, where the monthly compilation

is made. The quantities given in these reports are the actual weights as landed from the vessels and the values are the amounts received by the fishermen. The reports as issued each month are printed on sheets of various sizes, but the monthly and annual figures are again printed in the annual report of the Commissioner of Fisheries, which should be used for all statistics except those for the current year.

The monthly reports for Boston, Gloucester, and Portland are issued under the title "Statement of quantities and values of certain fishery products landed at Boston and Gloucester, Massachusetts, and Portland, Maine, by American and Canadian vessels during the month of \_\_\_\_\_." They show the quantity and value of each kind of fish landed by American and by Canadian vessels, the number of trips, and the fishing grounds from which the fish were obtained. Two annual summaries, by calendar years are issued. One shows the quantity and value of each kind of fish landed each month by all vessels and from all fishing grounds; this bulletin bears the title "Statement, by months, of quantities and values of certain fishery products landed at Boston and Gloucester, Massachusetts, and Portland, Maine, by American and Canadian fishing vessels during the calendar year \_\_\_\_." The other reports the total quantity and value of each kind of fish landed during the year, subdivided by American and Canadian vessels and by fishing grounds. This bulletin has the title "Statement, by fishing grounds, of quantities and values of certain fishery products landed at Boston and Gloucester, Massachusetts, and Portland, Maine, by American and Canadian fishing vessels during the calendar year \_\_\_\_." The monthly bulletin giving statistics for Seattle, Washington, is entitled, "Statement of quantities and values of certain fishery products landed at Seattle, Washington, by American fishing vessels during the month of \_\_\_\_\_." It shows the number of trips and the quantity and value of each kind of specified fish landed from the various fishing grounds. The annual bulletin is entitled "Statement, by fishing grounds, of quantities and values of certain fishery products landed at Seattle, Washington, by American fishing vessels during calendar year \_\_\_\_." This statement shows the quantity and value of specified fish from each ground landed during the year and the quantity and value of speci-

fied fish landed during each month. For fish taken in Puget Sound the table shows the quantity and value of specified fish landed each month.

Statistics of the fisheries for the entire United States are not collected each year, but each year statistics are collected for a different geographical section. These statistics are first published in sheet form and are known as statistical bulletins with the following typical title: "Fisheries of New England States, 1919." Separate figures are given for each state, the number and value of all units of equipment and apparatus, such as steam, gasoline and sail, fishing and transporting vessels, seines, nets, lines, etc. There are shown also for each state the quantity and value of each of the fishery products landed in the region. These statistics are collected by agents of the Bureau who make a canvass of the region in which the investigation is made. Schedules are filled out by the dealers, cannerymen, proprietors of fishery industries, and other who are interested in the industry.

A statement showing cold storage holdings of fish on the fifteenth of each month is published by the Bureau of Fisheries, although the statistics are collected by the Bureau of Agricultural Economics of the Department of Agriculture. This statement shows the quantity of cured herring, of mild cured salmon, and of the several species of frozen fish in storage in the various geographic sections. It shows also the total holding of each species on the fifteenth of the corresponding month of the preceding year, and the five-year average.

An annual statement of the canned fishery products and by-products of the United States and Alaska was first issued for the calendar year 1921. Statistics are given for the United States, Alaska, and the several states in which each species is packed.

Prior to 1918 all of the general statistics described above were assembled in the body of the annual administrative report of the Commissioner, but beginning with the report for 1918, the statistics have been published in an appendix to the annual report. This appendix, which bears the title "Fishery Industries of the United States," is also issued separately. It should be noted that the statistics are for the year preceding that of the annual report; thus the statistics for 1922 are in the appendix to the report of the Commissioner for 1923.



## CHAPTER XXI

### PRODUCTION OF MANUFACTURED ARTICLES

In this chapter are discussed the statistics which relate primarily to production. Figures on production are given also in "Dictionary of Tariff Information," "Summary of Tariff Information" and "Tariff Information Surveys," discussed on pages 367 and 368, as well as in many of the publications discussed in Chapter XXII, Surveys of Industries. In the publications treated in Chapter XXII, the production figures are generally subordinate or incidental to other considerations.

One of the most voluminous early reports on manufactures was the two volume report entitled "Documents relating to the Manufactures in the United States," published in 1833, as House Document 308, 22d Congress, 1st Session. This report was made in compliance with a resolution of the House of Representatives of January 19, 1832. Much of the material is undigested, consisting of replies of individual manufacturers. In some cases the results are tabulated by towns or county, but no attempt is made to prevent the disclosure of figures of individual establishments. The establishments covered include not only factories, but neighborhood trades such as blacksmiths, coopers, etc. By reason of the fact that so much material is given on individual establishments the work will be of greatest value to the person making a study of the economic history of particular localities.

The States for which data are given are Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Delaware, Pennsylvania, and Ohio.

The data include value of plant, equipment, and stock on hand, raw material used, average number of employees and wages, quantity and value of product, percentage of product sold in state, in other states, and in foreign countries, kind of power used, date of establishment, capital employed, and terms of sale. The presentation is not uniform, less details being given where the material is tabulated.

## GENERAL STATISTICS OF THE CENSUS OF MANUFACTURES

While some statistics of manufactures were collected in connection with the censuses of 1810, 1820, and 1840, the first comprehensive attempt to collect this class of material was made in 1850. After that date these statistics were collected every ten years until 1900, every five years from 1905 to 1920, and every two years beginning with 1922. The quinquennial and decennial enumerations since 1900 have been essentially of the same character. The biennial statistics are somewhat restricted in scope, as will be explained below. It is expected that the more detailed compilations corresponding to the quinquennial and decennial censuses will be made in 1930 and every tenth year thereafter. In all the censuses of manufactures the figures are for the year preceding the one in which the enumeration is made. The publications containing the reports on manufactures are as follows:

- Third Census: 1810. A statement of the arts and manufactures of the United States for the year 1810.
- Fourth Census: 1820. Digest of accounts of manufacturing establishments in the United States and their manufactures.
- Sixth Census: 1840.  
 Statistics of the United States of America.  
 Compendium of the enumeration of the inhabitants and statistics of the United States.
- Seventh Census: 1850.  
 Digest of the statistics of manufactures.  
 Statistical view of the United States—Compendium of the Seventh Census.
- Eighth Census: 1860.  
 Manufactures of the United States in 1860.  
 Preliminary report on the Eighth Census.  
 Statistics of the United States in 1860.
- Ninth Census: 1870.  
 Statistics of the wealth and industry of the United States.  
 Compendium of the Ninth Census.
- Tenth Census: 1880.  
 Vol. II. Manufactures of the United States.  
 Vol. VIII. The newspaper and periodical press; Alaska; seal islands; ship building.  
 Vol. X. Petroleum, coke, and building stones.  
 Vols. XVI and XVIII. Water power of the United States.  
 Vol. XXII. Power and machinery employed in manufactures, and the ice industry of the United States.  
 Compendium of the Tenth Census, Part II.

**Eleventh Census: 1890.****Manufacturing Industries.**

Part I. Totals for states and industries.

Part II. Statistics of cities.

Part III. Selected industries.

Compendium of the Eleventh Census, Parts II and III.

Abstract of the Eleventh Census.

Statistical atlas of the United States.

**Twelfth Census: 1900.**

Vol. VII. Manufactures—Part I, United States by industries.

Vol. VIII. Manufactures—Part II, States and territories.

Vols. IX and X. Manufactures—Parts III and IV, Special reports on selected industries.

Abstract of the Twelfth Census.

Statistical atlas.

**Census of Manufactures: 1905.**Part I, United States, by industries.<sup>1</sup>

Part II, States and territories.

Parts III and IV, Selected industries.

**Thirteenth Census: 1910.**

Vol. VIII. Manufactures—General report and analysis.

Vol. IX. Manufactures—Reports for states with statistics for principal cities.

Vol. X. Manufactures—Reports for principal industries.

Abstract of the Census.

Statistical atlas of the United States.

**Census of Manufactures: 1914.**

Vol. I. Census of Manufactures, 1914—Reports by states with statistics for principal cities and metropolitan districts.

Vol. II. Census of Manufactures, 1914—Reports for selected industries and detail statistics for industries, by states.

Abstract of the Census of Manufactures, 1914.

**Fourteenth Census: 1920.**

Vol. VIII. Manufactures—General report and analytical tables.

Vol. IX. Manufactures—Report for states, with statistics for principal cities.

Vol. X. Manufactures—Reports for selected industries.

Abstract of the Census of Manufactures, 1919.

Abstract of the Fourteenth Census of the United States.

**Biennial Census of Manufactures, 1921.<sup>2</sup>**

The decennial and quinquennial censuses of manufactures have been of essentially the same scope and character, although some details given in the later one were not included during earlier

<sup>1</sup>This volume contains a description of the methods used in industrial censuses of Germany, Belgium, Denmark, France, Austria, Switzerland, Hungary, and the United Kingdom.

<sup>2</sup>This is the final report; it should not be confused with a brief pamphlet report containing summary statistics entitled "Census of Manufactures, 1921."

years. The arrangement of the several volumes has varied somewhat, the variations being indicated to some extent by the titles of the volumes. In general the volumes of the Fourteenth Census (figures for 1919) contain the following material:

Volume VIII contains summary statistics for all industries for the United States, divisions, states, counties, and cities. It contains also statistics on individual industries for the entire United States and for the several states. In the first part of the volume the material is arranged primarily according to the topics on which figures were collected, such as wage earners employed each month, the secondary arrangement being by industries or states. The last half of the volume, approximately, is devoted to general tables giving detailed figures on each industry for a variety of the topics covered. Volume VIII contains figures by industries only and gives no data on the production of specific commodities.

In Volume IX the primary arrangement of the material is by states, all the data on the industries in any one state being brought together on consecutive pages. There are also summary statistics for all industries combined for cities with populations from 10,000 to 50,000 and for counties, and detailed figures for separate industries for cities with population of over 50,000. Figures on the output of specific commodities are given for the products of industries which are of importance in the economic development of the particular state being considered.

Volume X is devoted to selected industries of importance. Only the leading industries are considered in this volume, which gives under each industry such detailed figures as have been collected on the production of specific commodities, the quantity of material used, and other special topics.

The Abstract of the Census of Manufactures brings together in one volume condensed statistics for the United States as a whole, for states, for principal cities, and for separate industries. Statistics given without abridgment in the Abstract of the Census of Manufactures are those on the quantity and value of the output of specific commodities.

As the Abstract of the Fourteenth Census deals with all the statistics collected at that enumeration, the tables on manufactures are still more condensed than those in Abstract of the Census of Manufactures. It contains much material on the output of specific

commodities, there being only a few industries for which these figures must be sought in the other volumes.

The first biennial Census of Manufactures, that for 1921, differs materially from the earlier ones mainly by reason of the fact that certain inquiries and tabulations were omitted. These omissions will be indicated in the discussion of the several topics included in the census of manufactures. The results of the work are published in one volume entitled "Biennial Census of Manufactures, 1921." This must not be confused with a very abbreviated summary published under the title, "Census of Manufactures, 1921."

**Scope of the Census.** Recent censuses have been confined entirely to establishments conducted under what is known as the factory system, exclusive of the so-called neighborhood, household, and hand industries. Prior to 1899 the figures relating to factory and the other industries were not separated. The census for that year included both, but the data for the two classes were segregated. Since 1899 the enumeration has been confined to the factory industries exclusively, and the following classes of establishments have been excluded:

Establishments engaged principally in the performance of work for individual customers, such as custom tailor shops, dressmaking and millinery shops, and shoe-repair shops. (Large establishments manufacturing to fill special orders were not, of course, excluded.)

Establishments engaged in the building industries other than those manufacturing building materials for the general trade.

Establishments engaged in the so-called neighborhood industries and hand trades, in which little or no power machinery is used, such as blacksmithing, harness making, tinsmithing, etc.

Custom grain mills (gristmills) and sawmills engaged exclusively in grinding grain or sawing timber owned by others.

Retail stores which incidentally manufacture on a small scale, particularly where it was impossible to secure separate data for the manufacturing and mercantile business.

Education, eleemosynary, and penal institutions engaged in manufacturing industries.<sup>3</sup>

Prior to 1921, statistics were compiled for all establishments having an annual product valued at \$500 or more. The detailed tables in the report of the Census of 1921 give figures only for

<sup>3</sup> Biennial Census of Manufactures, 1921, p. 4.

establishments having products valued at \$5000 or more, the figures for establishments having an output between \$500 and \$5000 being given only in the tables showing size of establishment according to value of product. The 53,999 establishments reporting output valued at between \$500 and \$5000 amounted to 21.6 per cent of all establishments, but they reported only six-tenths of one per cent of the total wage earners, and three-tenths of one per cent of the total value of product.

Future enumerations will be confined entirely to establishments producing goods to the value of \$5000 or more.

**Method of Collection.** Statistics are collected by means of schedules sent to each manufacturing establishment. If the completed schedules are not received within a reasonable time a special agent of the Census Bureau calls at the establishment for the information. The special agents also look after the completion of schedules not fully filled out and the correction of schedules containing manifest errors. The law makes it obligatory on all owners of establishments to give the information called for by the schedules.

**Classification of Industries and Products.** Attention is particularly directed to the fact that the enumeration is primarily by industries, and not by commodities, there being included in each industry the establishments whose chief products (in value) fall within the classification. This results in there being included in each industry figures for products which do not properly belong to that particular group.

For instance, the flavoring extract industry in the classification of the census includes "The manufacture of extracts, pastes, and powders for flavoring soda water, ice cream, and other food products, and colors for bakers and confectioners. Many establishments reported as subsidiary products, cordials and flavoring sirups, and some reported also the manufacture of cosmetics, baking powders, household ammonia, roasted coffee, ground spices, food preparations, and patent medicines."<sup>4</sup> Thus if an establishment reported production of flavoring extracts to the value of \$25,000, and production of patent medicines to the value of \$5000, the value of the entire output, \$30,000, would be reported as the product of the

<sup>4</sup> Biennial Census of Manufactures, 1921, p. 155.

flavoring extract industry, notwithstanding the fact that the patent medicine industry might be another classification.

The value of the product of the flavoring extract industry in 1921 is given as \$33,060,000, while flavoring extracts to the value of \$14,372,692, or 43 per cent of the total production for the flavoring extract industry, were reported under other industries. The report, however, does not show the value of products other than flavoring extracts manufactured by the flavoring extract industry as defined by the Census, so that it is impossible to obtain the value of the output of flavoring extracts.

The report of the Census of Manufactures for 1921 contains foot-notes showing the value of subsidiary products which are included in the total of other industries, but which are covered by the classification under consideration. Similar notes are given in the abstracts of the Censuses of Manufactures for 1914 and 1919, but not in the general volumes giving detailed statistics. In the 1914 Abstract these notes apply to 1909 and 1914, and in the 1919 Abstract, to 1909, 1914, and 1919.

While the main classification is by industries, each census has given more figures showing quantity and value of the production of specific commodities. Care should be taken not to confuse the figures on products of industries and those on value of specific products. Also in some cases the production of specific commodities is that of the industry, while in other tables it is the total output for all industries. The headings of the tables and the appended foot-notes furnish a guide to the significance of the figures. In the reports of the Fourteenth Census, statistics on specific commodities are given in all volumes, except Volume I.

Statistics of power laundries are included in the reports of the Census of Manufactures, because these establishments are operated on the factory plan. Statistics for newspapers and periodicals are included under the printing and publishing industry. Statistics on the production of motion pictures were first collected at the biennial census of 1921.

**Establishments.** Statistics of the number of establishments are given for states, counties, cities, and industries, as well as for other major classifications. The term establishment, as a rule, indicates a physical unit and not ownership. However two or more plants which are operated under a common ownership and for which one

set of books are kept are in some cases regarded as an establishment if they are located within the same city, county or state. If such plants under common ownership are located in different cities, states, or counties, statistics are tabulated separately.

**Capacity.** Prior to the biennial census of 1921, the Census of Manufactures gave no indication of the capacity of the several industries, but in the report for that year there is a table showing the maximum possible output for each industry. A comparison of these figures for several censuses will indicate the relative activity or depression of the several industries over a period of years.

**Value.** The value of products is used as the measure of production in all industries and for all general totals, but quantities are reported for important commodities in some industries. The value reported is the selling value or price at the factory, and includes containers if they are sold with the goods. The goods reported are those manufactured during the year, regardless of whether they were sold or not.

**Material.** The reports include statistics on the total cost of material used by industries, there being for some industries figures showing the quantity and value of specific materials. Material includes not only goods which become component parts of the finished products, but also material essential to production by machinery, such as fuel and lubricants, as well as packing boxes, cans, and crates.

**Value Added by Manufacture.** The statistics on value added by manufacture represent the difference between the value of products and the cost of material. They are of importance in showing the relative economic importance of different industries.

**Character of Ownership.** The character of ownership of manufacturing establishments is subdivided under individuals, corporations, and all others; statistics are given by industries, states, and cities. Under each of the three subclasses are shown the number of establishments, the average number of wage earners, and the value of the product. These figures are not given in the statistics for 1921.

**Size of Establishments.** Statistics for the size of establishments are given by industries, states, and cities according to (a) value of



product, and (b) number of wage earners. The tables for industries according to value of products give not only the number of establishments in the various grades, but also wage earners, value of products, and value added by manufacture. The tables showing size of establishments according to number of wage earners show the number of establishments and the number of wage earners in each group.

These tables indicate the extent to which manufacturing is concentrated in large plants ; they do not necessarily indicate monopoly, as separate establishments under the same ownership or control are reported separately.

The classification according to value of product is subdivided as follows :

Less than \$5000.	\$100,000 to \$500,000.
\$5000 to \$20,000.	\$500,000 to \$1,000,000.
\$20,000 to \$100,000.	\$1,000,000 and over.

The classification according to number of wage earners is subdivided as follows :

No wage earners.	101 to 250.
1 to 5.	251 to 500.
6 to 20.	501 to 1000.
21 to 50.	Over 1000.
51 to 100.	

**Hours of Labor.** The number of wage earners in the several industries and states is shown according to the following classification of hours of labor per week :

44 and under.	} first shown in 1919.
Between 44 and 48.	
48. (48 and under prior to 1919.)	
Between 48 and 54.	
54.	
Between 54 and 60.	
60.	
Over 60.	

**Persons Engaged in Manufacturing Industries.** Statistics for persons engaged in manufacturing industries are given for industries, states, and cities according to the schedule below, which shows the classification used in the reports of the Fourteenth Census and the biennial census of 1921. All the tables in the reports of the Fourteenth Census do not give the figures in as great detail as is shown in this schedule, some of the tables containing summaries.

**SCHEDULE SHOWING CLASSIFICATION OF STATISTICS OF NUMBER OF PERSONS  
ENGAGED IN MANUFACTURING INDUSTRIES**

Classification	Fourteenth Census	Biennial Census of 1921
Total .....	X	X
Proprietors and firm members.		
Total .....	X	X
Male and female.....	X	..
Salaried officers of corporations.		
Total .....	X	..
Male and female.....	X	..
Superintendents and managers.		
Total .....	X	..
Male and female.....	X	..
Clerks and other subordinates salaried employes.		
Total .....	X	..
Male and female.....	X	..
Officers, clerks and other salaried employes—Total.	..	X
Wage earners.		
Average number during year.		
Total .....	X	X
Male and female.....	X	..
Over 16 years of age.		
Total .....	X	..
Male and female.....	X	..
Under 16 years of age.		
Total .....	X	..
Male and female.....	X	..
Number employed on specified dates.		
Fifteenth of maximum and minimum month		
Total .....	X	X
Fifteenth of December.		
Total .....	X	..
16 years of age and over—Male and female.	X	..
Under 16 years of age.		
Total .....	X	..
Male and female.....	X	..
Number employed on fifteenth of each month.		
Total .....	X	X
Male and female.....	X	..
Number employed for specified hours of labor per week—Total .....	X	X
Number employed according to character of ownership of establishment—Total.....	X	..
Number employed in establishments of various sizes classified according to the value of prod- uct of each one—Total.....	X	X
Number employed in establishments of various sizes classified according to number of wage earners in each one—Total.....	X	X

**Power.** Statistics on power are not given in the Biennial Census of Manufactures for 1921, but are included in previous censuses under the classifications given below. The data are given for industries, states, and cities, but all of the tables do not give the figures in the detail here shown:

**Primary power.**

Total.

Owned.

Steam.

Total—Number and horsepower.

Engines—Number and horsepower.

Turbines—Number and horsepower.

Internal combustion engines—Number and horsepower.

Water.

Total—Number and horsepower.

Waterwheels and turbines—Number and horsepower.

Water motors—Number and horsepower.

Rented.

Electric—Number of motors and horsepower.

Other—Horsepower.

Electric power generated by reporting establishments—Number of motors and horsepower.

Primary power, as the term is used by the Bureau of the Census, comprises all power which is primary from the standpoint of the manufacturing establishments using it. It includes, therefore, not only the power of engines and water wheels owned and operated by the manufacturing establishments, but also rented power—that is, the power of the electric motors run by purchased current and any other power that may be rented from outside concerns. Primary power does not include the power of electric motors run by current generated in the same establishment, as the inclusion of such power would result in duplication.<sup>5</sup>

**Consumption of Fuel.** Figures on the consumption of fuel were not collected in connection with the biennial census of 1921, but are given in the reports of the earlier enumerations. For 1919 separate figures are given for the consumption of anthracite coal, bituminous coal, coke, fuel oil, gasoline and other volatile oils, and gas. Figures are also given for the total cost of all fuel and the cost of power combined. The figures do not show all fuel consumed, as no account is taken of wood. The statistics are not con-

<sup>5</sup> Fourteenth Census, Volume VIII, p. 121.

fined to the amount of fuel used to produce power to operate prime movers, but include all fuel consumed in the plant. In some industries, such as brick making, practically no prime movers are used, the fuel being used not for the production of power but for applying heat directly to the product. In other industries, such as the manufacture of gas, the fuel becomes a component part of the product.

**Capital.** Statistics of capital invested were omitted from the biennial census for 1921, but are given in the earlier reports, as the law providing for the earlier censuses specified that statistics of invested capital should be collected. These statistics, however, are of little value, and the Census authorities have repeatedly recommended that this inquiry be omitted. Experience has shown that most establishments do not have accounting systems from which a correct return for invested capital can be made. The statistics on this subject do not show the relative amount of capital invested in different industries or different localities, nor do they furnish a correct measure of increase from census to census.

**Expenses.** The figures on expenses of manufacturing given in the report on the biennial census of 1921 are less detailed than those in earlier censuses, as indicated by the schedule below.

SCHEDULE SHOWING DATA ON EXPENSES IN REPORTS OF  
CENSUS OF MANUFACTURES

Items	Fourteenth Census	Biennial Census of 1921
Salaries.		
Total .....	..	×
Officials .....	×	..
Clerks .....	×	..
Wages .....	×	×
Contract work .....	×	×
Rent and taxes.		
Total .....	×	..
Rent of factory.....	×	..
Taxes .....	×	..
Materials.		
Total .....	×	×
Principal materials .....	×	..
Fuel and rent of power.....	×	..

**Limitations of the Statistics.** The statistics of the Census of Manufactures are of greatest value for a comparison of the extent of each industry during the same census year. As so many of the production statistics are given in terms of value, it is difficult to make an intelligent comparison between years in which the price level was not the same. This is particularly true of the figures for 1914 and 1919. Even the application of the index numbers of the Bureau of Labor Statistics will not give entirely satisfactory results. For such years the tables showing number of wage earners afford a better index of industrial activity. Where quantities of specific commodities are given, a direct comparison may be made.

The total value of manufactured products as given in the reports of the Census of Manufactures cannot be compared with total exports and imports, because of the duplication in the figures of the Census of Manufactures, resulting from the finished products of one industry being used as the raw materials for another. For instance, the products of the flour and grist mill industry include flour, which is the principal raw material used in the manufacture of bread and other bakery products. In the iron and steel industry the final product may be in succession the finished product of several establishments. Thus, in the case of tin ware, the foundry produces the raw steel, the rolling mill uses the raw steel for the manufacture of tin plates, and the tin can factory uses the plate in the manufacture of cans. In other iron and steel goods there are probably even more intermediate steps, as there are probably few industries which convert primary raw material into commodities ready for final consumption.

Each manufacturer reports the value of his products, regardless of whether they are to be used by other manufacturers or by the ultimate consumer. The import and export statistics represent the sum of a series of transactions in which there are no duplications; each commodity or group of commodities is recorded once as it enters or leaves the country. The only possibility of duplication is where exported goods are returned, and again exported, or imported goods exported and again imported. Transactions of this character are so rare that they may be disregarded.

The statistics of the Census of Manufactures do not show the entire cost of manufacture and marketing and therefore do not indicate cost of production or profits. No account is taken of depre-

ciation, interest, rent of office or buildings for other than factory purposes, repairs, advertising, and other sundry expenses.

#### ANNUAL AND OTHER STATISTICS OF THE BUREAU OF THE CENSUS

Annual or more frequent compilations are now made by the Bureau of the Census giving statistics of production or other figures, such as activity of spindles, which indicate industrial conditions. The production reports are confined to output and do not give such details as are afforded by the Census of Manufactures. Below are noted the commodities covered, the character of the report, and the date of earliest issuance. As some of the reports are issued only in mimeograph form a notation to that effect has been added.

**Wool Manufacturing.** Two monthly reports and one quarterly report dealing with the wool industry afford indices of conditions in the industry, although they do not give production figures. A mimeographed report, issued monthly, beginning with June, 1919, indicates the activity of the several classes of machinery used in woolen goods manufacturing, with comparative figures for the preceding month of the same year and for the corresponding month of the preceding year.

A monthly mimeographed report issued by the Bureau of the Census, beginning with May, 1922, and prior to that time by the Department of Agriculture, gives figures on the consumption of the several grades of domestic and imported wool by manufacturers. Each statement gives cumulative figures for the current and the preceding year, figures for the corresponding month of the previous year, and figures for the preceding month of the current and of the previous year.

A mimeographed report on stocks of wool is issued quarterly by the Bureau of the Census and the Bureau of Agricultural Economics, the figures for manufacturers being collected by the Bureau of the Census and those of dealers by the Bureau of Agricultural Economics. The statements give separate figures on the several grades of domestic and foreign wool in the stocks of manufacturers and of dealers. It shows also the total quantity held by dealers in important cities, the total held by manufacturers in the important sections, and the quantity afloat to the United States.

**Cotton Spinning.** A mimeographed statement showing number of spindles in place and number active has been issued monthly, beginning with August, 1921. A postal card statement giving figures on cotton consumed, cotton on hand, and active cotton spindles has been issued monthly beginning with September, 1912. The data on consumption and number of spindles are also shown in the annual publication on cotton described on page 217.

**Textile Products.** Beginning with February, 1923, there has been issued a monthly mimeographed statement entitled "Report of Production, Orders and Stocks of Hosiery." For each of the principal classes this statement shows production, shipments, goods on hand, orders booked and cancelled, and unfilled orders on hand.

A mimeographed statement on men's and boy's clothing (except outer work clothing) has been issued each month beginning with February, 1923. This statement shows only the number of suits or garments cut, and does not give figures on output of finished goods.

For outer work clothing, such as overalls, but not including work shirts, a mimeographed statement has been issued each month beginning with June, 1923. This statement shows number of garments cut, shipped, returned, and on hand.

The shipments billed and unfilled orders of pyroxylin coated textiles are given in a monthly mimeographed statement first issued for March, 1923. This statement shows also number of pounds of pyroxylin spread and capacity of establishments in linear yards.

**Leather and Leather Products.** The stocks of hides and skins and stocks and production of leather are indicated in a mimeographed statement issued monthly, beginning with September, 1920. Separate figures are given for the several classes of hides and leather, and for stocks of leather there is shown the amount held by tanners, dealers, and the important classes of manufacturers using leather. A brief preliminary report is issued for leather alone, followed by the complete report on hides, skins, and leather.

From September, 1921, to June, 1922, the production of boots and shoes was also shown on the hides, skins, and leather statement. Beginning with July, 1922, a separate mimeographed report dealing with production of boots and shoes has been issued each month.

The leather gloves and mittens cut are shown on a mimeographed statement issued each month, beginning with May, 1923.

**Iron and Steel Products.** The number and horsepower of mechanical stokers sold are indicated in a mimeographed statement issued monthly, beginning with January, 1923. Data on malleable castings have been available in mimeographed form, beginning with May, 1923. This statement shows production, shipments, orders booked, capacity of plants, and percentage of capacity represented by production. Production, stocks, orders, and shipments of cast iron pipes were shown in a mimeographed statement issued monthly from June, 1923, to February, 1924.

**Wheat Flour.** Monthly figures on the production of wheat flour are given in a mimeographed statement, first issued for May, 1923. This statement shows also the quantity of wheat ground, the production of wheat grain offal, the capacity of the mills, and the percentage of capacity operated.

**Fats and Oils.** A mimeographed statement of quarterly figures on the production, stocks, consumption, imports, exports, and raw materials has been issued beginning with the first quarter of 1919, separate figures being given for each of the animal and vegetable oils and fats, as well as for the principal raw materials. An annual pamphlet bearing the title "Animal and Vegetable Fats and Oils" has been issued beginning with the one for 1920, but the report for 1922 contains figures for each year beginning with 1919. The annual pamphlet gives figures for each quarter as well as for the entire year.

The amount of cottonseed oil produced, shipped out, and on hand is also shown on a postal card statement issued monthly.

During the World War fats and oils were of so much importance that the Food Administration collected detailed statistics on these commodities, which were published in the Department of Agriculture Bulletin 769, entitled "The Production and Conservation of Fats and Oils in the United States." This bulletin gave statistics of production, imports, and exports of vegetable oils and animal and fish fats and oils for 1912, 1914, 1916, 1917, and production for each of the first six months of 1918. There is also shown the consumption by the oleomargarine industry in 1912, 1914, 1916, and 1917. A supplement to this bulletin gives production figures for all of 1918 as well as data on the consumption by the soap industry in 1912, 1914, 1916, and 1917.



**Paint and Varnish.** A semi-annual mimeographed report on paint and varnish production and sales was first issued for the six months ending with June, 1922. Figures are given on the following items :

Paste paints.

White lead in oil.

Zinc oxide in oil.

Other paste paints.

Ready mixed and semi-paste paints, including wall paints, mill whites, and enamels.

Varnishes and japans.

Other than pyroxylin.

Pyroxylin (nitrocellulose varnishes or lacquers).

**Sulphuric Acid and Acid Phosphate.** A mimeographed statement dealing with the production, consumption, and stocks of sulphuric acid and acid phosphate has been issued semi-annually, beginning with the figures for the first half of 1922. The figures in these statements apply only to the operations of manufacturers of fertilizer, and take no account of these commodities produced or in the hand of manufacturers of general chemicals.

**Farm Equipment.** Annual figures are presented in the pamphlet entitled "Manufacture and Sale of Farm Equipment," first issued by the Bureau of the Census in 1921. This publication contains statistics on various classes of gas tractors, steam traction engines, plows and listers, tillage implements, planting machinery, cultivating machinery, haying machinery, harvesting machinery, machines for preparing crops for market or use, horsedrawn vehicles, and a number of other selected items of farm equipment, such as cream separators, cane mills, windmills, etc. Separate figures are given on the number of firms reporting, the number of implements manufactured, the total value, the quantity and value of sales in the United States, and the quantity and value of foreign sales. The quantity and value of foreign sales cannot be reconciled with the export statistics in Foreign Commerce and Navigation. This is due in part to material difference in classification and in part to the definition of export sales.

Statistics for 1920 on the same subject were contained in Department of Agriculture Circular 212, which also gives figures on the production of tractors each year from 1909 to 1919.

**Clay and Refractory Products.** A bulletin entitled "Clay and Refractory Products," first issued for 1922, gives statistics on production of brick, tile, terra cotta, fire clay products, pottery and non-clay refractories. It is planned to issue this bulletin annually.

**Glue and Gelatin.** It is announced that statistics on the production of glue and gelatin will be issued annually. This will probably be a mimeographed report.

**Lighting Fixtures.** Annual statistics on the manufacture of lighting equipment were first compiled for 1922, the report being issued in mimeograph form.

**Forest Products.** At present the Bureau of the Census issues annually four reports on forest products, namely, "Lumber, Lath, and Shingle"; "Pulpwood Consumption and Wood Pulp Production"; "Consumption of Vegetable Tanning Materials"; and "Turpentine and Rosin." The first annual report on turpentine and rosin was the one for the year 1922, although previously mimeographed statements had been issued semi-annually by the Bureau of Chemistry of the Department of Agriculture.

Statistics on the lumber industry have been published in all the reports of the Census of Manufactures, but prior to 1919 these volumes did not give quantitative figures for the output of lumber and forest products, as the statistics given were those for the industry as a whole. Volume IX of the reports of the Tenth Census (1880), entitled "Forests of North America (exclusive of Mexico)," contained a general discussion of the forests, trees, woods, and the economic aspects of the forests, together with statistics on quantities of specified products.

From 1905 to 1911 special reports on the output of forest products, except naval stores, were issued by the Forest Service or the Bureau of the Census, the work from 1907 to 1911 being done jointly by these organizations. After 1911 the Forest Service continued to collect statistics on the more important products, although the data were not collected every year. Beginning with 1921, the reports were again issued annually by the Bureau of the Census, the compilation being made in coöperation with the Forest Service. A list of the statistics published for the years 1905 to 1922 is given below. The reports for 1905 and 1906 issued by the

Forest Service were published in two forms; as circulars on a particular class of products and as bulletins, in which was reprinted the material presented in the circulars. The census publications from 1907 to 1909 were also issued as separate pamphlets on a particular product, with a general bulletin for each year embodying all the material. In the list below a brace after the year indicates that identical matter is given in the two reports.

The census reports for 1907 to 1911 were issued under the general title "Forest Products," with a serial number for each product, the serial numbers beginning with one for each year. The Forest Service publications after 1911 were issued as bulletins of the Department of Agriculture or as special publications without serial number. In the following list the title has been given only when the publication has no serial number.

General reports, containing also reports on specific products all of which were issued separately as listed below.

1905—Forest Service Bulletin 74.

1906—Forest Service Bulletin 77.

1907 to 1909—Bureau of the Census. Forest Products [Series] No. 10, Lumber, lath and shingle.

1905—{ Forest Service Circular 52.  
Forest Service Bulletin 74.

1906—{ Forest Service Circular 122.  
Forest Service Bulletin 77.

1907—Bureau of the Census. Production of lumber, lath, and shingle, 1907.

1907—{ Bureau of the Census. Forest Products [Series] No. 2. [Lumber only.]  
Bureau of the Census. Forest Products [Series] No. 10. [Lumber only.]

1908 and 1909—{ Bureau of the Census. Forest Products [Series] No. 2.  
Bureau of the Census. Forest Products [Series] No. 10.

1910 and 1911—Bureau of the Census. Forest Products [Series] No. 2.

1912—Bureau of the Census. Lumber, lath, and shingle, 1912.

1913—Department of Agriculture Bulletin 232. [Lumber only.]

1914 and 1915—Department of Agriculture Bulletin 506. [Statistics for lumber only for 1914.]

1916—Department of Agriculture Bulletin 673.

1917—Department of Agriculture Bulletin 768.

1918—Department of Agriculture Bulletin 845.

1919—Fourteenth Census of the United States, Forest products, 1919, Lumber, lath and shingle.\*

\* Also contained in general report entitled "Forest Products," and in Lumber Industry Section of Vol. X of the Fourteenth Census.

Lumber, lath, and shingle—*Continued.*1921—Census of Manufacturers, 1921. The lumber industry.<sup>7</sup>

1922—Bureau of the Census. Forest products, 1922, Lumber, lath and shingle.

## Pulp wood consumption and wood pulp production.

1905—{ Forest Service Circular 44.  
Forest Service Bulletin 74.1906—{ Forest Service Circular 120.  
Forest Service Bulletin 77.1907 to 1909—{ Bureau of the Census. Forest Products [Series]  
No. 1.  
Bureau of the Census. Forest Products [Series]  
No. 10.

1910 and 1911—Bureau of the Census. Forest Products [Series] No. 1.

1916—Forest Service. Pulpwood consumption and wood pulp production, 1916.

1917—Department of Agriculture Bulletin 758.

1918—Forest Service. Pulpwood consumption and wood pulp production, 1918.

1919—Fourteenth Census of the United States. Forest products, 1919, Pulpwood consumption and wood pulp production.<sup>8</sup>

1920—Forest Service. Pulpwood consumption and wood pulp production, 1920.

1922—Bureau of the Census. Forest products, 1922. Pulpwood consumption and wood pulp production.

1923—Bureau of the Census. Forest products, 1923, Pulpwood consumption and wood pulp production.

## Slack coopeage stock.

1906—{ Forest Service Circular 123.  
Forest Service Bulletin 77.1907 to 1909—{ Bureau of the Census. Forest Products [Series]  
No. 3.  
Bureau of the Census. Forest Products [Series]  
No. 10.

1910 and 1911—Bureau of the Census. Forest Products [Series] No. 3.

1918—Forest Service. Tight and slack coopeage stock production in 1918.

1919—Fourteenth Census of the United States. Forest products, 1919, Tight and slack coopeage stock.

1921—Census of Manufactures, 1921. The lumber industry.<sup>9</sup>

## Tight coopeage stock.

1905—{ Forest Service Circular 53.  
Forest Service Bulletin 74.1906—{ Forest Service Circular 125.  
Forest Service Bulletin 77.<sup>7</sup> Also contained in Lumber Industry Section of Biennial Census of Manufactures, 1921.<sup>8</sup> Also contained in general report entitled "Forest Products," and in Lumber Industry Section of Vol. X of the Fourteenth Census.<sup>9</sup> Also contained in Lumber Industry Section of Biennial Census of Manufactures, 1921.

Tight cooperage stock—*Continued.*

- 1907 to 1909—{ Bureau of the Census. Forest Products [Series] No. 6.  
Bureau of the Census. Forest Products [Series] No. 10.
- 1910 and 1911—Bureau of the Census. Forest Products [Series] No. 6.
- 1918—Forest Service. Tight and slack cooperage stock production in 1918.
- 1919—Fourteenth Census of the United States. Forest products, 1919, Tight and slack cooperage stock.<sup>20</sup>
- 1921—Census of Manufactures, 1921. The lumber industry.<sup>21</sup>

Tan bark and tanning extracts.

- 1905—{ Forest Service Circular 42.  
Forest Service Bulletin 74.
- 1906—{ Forest Service Circular 119.  
Forest Service Bulletin 77.
- 1907 to 1909—{ Bureau of the Census. Forest Products [Series] No. 4.  
Bureau of the Census. Forest Products [Series] No. 10.
- 1919—Fourteenth Census of the United States. Forest products, 1919, Forest products consumed in the manufacture of veneers, dyestuffs and extracts and in tanning and good distillation.<sup>22</sup>
- 1921—Census of Manufactures, 1921. Natural dyestuffs and extracts.<sup>23</sup>
- 1923—Bureau of the Census. Forest products, 1923, Consumption of vegetable tanning materials.

Wood distillation.

- 1905—{ Forest Service Circular 50.  
Forest Service Bulletin 74.
- 1906—{ Forest Service Circular 121.  
Forest Service Bulletin 77.
- 1907 to 1909—{ Bureau of the Census. Forest Products [Series] No. 7.  
Bureau of the Census. Forest Products [Series] No. 10.
- 1910 and 1911—Bureau of the Census. Forest Products [Series] No. 7.
- 1919—Fourteenth Census of the United States. Forest products, 1919, Forest products consumed in the manufacture of veneers, dyestuffs and extracts and in tanning and wood distillation.<sup>24</sup>
- 1921—Census of Manufactures, 1921. Wood distillation.<sup>25</sup>

<sup>20</sup> Also contained in report entitled "Forest Products" and in Lumber Industry Section of Vol. X of the Fourteenth Census.

<sup>21</sup> Also contained in Lumber Industry Section of Biennial Census of Manufactures, 1921.

<sup>22</sup> Also contained in Dyestuffs and Extracts Section of Biennial Census of Manufactures, 1921.

<sup>23</sup> Also included in Wood Distillation Section of Biennial Census of Manufactures, 1921.

Cross ties.<sup>14</sup>

- 1905—{ Forest Service Circular 43.  
Forest Service Bulletin 74.
- 1906—{ Forest Service Circular 124.  
Forest Service Bulletin 77.
- 1907 to 1909—{ Bureau of the Census. Forest Products [Series]  
No. 8.  
Bureau of the Census. Forest Products [Series]  
No. 10.
- 1910 and 1911—Bureau of the Census, Forest Products [Series] No. 8.
- 1915—Department of Agriculture Bulletin 549.

## Poles.

- 1906—{ Forest Service Circular 137.  
Forest Service Bulletin 77.
- 1907 to 1909—{ Bureau of the Census. Forest Products [Series]  
No. 9.  
Bureau of the Census. Forest Products [Series]  
No. 10.
- 1910—and 1911—Bureau of the Census. Forest Products [Series] No. 10.

Veneers.<sup>15</sup>

- 1905—{ Forest Service Circular 51.  
Forest Service Bulletin 74.
- 1906—{ Forest Service Circular 121.  
Forest Service Bulletin 77.
- 1907 to 1909—{ Bureau of the Census. Forest Products [Series]  
No. 5.  
Bureau of the Census. Forest Products [Series]  
No. 10.
- 1910 and 1911—Bureau of the Census. Forest Products [Series] No. 5.
- 1919—Fourteenth Census of the United States. Forest products, 1919, Forest products consumed in the manufacture of veneers, dyestuffs and extracts and in tanning and wood distillation.<sup>16</sup>
- 1921—Census of Manufactures, 1921. The lumber industry.<sup>17</sup>

## Turpentine and rosin.

- 1919—Fourteenth Census of the United States. Forest products, 1919, Turpentine and rosin.<sup>18</sup>
- 1921—Census of Manufactures, 1921. Turpentine and rosin.<sup>19</sup>

<sup>14</sup> Show purchases only.<sup>15</sup> Show quantity of wood consumed, not production of veneers.<sup>16</sup> Contained also in report entitled "Forest Products" and in Lumber Industry Section of Vol. X of the Fourteenth Census.<sup>17</sup> Contained also in Lumber Industry Section of Biennial Census of Manufactures, 1921.<sup>18</sup> Contained also in the report entitled "Forest Products" and in Chemical and Allied Industries Section of Vol. X of the Fourteenth Census.<sup>19</sup> Contained also in Turpentine and Rosin Section of Biennial Census of Manufactures, 1921.

Turpentine and rosin—*Continued.*

1922—Bureau of the Census. Forest products, 1922, Turpentine and rosin.

## Wood preservatives.

1910—Forest Service Circular 186.

1912—Forest Service. Consumption of wood preservatives and quantity of wood treated in the United States in 1912.

1913 to 1914—Forest Service. Quantity of wood preservatives consumed and amount of wood treated in the United States in 1915-1919.

## Excelsior.

1911—Bureau of the Census. Forest Products [Series] No. 4.

## Timber used in mines.

1905—} Forest Service Circular 49.

1905—} Forest Service Bulletin 74.

## Wood used in manufacture of boxes.

1914—Forest Service. Amounts and kinds of wood used in the manufacture of boxes in the United States.

The Agriculture Yearbook for 1923 contains statistics for 1870, 1880, 1890, 1899, and 1904, to 1923, on production of lumber, by states and by species and on production of lath and shingles by states. It also contains figures for a series of years on the production of wood pulp, paper, turpentine, and rosin and on the consumption of pulpwood and paper.

The census statistics on agriculture give data on the total value of the forest products of farms, differentiating between products cut for sale and those cut for use. The forest products of farms represent only a small portion of all forest products, as lumber, pulpwood, poles, and naval stores are generally not produced in connection with farming operations. No figures are available for counties.

Statistics of tanning material produced, quantity of bark used, and prices of bark, as well as considerable detailed data on timber supply in specific regions in 1880 and 1881 are given in Volume 3 of the Department of Agriculture publication entitled "Report on Forestry," by Franklin B. Hough, issued in 1882. This report was published also as House Miscellaneous Document 38, 47th Congress, 1st Session.\*

\* For bibliographic note on the several volumes of this report see page 372.

## OTHER PERIODIC REPORTS ON MANUFACTURED PRODUCTS

**Dyes and Coal Tar Products.** Up to 1915 the United States was dependent almost entirely upon foreign countries, mostly Germany, for its supplies of manufactured coal tar dyes. Shutting off of German dyes, the development of the American industry, and need of a protective tariff made it desirable to collect statistics showing the quantities of specific dyestuffs that were being manufactured by American plants. Figures for production have been collected and published by the Tariff Commission for 1917 to 1923 in the following publications:

- Tariff Information Series No. 6, Census of dyes and coal tar chemicals, 1917.
- Tariff Information Series No. 11, Census of dyes and coal tar chemicals, 1918.<sup>21</sup>
- Tariff Information Series No. 22, Census of dyes and coal tar chemicals, 1919.
- Tariff Information Series No. 23, Census of dyes and coal tar chemicals, 1920.
- Tariff Information Series No. 26, Census of dyes and other synthetic organic chemicals, 1921.<sup>22</sup>
- Tariff Information Series No. 31, Census of dyes and other synthetic organic chemicals, 1922.
- Tariff Information Series No. 32, Census of dyes and other synthetic organic chemicals, 1923.

Each of the publications mentioned above contains statistics on the quantity and value of the output of specific classes of dyes and coal tar products and lists of dye manufactures. Separate tables give figures for crude, intermediate, and finished dyes. The reports for 1921 and succeeding years contain figures on synthetic organic chemicals other than dyestuffs. Nos. 6 (1917) and 11 (1918) contain a review of the history of the dye industry in the United States since the beginning of the war. All of the bulletins contain statistics of imports according to the regular classifications. No. 22 (1919) contains detailed statistics of imports during the fiscal year 1920 and Nos. 23, 26, 31, and 32 during the calendar years 1920 to 1923, compiled by a reexamination and reclassification of the import entries.

<sup>21</sup> An earlier edition of this appeared under the title, "Report on Dyes and Related Coal Tar Chemicals, 1918."

<sup>22</sup> A preliminary summary was issued as Tariff Information Series No. 25.



Figures on the international trade in dyes and a discussion of the dye industry in the principal foreign producing companies is given in the reports for 1922 and 1923. The report for 1923 contains also a discussion of action taken under the provisions of the Treaty of Versailles with reference to the reparation dyes.

Closely allied to the production of dyestuffs are the data on the quantity and value of the principal dyestuffs used during 1913 and 1916 by leading cotton, wool, and silk manufacturers and by dyers and finishers of textiles given in Tariff Information Series No. 2, entitled "Dyestuff Situation in the Textile Industries." These statistics were collected from the manufacturers by the Tariff Commission, and are original material.

**Explosives.** Statistics on the sales of explosives in the United States have been published annually by the Bureau of Mines, beginning with 1912, in the following publications:

1912—Technical Paper 69.	1918—Technical Paper 231.
1913—Technical Paper 85.	1919—Technical Paper 259.
1914—Technical Paper 107.	1920—Technical Paper 291.
1915—Technical Paper 159.	1921—Technical Paper 313.
1916—Technical Paper 175.	1922—Technical Paper 340.
1917—Technical Paper 192.	1923—Technical Paper 358.

While the titles of these publications read "Production of Explosives," the main tables refer to domestic sales only, no account being taken of the total amount produced or of exports, the latter being given in a separate table. Separate statistics are given for black blasting powder, permissible explosives,<sup>22</sup> and high explosives other than permissible. Statistics are not given for nitroglycerine, except in so far as this is an ingredient of other explosives. The explosives sold are also classified by states according to the following uses: Coal mining, other mining, railway and construction work, and other purposes. The basic figures for all this material are obtained direct from the manufacturers. There is a slight margin of error in the classification by states, due to the fact that explosives sold to mine owners may be used in another state than the one reported. There is also a margin of error in the classification by use in the reports of sales to

<sup>22</sup> A permissible explosive is one that has been tested by the Bureau of Mines and found to conform to the standard adopted for use in mines where there is risk of gas or dust explosions.

dealers, but the manufacturers probably have a fair knowledge of use made of explosives by the customers of dealers in various localities, and it is likely that errors in this classification will tend to counter-balance.

Monthly reports are issued in mimeograph form.

**Petroleum Products.** A monthly mimeographed statement on the output of refineries and stocks on hand is issued by the Bureau of Mines. This statement gives statistics by principal producing areas for gasoline, kerosene, gas and fuel oil, lubricating oil, wax, coke, asphalt, and miscellaneous products. Gasoline production, consumption, and stocks are also shown in the Survey of Current Business.

**Articles Subject to Internal Revenue Taxes.** Data on the annual production or sales of many articles subject to internal revenue taxes may be obtained or computed from the annual report of the Commissioner of Internal Revenue, who is charged with the collection of these taxes. Practically none of the production and sales data given in this report is collected annually by any other agency.

While the essential purpose of the statistical portion of this report is to present figures dealing with the operations of the Bureau of Internal Revenue, the figures have a commercial and economic significance entirely distinct from their bearing upon the finances of the government. For some industries, such as tobacco, which are under close control, the annual report of the Commissioner of Internal Revenue is the primary source of information for production statistics. In the case of manufacturers' and dealers' taxes, the collections in many cases furnish a base from which the amount produced or sold may be computed. Practically all the statistics are given by collection districts, so that it is possible to compute the production or consumption by states or geographic divisions. As no collection district extends beyond the state line, the total for any state may be obtained by adding the figures for each collection district within the state.

Statistics for quantity are given in the report for the following commodities:

Tobacco manufactured and on hand and material used.  
Cigars manufactured and tobacco used.

Cigarettes manufactured and tobacco used.  
Production of oleomargarine and materials used.  
Production of renovated butter.  
Production of mixed flour.  
Narcotic drugs imported, exported, or sold.  
  Opium.  
  Morphine.  
  Codeine.  
  Heroin.  
  Dionin.  
  Other opium alkaloids and derivatives.  
  Cocaine.  
  Coca leaves.  
Production of distilled spirits and material used.  
Production of industrial alcohol and material used.  
Distilled spirits in distilleries and bonded warehouses, withdrawn.  
Production and dealcoholization of beverages containing more than one-half of per cent of alcohol.  
Production of cereal beverages containing less than one-half per cent of alcohol.

During recent years manufacturers' or dealers' taxes have been imposed on a number of articles, and an approximate estimate of the value of sales or of consumption may be obtained by dividing the amount collected as tax by the rate of taxation. In reducing the amount collected to quantities, care should be taken to ascertain whether the tax has been imposed at the same rate throughout the year covered by the report. The commodities<sup>34</sup> and businesses for which data have been available in this manner have varied from time to time with the provisions of the several tax acts and have included the following:

Playing cards.  
Receipts of pipe line companies.  
Life insurance.  
Marine, inland, and fire insurance.  
Casualty insurance.  
Automobile trucks and wagons.  
Other automobiles and motor-cycles.  
Tires or accessories for automobiles, etc.  
Pianos, organs, phonographs, etc.

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<sup>34</sup> In the case of some commodities the tax is levied on a group of articles and not on specific articles; in order to determine exactly what articles are included in the tax returns the revenue law should be consulted. The three laws under which these taxes are assessed are the Act of October 3, 1917 (40 Stat. L., 300), the Act of February 24, 1919, (40 Stat. L., 1057), the Act of November 23, 1921 (42 Stat. L., 227), and the Act of June 2, 1924 (43 Stat. L., 253).

Tennis rackets and sporting goods.  
 Chewing gum.  
 Cameras.  
 Photographic films and plates.  
 Candy.  
 Firearms, shells, etc.  
 Hunting and bowie knives.  
 Dirk knives, daggers, etc.  
 Portable electric fans.  
 Thermos bottles, etc.  
 Cigar or cigarette holders.  
 Slot device vending and weighing machines.  
 Livery and livery boots, etc.  
 Hunting garments, etc.  
 Articles made of fur, etc.  
 Yachts, motor boats, etc.  
 Toilet soaps, etc.  
 Motion picture films leased.  
 Sculpture, paintings, etc.  
 Beverages made from cereals.  
 Unfermented grape juice, ginger ale, etc.  
 Natural mineral waters.  
 Capital stock, surplus, and undivided profits of corporations with capital over \$5000.  
 Club dues.

The above list does not include all articles taxable under the internal revenue law, but only those for which tax returns are given for a flat rate. For instance, the tax collected on natural mineral water in 1918 amounted to \$385,711.18. As the tax is at the rate of two cents a gallon, the quantity sold would amount to 19,285,559 gallons. The amount realized from the sales tax on soft drinks in 1918 was \$24,296,279.47. As the rate of taxation on soft drinks was one cent for each ten cents or fraction thereof paid, it is impossible to make even a reasonably approximate estimate of the sale price. The tax would be at the rate of 20 per cent on a five-cent drink, 10 per cent on a ten-cent drink, and  $13\frac{1}{3}$  per cent on a fifteen-cent drink. In this particular instance there is also undoubtedly a great deal of evasion.

This report shows also the number of taxpayers or enterprises engaged in certain occupations or businesses which are subject to federal license taxes. The occupations and businesses for which figures are given are as follows:

Spirits.

Rectifiers.  
 Retail dealers.  
 Wholesale dealers.

- Malt liquors.**
  - Brewers.
  - Retail dealers.
  - Wholesale dealers.
- Manufacturers of stills.**
- Oleomargarine.**
  - Manufactures.
  - Wholesale dealers.
  - Retail dealers.
- Adulterated butter.**
  - Manufacturers.
  - Retail dealers.
  - Wholesale dealers.
- Process or renovated butter manufacturers.**
- Mixed flour manufacturers, packers or repackers.**
- Tobacco manufacturers.**
  - Cigars.
  - Cigarettes.
  - Tobacco.
- Corporations paying capital stock tax.**
- Brokers.**
  - Stock, produce, or merchandise.
  - Pawn.
  - Ship.
  - Customhouse.
- Circuses.**
- Theaters, museums, and concert halls.**
- Other exhibitions.**
- Shooting galleries.**
- Riding academies.**
- Passenger automobiles for hire.**
- Yachts, pleasure boats, etc.**
- Opium, coca leaves, etc.**
  - Importers, manufacturers, producers and compounders.
  - Wholesale dealers.
  - Retail dealers.
  - Practitioners, hospitals, etc.

### SPECIAL REPORTS

Special reports made at times by various government bodies on the production of certain manufactured articles are discussed in the following pages. Summary statistics of industries in some of the states have been published from time to time in the bulletins of the Bureau of Labor issued prior to May, 1912, in the Monthly Review of the Bureau of Labor Statistics from July, 1915, to June, 1918, and in the Monthly Labor Review since June, 1918. These statistics are taken from the annual reports of various state organi-

zations that deal with this subject. References to material contained in publications issued prior to 1915 will be found in Bulletin 174 of the Bureau of Labor Statistics; a general index to the Monthly Labor Review covering the issues from its beginning in July, 1915, to December, 1920, has been published under the title "Monthly Labor Review, Subject Index, Vols. I to XI, July, 1915, to December, 1920"; later material can be located by means of the index in each volume. These statistics do not appear at regular intervals, the material being published whenever it becomes available.

**Shipbuilding.** Statistics on the shipbuilding industry are given in all the reports of the Census of Manufactures with the exception of the one for 1914. The figures were withheld at that time on account of the war. Another census of the shipbuilding industry was taken in 1916 and the figures for 1914 and 1916 were published in the report of the Bureau of the Census entitled "Census of Shipbuilding, 1916 and 1914."

**Census of War Commodities.** In 1918 and 1919 the Bureau of the Census made several investigations of industries in order to obtain material for the use of the war organizations. Five of these were published under the general title "Census of War Commodities," with subtitles as follows:

Statistics of leather.

Leather statistics—Leather stocks, boots and shoes and other manufactures of leather.

Textile fibers—Wool, silk, jute and kapok.

Iron and steel products.

Antimony and graphite crucibles.

The publication with the subtitle, "Statistics of leather," shows the stocks of the several classes of leather, May 31, 1918, in the hands of various classes of manufacturers. The report bearing the subtitle "Leather Statistics" shows the leather stocks on hand at the end of each month from May to December, 1918, classified by kinds of leather and classes of manufacturers. It also shows the quantity of boots and shoes and leather stock manufactured during each month from June to December, 1918, and the quantity on hand at the end of the month.

The report on textile fibers contains the following statistics :

Consumption of wool and production of wool products, 1917, 1916, 1915.  
Silk spindles and looms on December 31, 1909 and 1914, and June 1, 1918.  
Stocks of silk and artificial silk, June 1, 1918.  
Consumption of silk, artificial silk and logwood dyes, 1915, 1916, 1917, and 1918.  
Stocks of jute, bagging, burlap, and bags, June 1, 1918.  
Consumption of jute and burlap, and production of jute bags, 1917 and 1918.  
Stock of kapok, 1916, 1917, 1918.  
Consumption of kapok, 1916, 1917, 1918.

The report on iron and steel products contains statistics on twenty-two classes of commodities. It shows the stocks on hand on September 1, 1918, the consumption from January 1 to June 30, 1918, and the estimated requirements from July 1 to December 31, 1918.

In the report on antimony and graphite crucibles are given data on stocks of antimony on June 30, 1918, imports and exports of antimony during the fiscal years 1917 and 1918, consumption and production of antimony during the calendar years 1917 and June, 1918, stocks of graphite crucibles on hand and in use June 30, and September 30, 1918, and estimated requirements for the fiscal year 1918. The statistics on graphite and crucibles are classified by the industries using these products as well as by geographic divisions.

## CHAPTER XXII

### SURVEYS OF INDUSTRIES

Under this head are included monographs issued by various government organizations which deal with economic conditions in specified industries and which contain considerable statistical material. These reports generally contain material that would fall under several headings according to the plan for subject classification adopted for this book. They are somewhat arbitrarily brought together here in order to avoid several references to the same report and in order that all information regarding one publication may be in one place. Surveys that deal primarily with a particular phase of an industry, such as wages and hours of labor, and treat other features of the industry only incidentally to the main subject, are discussed under the appropriate topical head. Most of the publications discussed in this section are those of the Tariff Commission, the Bureau of Corporations, and its successor, the Federal Trade Commission.

As regards the Tariff Commission and the Federal Trade Commission it should be mentioned that neither of these organizations has had as one of its functions the supplying of information to the public at regular intervals and neither has attempted to collect statistics from year to year, with the exception of the production figures on paper, collected for several years by the Federal Trade Commission, but now discontinued, and the production statistics for dyestuffs, collected by the Tariff Commission (see page 280). The function of these bodies has been regulatory and advisory, and they have made investigations on their own initiative, at the request of Congress, or by direction of the President. The statistical work is only incidental to the interpretation of economic conditions in the industries studied, a great mass of other data being used. With most of the other bureaus collecting statistical material the assembling of the data is an end in itself, comparatively little being done in the way of interpretation and the student being left



to make his own application of the figures. In the case of the Tariff Commission and the Federal Commission the tables are incident to and in support of the comment; by this it is not meant that any portion of the statistical result is suppressed or modified to fit a particular premise, but that with these bodies the collection of the data for the use of other investigators is not an end in itself. As the subject-matter and scope of the reports change from year to year these organizations have had no regular source from which they obtain their facts. In most of the investigations considerable use is made of the general statistical material already assembled by other government bureaus, which is supplemented by more specific material derived directly from the books of concerns in the industry under investigation. Through their inquisitorial powers and their force of trained examiners, these bodies have been able to obtain detailed information regarding the operations of particular concerns which is not available to other government organizations, and which is not germane to their type of activity.

The Tariff Commission was created by Sections 700 to 709 of the Act of September 8, 1916 (39 Stat. L., 795). Its duties include the investigation of the "fiscal and industrial effects of the customs laws, . . . the volume of importations compared with domestic production and consumption, and conditions, causes, and effects relating to competition of foreign industries with those of the United States, including dumping and cost of production." In accordance with this authorization the Commission has prepared a series of monographs on various industries and products. Most of the statistics relating to the United States in these reports have been compiled from Mineral Resources of the United States for production of minerals, from the publications of the Department of Agriculture for output of agricultural products, from the reports of the Census of Manufactures for factory products, and from the publications of the Bureau of Foreign and Domestic Commerce for imports and exports. In some cases, however, the Commission has collected production statistics directly from manufacturers and import statistics from the original entires. Unless stated otherwise in the description below, the production and import and export statistics are from the reports mentioned above.

Many of the reports of the Tariff Commission also deal with all phases of a particular industry, but the purpose of its reports

differs from that of the reports of the Federal Trade Commission. Primarily the Federal Trade Commission is concerned with combinations or competition among domestic producers, although in some cases, such as the fertilizer industry, the sources of supply of raw material and the markets for finished products make it necessary to consider foreign conditions. The Tariff Commission, on the other hand, is primarily concerned with developing facts regarding the difference between cost of production in the United States and in foreign countries and with collecting data that will show the effect of tariff rates on the industries of the United States.

**Grain, Grain Products, and Grain Trade.**<sup>1</sup> During the war the United States Grain Corporation was organized by the Food Administration for the purpose of controlling the distribution of breadstuffs of every character, all of the stock in this corporation being owned by the United States. All mills and elevators were licensed and required to submit to the corporation periodic reports which form the basis of the statistics.

Monthly statistics dealing with the food situation were compiled and published by the Food Administration and the Wheat Director. These reports contained data on production, stocks, exports, and movement. The export statistics are of particular interest, as they include material shipped on government vessels which are not shown in the statistics collected by the Bureau of Foreign and Domestic Commerce. From June 6, 1918, to September 2, 1919, these statistics were published in the report entitled "Official Statement of the United States Food Administration." From October 1, 1919, to July 1, 1920, they were contained in the publication entitled "Official Statement of Wheat Director."

In 1919 the Grain Corporation issued a pamphlet entitled "Grain and Flour Statistics During the War," which contained a summary of the statistics collected by that organization up to June 30, 1919. In 1920 it issued a pamphlet entitled "Supplement to Grain and Flour Statistics During the War," which brought the figures to June 30, 1920. As these publications contain a mass of

<sup>1</sup> Grain and grain products are also discussed under the headings "Articles Affected by the Emergency Tariff of 1921" and "Agricultural Staples," pages 298 to 301.

information on the grain and flour trade not readily available elsewhere, the more important features of the reports are listed below :

**Grain and Flour Statistics during the War.**

Annual flour production, by states, 1914-16.

Annual wheat consumption by mills, by states, 1914-16.

Monthly flour production, by geographic divisions and mills of different capacities, 1914-16.

Weekly flour output and wheat consumption, September 15, 1917, to June 30, 1918.

Monthly wheat and flour stocks. September, 1917, to June, 1918.

Monthly receipts of wheat by mills from farmers, from country elevators, and from Grain Corporation, September, 1917, to June, 1918.

Number and capacity of mills manufacturing wheat, rye, barley and corn flour, oatmeal and oat food products, and corn products other than flour, by states.

Weekly wheat movement, September 6, 1917, to June 29, 1918—country elevator receipts, mill receipts, total movement from farms.

Weekly stocks of wheat at country elevators, mill elevators, and terminals, September 1, 1917, to June 29, 1918.

Weekly stocks of corn, oats, rye, and barley at country elevators and terminals, September 8, 1917, to June 29, 1918.

Monthly purchases and distribution of flour by Grain Corporation, July, 1918, to June, 1919.

Grain storage capacity of terminal elevators, country elevators and mills on May 15, 1918; also number of elevators and mills by states.

Wheat and flour distribution, 1917-18, 1918-19.

Monthly flour production, fiscal years 1918 and 1919.

Weekly movement of wheat, rye, corn, oats, and barley, fiscal year 1919. Receipts from farms, receipts from secondary sources, shipments, and stocks, separate figures being under each classification for country elevators, mills and terminals; quantity ground by mills; flour made.

Grain used in distilling, fiscal years 1902 to 1918.

Acreage and production of wheat, corn, oats, rye, and barley, in United States and Canada, 1915-1918.

Area of wheat sown and abandoned, 1912-19.

Consumption of wheat and rye flour, oatmeal and cornmeal in New York City, 1912 to 1918.

Exports and imports of wheat, wheat flour, corn, cornmeal, oats, oatmeal, rye, rye flour, barley and barley flour, fiscal years 1914 to 1919. For the fiscal years 1918 and 1919 this table and the one next mentioned are of importance as the figures include the quantity which was shipped on army transports and which is not shown in the statistics of the Bureau of Foreign and Domestic Commerce.

Exports of wheat and wheat flour to important European countries during fiscal years 1918 and 1919. See comment in preceding paragraph. Several terms used in this table are somewhat confusing. The term "Customs House exports" means shipments made direct to the countries mentioned and cleared through the customs. The term "U. S. exports via Canada" means shipments made to the countries mentioned by way of Canada. This term should read

"Custom House exports via Canada" as all these shipments were cleared through the customs. The figures for shipments via Canada will not agree with the statistics of the Bureau of Foreign and Domestic Commerce because the country of destination as given by that bureau is the country shown on the export declaration. For instance, if a shipment of wheat moved on a through bill of lading from Minneapolis to Montreal and then to England the statistics of the Bureau of Foreign and Domestic Commerce would show England as the destination. If, however, the wheat was shipped to Montreal, placed in an elevator, and afterward shipped to England, the statistics of the Bureau of Foreign and Domestic Commerce would show an export to Canada, as the bill of lading and export declaration would show Montreal as the destination and the bureau would have no knowledge regarding the farther movement. The Grain Corporation, however, through its ownership of the wheat, was able to determine the ultimate destination of these shipments and to give figures not available to the Bureau of Foreign and Domestic Commerce.

Supplement to Grain and Flour Statistics during the War.

- Wheat movement by states from farms and apparent farm disappearance 1917-18, 1918-19, 1919-20, by states. This table gives figures on the crop, the carry-over at the beginning and end of year, the amount moved from farms, the balance fed on farms or unaccounted for or the excess of disappearance over crop.
- Wheat movement from farms during eleven months ending May 28, 1920. Shows movement, total ground, and stocks in country, mill and terminal elevators.
- Weekly receipts from farms and other sources, shipments and stocks on hand by country elevators, mills, and terminals, from July 4, 1919, to May 28, 1920; shows also wheat ground and flour made.
- Corn movement from farms, by states, for years ending November 1, 1918, and July 1, 1919.
- Oats movement from farms, by states, 1917-18 and 1918-19.
- Rye and barley movement from farms, by zones, 1917-18, and 1918-19.
- Flour produced and wheat ground, by states; fiscal year 1919.
- Allotment of wheat to mills, by states, 1917-18.
- Wheat crop movement and distribution, 1917-18, 1918-19, and 1919-20.
- Flour production and wheat ground by months, 1917-18, 1918-19, and 1919-20.
- Weekly flour prices, August 8, 1919, to May 29, 1920.
- Weekly wholesale and retail bread prices, by principal cities, August 16, 1919, to May 29, 1920.
- Production and acreage of wheat, corn, oats, rye, and barley in United States and Canada, 1915-19.
- Area of wheat sown and abandoned, 1912-20.
- Domestic exports of meat and dairy products, vegetable oils and bread-stuffs for fiscal years 1918, 1919, and 1920 and calendar years 1918 and 1919. The figures in these tables do not agree with those published by the Bureau of Foreign and Domestic Commerce, as there are included here shipments on army transports, which are not reported in the commercial statistics.

- Exports of meat and dairy products, vegetable oils, and breadstuffs, by principal European countries during fiscal year 1920.
- Exports of foodstuffs, fiscal years 1913 to 1920. These figures for the war years do not always agree with those of the Bureau of Foreign and Domestic Commerce, as there are included here statistics for some exports not reported to the Department of Commerce.
- Domestic exports of oats and oatmeal, rye and rye flour, corn and cornmeal, wheat and wheat flour, and barley and barley flour, by months, July, 1910, to June, 1920. This table also includes shipments not reported to the Department of Commerce and, therefore, not recorded in its statistics.
- Canadian exports of wheat, wheat flour, rye, barley, oats and corn by months, July, 1918, to June, 1920.
- Exports of wheat, wheat flour, corn, cornmeal, oats, oatmeal, rye, rye flour, barley, and barley flour, fiscal years 1914 to 1920. For the fiscal years 1918 to 1920 the figures include the quantity which was shipped by army transports and which is not shown in the statistics of the Bureau of Foreign and Domestic Commerce.
- Exports of wheat and wheat flour, to principal European countries, fiscal years 1918 to 1920. These figures also include shipments by army transports, which are not recorded by the Bureau of Foreign and Domestic Commerce.
- Beef and pork situation in fiscal year 1920, by months. Inspected slaughter, total product, stocks at end of month, and consumption. It should be noted that the consumption figure applies only to meat slaughtered by the packers. It takes no account of the slaughter by local butchers which is not subject to federal inspection.
- American cheese and creamery butter situation, fiscal year 1920, by months. Amount manufactured, exports, stocks at end of month, and consumption. The consumption figures apply only to the domestic product and take no account of imports. The butter statistics take no account of the large quantity made by individual farmers, so that the actual consumption is much greater than is shown by this table.

In 1925 the United States Grain Corporation issued a publication entitled "The Stabilization of the Price of Wheat During the War and its Effect Upon the Returns to the Producer," by Frank M. Surface, which contains considerable material not readily available, among which may be mentioned the following :

- Supply and distribution of wheat in the United States for each crop-year, 1909 to 1923.
- Production and exports of wheat (including flour as grain) from the principal surplus-producing countries; average, 1909 to 1913; each year, 1917 to 1923.
- Source of the wheat supply (including flour as grain) of the United Kingdom, France, and Italy; average, 1909 to 1913; 1917; 1918.
- Monthly receipts of wheat from farms and monthly grind by mills, during crop-years 1917-18 to 1919-20.
- Average annual prices of wheat, flour, and retail bread in Minneapolis, crop-years 1913-14 to 1922-23.

- Monthly average price at Minneapolis of  $4\frac{1}{2}$  bushels of No. 1 northern spring wheat and 1 barrel of first patent hard spring wheat flour, 1915 to 1923.
- Monthly range of the cash price of No. 1 northern spring and No. 2 red winter wheat at Chicago, 1917 to 1920.
- Absolute and relative yearly average farm prices for important farm products; average for crop-years 1909 to 1914, each year 1913-14 to 1923-24.
- Relative farm price of wheat and of other farm products; average for crop-years 1909-19, each year 1913-14 to 1924-25.
- Annual absolute and relative market prices for important farm products, calendar years 1913 to 1924.
- Annual average farm prices and market prices of wheat, rye, corn, and hogs; average for crop-years 1909 to 1914, each year 1914-15 to 1923-24.
- Average farm price of wheat and retail price of flour, crop-years 1913-14 to 1923-24.
- Monthly average price of wheat in the United States, Canada, Argentina, India, and Australia, 1916 to 1921.
- Average cost of production (excluding land rent) and average farm price of winter wheat in Kansas, Missouri, and Nebraska, and of spring wheat in North Dakota, South Dakota, and Minnesota, 1913 to 1923.
- Annual estimated total profits or losses by wheat farmers in the United States, 1913 to 1923.
- Acreage and production of wheat in the United States; average 1909 to 1913; each year 1914 to 1924.
- Value of farm land per acre in wheat-growing states, each year, 1914 to 1922.
- Monthly absolute and relative prices of wheat, steel billets, copper ingots, coal, and sulphuric acid, 1916 to 1921.
- Average annual and relative prices of important farm products; average 1905 to 1914; each year, 1913 to 1924.

It is announced that there will be published a complete historical record of the Grain Corporation, which will doubtless contain statistical material.

In 1917 and 1918 the Federal Trade Commission, in coöperation with the Bureau of Markets of the Department of Agriculture, made an investigation of the grain trade, the results of which were published in subsequent years under the title "Report of the Federal Trade Commission on the Grain Trade." Five volumes have been issued under the following subtitles:

- Vol. I. Country grain marketing.
- Vol. II. Terminal grain markets and exchanges.
- Vol. III. Terminal market operations.
- Vol. IV. Middlemen's profits and margins.
- Vol. V. Future trading operations in grain.

It is announced that Volume VI will cover the subject of prices of cash grain and futures.

A great part of the statistical material was obtained by means of questionnaires sent to elevator companies, but the reports contain much secondary data, derived from the reports of grain and produce exchanges that are not generally available.

Volume I, devoted to country grain marketing, is a detailed discussion of the operation of elevators in grain producing districts. It contains material dealing with the handling of grain crops of 1912-13 to 1916-17. The study was confined to wheat, corn, oats, rye, and barley. In general separate elevator statistics are given for Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Montana, Nebraska, North Dakota, Ohio, Oklahoma, South Dakota, and Wisconsin; statistics for the Mountain and Pacific States are given in one group and those for the Southern and Middle Atlantic States in two other groups. Statistics are not given for the New England States on account of the lack of adequate replies to the questionnaires; this region, moreover, is of little importance in the grain trade. Separate statistics are generally given for line and individual elevators, each class being divided into commercial, coöperative, mill, and maltster; the line house being one that operates a chain of elevators and the individual house being one that operates independently. The commercial and coöperative houses buy and sell grain on their own account, there being no essential difference in their operation, the only distinction being in ownership. The mill elevator is operated by a flour mill in order to insure a supply of grain; the maltster house fulfils the same function for the manufacturer of malt.

A large part of this volume is devoted to a text discussion of the marketing methods used for grain, but there are considerable data not available elsewhere, among which should be mentioned the following:

Elevators constructed prior to 1880 and during five-year periods thereafter. Number and capacity of elevators by types—individual and line, commercial, coöperative, mill and malster—by states.

Construction materials of elevators, by states.

Purchase of the five principal grains, by types of elevator and by states, for each year, 1912-13 to 1916-17.

Monthly purchase of five principal grains in the fourteen principal producing states, 1913-14 and 1916-17.

Rate of capacity turnover, by states.

Grain sold on consignment and direct, by states for five crop years, July 1, 1912 to June 30, 1917.

Percentage of elevators handling side lines, by type and by states.

Average monthly per bushel margins between local price and Minneapolis price on No. 1 and No. 3 northern wheat and No. 3 oats, for 1912-13 to 1916-17.

Volume II is devoted to a discussion of methods of doing business in ten primary and seven secondary grain markets in the United States. The primary markets, or those receiving the bulk of grain shipped from local points in producing territory, are Chicago, Minneapolis, Duluth, Kansas City, St. Louis, Omaha, Milwaukee, Peoria, Indianapolis, and Cincinnati. The secondary markets discussed, or those receiving grain mostly from primary markets, are Buffalo, New York, Baltimore, Philadelphia, Boston, Toledo, and Louisville.

This volume is devoted primarily to a discussion of the system of grain marketing, the trading methods employed and the operation of the exchanges, including the rules and regulations and the work of inspection, weighing, grading, and other services. A comprehensive account of these activities is brought together in this volume for the first time. The statistical material is subordinate, being used generally to indicate the importance and character of the markets, but the figures given regarding the movement of grain at various markets are not generally available, although a great part of them have been published in the reports of the various exchanges. The statistics that should be especially mentioned are the following :

Average annual production in the principal producing states.

Average annual receipts and shipments at each of the seventeen markets for 1913 to 1917; also data for earlier years for some markets.

Elevator storage capacity at each of the seventeen markets in 1919.

Classification of membership of various exchanges.

Revenues and expenses of various exchanges.

Volume III deals with the handling of cash grain that moves from country points to the primary terminal markets. The greater part of the volume is descriptive, but it contains some statistical material, among which may be mentioned the following :

Grain stocks at fifteen terminal points, by six-month periods. January, 1919, to December, 1920.

Elevator capacity at terminal points.

Results of mixing operations.

The statistics in Volume IV relate mainly to the movement of grain and the financial results of terminal elevator operation at various places.



Future trading in grain is the subject of Volume V of this series. The statistical material is confined entirely to such figures as could be obtained dealing with the extent of future trading. The report is not one that requires a statistical basis, being a comprehensive account of the technique and legal status of future trading and methods of keeping accounts and making settlements.

Conditions in the grain trade are also discussed in a report of the Federal Trade Commission in two volumes, entitled "Report . . . on Methods and Operations of Grain Exporters," Volume I bearing the subtitle, "Interrelations and Profits," and Volume II the subtitle "Speculation, Competition and Prices." The statistics on Volume I include the following :

World production of principal grains, by countries, annually, 1910 to 1921.  
Exports, re-exports, and imports of grains by United States, annually, 1910 to 1921.  
Exports of principal grains by customs districts, annually, 1919-21.  
Exports of principal kinds of wheat by customs districts, semi-annually, July, 1920, to December, 1921.

Volume II includes the following data of daily average prices of No. 2 wheat at Chicago for 1920, 1921, and 1922 :

Daily position of speculators and grain dealers in Chicago, 1920 to 1922.  
Future prices in Chicago, 1920 to 1922.  
Wheat exports by customs districts, annually, 1905 to 1914.  
Wheat exports by customs districts, semi-annually, 1919 to 1921.  
Wheat exports to principal countries, annually, 1905-14.  
World's visible supply of wheat, monthly, January, 1919, to June, 1922.  
Average prices of wheat on farms and at Chicago, by months, 1910 to 1922.  
Average prices of rye, monthly, 1910 to 1921.  
Cost of transporting grain to New York from western points, January 1, 1919, to June 30, 1922.  
Cost of transporting grain to Galveston and to New Orleans, January, 1919 to March, 1922.  
Capacity of elevators at important terminal markets.

Statistical Bulletin No. 6, of the Department of Agriculture, entitled "Grain Futures: Daily Data," contains statistics as follows :

Daily volume of trading in futures for wheat, corn, oats, barley, rye, all grains, Chicago Board of Trade, January 1, 1921, to May 31, 1924.  
Daily volume of future trading on Chicago Board of Trade in July, September, March and May wheat for January 1, 1921, to May 31, 1924.

In connection with a study of the general food situation the Federal Trade Commission in 1920 issued the publication entitled "Report of the Federal Trade Commission on Commercial Wheat

Flour Milling." This study did not involve a census of the entire industry but was based on the operations of thirty-seven companies whose annual sales amounted to 38,450,000 barrels in 1913-14, out of a total production of 116,403,770 barrels in 1914, according to Census of Manufactures for that year. Sales of these concerns were so widespread that they are representative of commercial milling operations. Ten of these mills were in the Northwestern area (Minnesota, North Dakota, and Montana), thirteen in the Southwestern area (Kansas, Nebraska, Oklahoma and Missouri), and fourteen in the Eastern area (Massachusetts, Rhode Island, Connecticut, New York, Pennsylvania, Delaware, and West Virginia). The statistical portion of the report embraces the following:

Production of flour in the United States, 1809, 1899, 1909, and 1914, from the reports of the census of manufactures.

Per capita consumption of flour in the United States, fiscal years 1902 to 1918.

Wheat crop, flour production, and population in 1899, 1904, 1909, 1914, and 1919 in the several areas into which the country was divided, the figures for production of flour in 1919 being derived from the United States Grain Corporation.

Investments, prices, sales, cost of producing, selling expense, etc., of groups of mills and individual mills in the three producing areas.

Data on the principal animal feeds that enter into commerce are given in the "Report of the Federal Trade Commission on Commercial Feeds," which contains a review of the industry from 1913 to 1920. On account of the extent of the industry it was not practicable to make a detailed survey, so figures were collected from representative groups of manufacturers. There are included figures on the investment and profit of the establishments included in the investigation, monthly index numbers of wholesale prices of various groups of feeds from January, 1913, to June, 1920, and monthly average prices of the different feeds from January, 1913, to June, 1920. The report also contains a description of the principal feeds and the processes of manufacture.

**Articles Affected by the Emergency Tariff of 1921.** The Emergency Tariff Act of May 27, 1921, applied entirely to a number of agricultural products which prior to that date were either

on the free list or subject to a lower rate of duty. In the publication entitled "Report on the Emergency Tariff Act of May 27, 1921," the Tariff Commission brought together available data which might throw light on the effect of this measure.

The statistical material is not the same for each commodity, being in more detail for some than for others. In general, however, figures are given for the following:

Production, imports, domestic exports; average for 1910 to 1914; annually, 1915 to 1921.

Imports by months, January, 1920, to April, 1922.

Imports from principal countries; average, 1910 to 1914; annually, 1915 to 1921.

Imports by months and principal countries, January, 1920, to February 1922.

Prices, January 1920, to April, 1922.

For some crops production figures are given by states and for some commodities the consumption by particular industries is indicated. In others stocks on hand are shown. There is also a text discussion of the uses and of principal factors influencing the trade in each product. The commodities discussed in this report are the following:

Wheat.	Lemons.	Mutton and lamb.	Milk.
Wheat flour.	Citric acid.	Pork.	Cream.
Flaxseed.	Peanut oil.	Meats, prepared	Preserved, con-
Linseed oil.	Cottonseed oil.	or preserved.	densed or ster-
Corn.	Coconut oil.	Cotton, long	ilized milk.
Beans.	Olive oil.	staple.	Tobacco.
Peanuts.	Soya bean oil.	Wool.	Apples.
Potatoes.	Cattle.	Sugar.	Cherries.
Onions.	Beef and veal.	Butter.	Olives.
Rice.	Sheep.	Cheese.	

**Agricultural Staples.** The competition of Canadian agricultural products led to the preparation by the Tariff Commission of Tariff Information Series No. 20, entitled "Agricultural Staples and the Tariff." In addition to the statistics mentioned below, this bulletin contains data on cost of production of these products in the United States and Canada and a table showing the quantity and value of all agricultural products imported from or exported to Canada. The commodities discussed and the years for which statistics are given are shown in the following table:

## SCHEDULE SHOWING STATISTICS

	Wheat	Wheat flour	Oats	Barley
Trade of foreign countries .....	<sup>a</sup> 1909-1913	<sup>a</sup> 1909-1913	<sup>b</sup> 1911-1913	.....
Production.				
United States ..... {	<sup>a</sup> 1871-1915	}.....	1902-1920	1902-1920
Canada ..... {	<sup>a</sup> 1902-1920			
Exports <sup>c</sup> from U. S. ...	1908-1920	.....	1908-1920	1908-1920
Exports from Canada <sup>e</sup> ..	1902-1920	1902-1920	<sup>f</sup> 1897-1920	1880-1920
Transit trade between				
United States and				
Canada .....	1902-1920	1902-1920	.....	.....
Imports <sup>c</sup> into U. S. ...	1907-1920	1907-1920	.....	.....
Imports into Canada <sup>e</sup> ...	1902-1920	1902-1920	1897-1920	1880-1920
Freight rates .....	1902-1920	1902-1920	.....	.....
Prices in United States,	1906-1920	.....	.....	.....
Canada and England	1907-1916	.....	1906-1916	.....

	Barley malt	Flax seed	Potatoes	Hay
Trade of foreign countries .....	.....	.....	1911-1913	.....
Production.				
United States .....	{ 1887, 1889	<sup>b</sup> 1849-1919	} <sup>f</sup> 1891-1920	{ 1899, 1909
Canada .....	{ 1904, 1914	1902-1920		
Exports <sup>c</sup> from U. S. ...	.....	1902-1920	{ 1891, 1901	1891,
Exports from Canada <sup>e</sup> ..	1886-1920	1902-1920	{ 1901-1920	1901-1920
Imports <sup>c</sup> into U. S. ...	.....	1902-1920	<sup>g</sup> 1891-1920	1911-1920
Imports into Canada ...	.....	1902-1920	<sup>h</sup> 1891-1920	1910-1920
Prices in United States,	.....	1902-1920	.....	.....
Canada, and England	<sup>i</sup> 1906-1916	<sup>j</sup> 1906-1916	.....	<sup>j</sup> 1912-1915
Receipts at principal				
markets .....	.....	.....	1916-1919	1906-1911

<sup>a</sup> Five-year averages.

<sup>b</sup> Three-year average.

<sup>c</sup> Fiscal years.

<sup>d</sup> Also average production by States 1911-1915.

<sup>e</sup> These tables generally give separate figures for trade with Canada.

<sup>f</sup> Also oatmeal.

<sup>g</sup> These tables generally give separate figures for trade with United States.

<sup>h</sup> Every fifth year.

<sup>i</sup> Average of five-year period to 1913, annual 1911-1920.

<sup>j</sup> United States and Canada only.

The data for the United States relating to wheat and wheat flour given in the publication just described are brought to the end of November, 1920, in the publication of the Tariff Commission entitled "Supplemental Information Concerning the Wheat and Flour Trade of the United States."<sup>2</sup> This report gives imports and exports by customs districts for each month from July to November, 1920. It also contains wheat prices at Minneapolis and Winnipeg between May and December, 1920.

**Sugar.** The Federal Trade Commission in 1917 issued a report entitled "Report on the Beet Sugar Industry in the United States," which contained a review of the item of cost and profits in the beet sugar industry from 1910 to 1914. The data included figures on the cost of growing sugar beets and of manufacturing and marketing beet sugar, on the acreage harvested and yield per acre, on sugar consumption from 1865-1914, and on prices of refined granulated and raw sugar at New York for each week from 1890 to 1914.

Two publications of the Sugar Equalization Board are of value to the student of sugar. These are "A Statistical Survey of the Sugar Industry and Trade of the United States," and "Government Control of Sugar" by Joshua Bernhardt. While the book last mentioned was published by the Macmillan Company, it is really a government publication, as the author was Chief of the Statistical Department of the Sugar Equalization Board, which authorized and paid for its publication. Technically the Sugar Equalization Board was not a government organization, as it was a corporation organized under the laws of Delaware. All of the capital stock was owned by the United States, except the qualifying shares required of incorporators and directors. As the Board was not technically a government organization its publications have not generally been included in lists of government publications. For the purposes of the present work it should be regarded as a governmental agency.

During the war the control of the distribution of sugar was effected through the United States Food Administration, the International Sugar Committee, and the United States Sugar Equaliza-

<sup>2</sup> Issued also under the title "Wheat and flour trade, Letter to the Committee on Finance, United States Senate, Sixty-sixth Congress, third session, submitting supplemental information on the wheat and flour trade in the United States."

tion Board. One of the first steps taken by the Food Administration was an agreement with the beet sugar producers, providing for the creation of a Food Administration Sugar Distributing Committee to centralize the distribution of the beet sugar crop. There was also created the American Refiner's Committee, which was charged with the duty of allocating to individual refineries the raw sugar purchased by the International Sugar Committee, which was the agency established by the Food Administration to purchase raw sugar for the United States and the Allies. Both of these committees received periodic reports on production, receipts, stocks, and meltings, and the figures for 1918 and 1919 were published by the Sugar Equalization Board in 1920 under the title, "A Statistical Survey of the Sugar Industry and Trade of the United States; statistics of stocks, receipts, meltings, distribution, and exports of sugar in the years 1918 and 1919." This report also contains supplementary material compiled from the reports of various other government bureaus. The statistics in this publication offer a complete statistical history of the sugar trade of the United States in 1918 and 1919. The data given in the report are the following:

Refiners' stocks of raw sugar by weeks and ports.

Refiners' stocks of refined sugar by months at San Francisco and at Atlantic and Gulf ports.

Refiners' stocks of raw and refined sugar, expressed as refined, by months.

Stock at all beet sugar factories, by months.

Stocks held by wholesalers by months.

Stocks held by wholesalers by divisions and states at various dates.

Retailers' stocks by states on various dates.

Stocks held by various classes of retail dealers, confectioners, bakers, brewers, ice cream manufacturers, condensed milk manufacturers, canners, and hotels at various dates.

Refiners' weekly receipts of raw sugar by ports, and sources of supply.

Refiners' monthly receipts of raw sugar by ports and by sources of supply.

Monthly imports of cane sugar by countries.

Melting capacity at each refining port.

Refiners' weekly meltings, by ports.

Refiners' monthly meltings, by ports.

Monthly distribution of beet sugar from each producing region.

Monthly shipments of refined cane sugar from each locality.

Annual consumption in the United States, 1910-19.

Monthly distribution of beet sugar crops, by states.

Monthly distribution of cane sugar by refiners, by states.

Quantities of sugar normally used in the manufacture of confectionery, bread, crackers, sweet doughs, pies, cakes, sundry bakery goods, chewing gum, soft drinks, ice cream, tobacco, soap, canned vegetables, canned fruits, condensed milk and proprietary medicines.

Amount of sugar covered by certificates issued to various industries and dealers, by months, July to November, 1918.

Annual exports, 1905-19.

Monthly exports, 1913-19.

Monthly exports on account of British Royal Commission on sugar supply, 1918 and 1919.

Monthly exports by countries to which exported, 1916-19.

The book entitled "Government Control of Sugar" is an account of the work of the United States Food Administration and the Sugar Equalization Board. It is a description of the steps taken to control the use of sugar, but in the appendix are some original and some compiled statistics, most of which are not available elsewhere. Some of the features worth mentioning are the following:

Receipts and meltings at individual refineries in 1918 and 1919.

Shipments by individual refineries of sugar refined on account of British Royal Commission, 1918-19 Cuban crop.

Monthly shipment by principal individual refineries in 1919.

Refiners' deliveries, exports, and balance for domestic consumption, by week, for 1919 and by quarters for 1918.

Monthly exports, 1919.

Refiners' stocks on various dates from 1917 to 1920.

Refiners' monthly meltings, 1918 and 1919.

Deliveries by others than refiners, 1918 and 1919.

Purchases by International Sugar Committee, 1918, and United States Sugar Equalization Board, 1919.

Sugar crops of all countries, 1910-11 to 1919-20.

Exports and imports by principal countries, 1911 to 1918.

In a publication entitled "Report of the Federal Trade Commission on Sugar Supply and Prices," is discussed the sugar situation in 1919 and the early part of 1920, after the control of sugar by the Sugar Equalization Board had ceased. This report gives statistics on prices, amount used by various industries, total consumption, and sources of supply. It also contains a brief history of war-time control and post-armistice development.

The report of the Tariff Commission entitled "Relation of the Tariff on Sugar to the Rise in Price of February-April, 1923" contains the following detailed statistical material:

Crops of the world, annually, 1913-14 to 1922-23.

Prices of 96° centrifugal sugar, at New York, six or more quotations each month from January, 1918, to December, 1922.

Comparison of prices of raw duty paid sugar and refined sugar, January, 1922, to March, 1923. A number of quotations each month.

Domestic and export prices of refined sugar, several each month from January, 1921, to April, 1923.

**Livestock and Livestock Products.** A discussion of the changes in the cattle and beef industry since the United States has ceased to be a large exporter of cattle and beef is given in Tariff Information Series No. 30, entitled "Cattle and Beef in the United States: The Tariff Problems Involved," published by the Tariff Commission in 1922. The detailed statistical material in this report is as follows:

- Exports from United States of cattle, fresh beef and veal, canned beef, pickled and other cured beef, tallow, oleo oil and neutral lard, by countries, annually, 1906 to 1921.
- Exports from United States of stearin from animal fats, by countries, annually, 1913 to 1921.
- Imports into United States of cattle, bologna sausage, stearin from animal fats, annually, by countries, 1906 to 1921.
- Imports into United States, annually, by countries. Fresh beef and veal, 1914-21. Oleo stearin 1910-21. Tallow, 1918-21.
- Domestic slaughter of animals and meat production, 1907 to 1921.
- Exports of beef from Argentina, by principal countries, annually, 1914 to 1919.

In 1905 there was issued the "Report of the Commissioner of Corporations on the Beef Industry," which was a discussion of the results of the concentration of the beef trade in the large packing houses. This report contains a large amount of data on the business of the principal packing houses and tables showing the prices of cattle, hides, beef, and beef products over a series of years.

A comprehensive report on all phases of the business of the five largest meat packers was issued in 1919 under the title, "Report of the Federal Trade Commission on the Meat Packing Industry." This publication was issued in six parts, with subtitles as follows:

Summary and Part I.

Part II. Evidence of combination among packers.

Part III. Methods of the five packers in controlling the meat packing industry.

Part IV. The five larger packers in produce and grocery foods.

Part V. Profits of the packers.

Part VI. Cost of growing beef cattle, cost of fattening cattle, cost of marketing livestock.

This publication relates particularly to the business of Armour & Co., Swift & Co., Morris & Co., Wilson & Co., and the Cudahy Packing Company. The text deals at great length with the business practices of these concerns, and gives a mass of statistical detail pertaining to their operations, especially as regards investments, profits, quantity of products, etc. There are also some data on the



general aspects of the industry, particularly in Part VI, which is devoted to the cost of raising and marketing livestock, but the major portion of the report is devoted to the five concerns mentioned.

Livestock and livestock products are also discussed in Tariff Information Series No. 29 issued by the Tariff Commission in 1922, under the title "The Emergency Tariff and its Effect on Cattle and Beef, Sheep and Mutton, Wool, Pork, and Miscellaneous Meats." In addition to a discussion of the economic conditions in 1920 and 1921 as regards these products, statistics are presented on the following subjects:

- Monthly average prices of live cattle, sheep, and hogs, Chicago, Winnipeg, and Toronto, 1921.
- Imports and exports of cattle and sheep by United States, by countries, monthly, 1921, and annually, 1911 to 1921.
- Imports of fresh and prepared meats, monthly, 1920 and 1921.
- Imports and exports of beef and veal by United States, by countries, annually, 1914 to 1921.
- Exports of sheep from United States, by countries, monthly, 1921.
- Imports by classes and production of wool, annually, 1900 to 1921.
- Imports of wool, by classes, monthly, 1921.
- Wholesale prices of wool at Boston, quarterly, January, 1920, to July, 1922.
- Wool values at London sales, March, 1921, to June, 1922.
- Total imports and exports of fresh pork and of prepared and fresh meats, annually, 1919 to 1921.
- Imports and exports of swine by United States, by countries, 1918 to 1921.

A detailed report entitled "The Wool Growing Industry," issued by the Tariff Commission in 1921, while largely descriptive and not a detailed statistical compilation, contains scattered statistical data pertinent to the subject. The following list of chapters will give an idea of the scope of the report:

#### Part I.

##### Chapter 1. Introduction.

2. Survey of the world production and consumption of wool.
3. Wool control during the war.

#### Part II. Wool growing in the United States.

4. The sheep industry in the East.
5. The sheep industry in the South.
6. The sheep industry in the Middle West.
7. The sheep industry in the Ohio region.
8. Our land policy in the range states and the sheep industry.
9. The organization and financing of the sheep industry in the range states.
10. Cost of producing wool and mutton in the range states.
11. Marketing and handling of wool in the United States.
12. The marketing of sheep and lamb.

Part III. Wool growing in foreign countries.

13. Wool growing in Australia.
14. Wool growing in British South Africa.
15. Wool growing in New Zealand.
16. Wool growing in Argentina.

Part IV. Tariff problems in the wool growing industry.

17. History of the wool tariff in the United States.
18. Classification of wool and basis of import duty.

Appendix. Public conferences with the United States Tariff Commission on the wool growing industry in the United States.

The detailed report on the wool industry described above is supplemented by a publication issued by the Tariff Commission in 1922 entitled "Recent Tendencies in the Wool Trade, with Special Reference to their Tariff Aspects, 1920-22." In addition to a discussion of the status of the industry, this report contains the following statistical material:

Production by countries, 1921, and average for 1909-13.

Average consumption by countries, 1909-13.

Monthly prices of domestic wools, Boston, January to October, 1920 and 1921.

London prices, from March, 1921, to May, 1922.

Wool stocks in the United States, by class and grade, quarterly from June, 1917, to September, 1921.

Consumption of wool in the United States, by class and grade, annually, 1918 to 1921.

Quantity of wool entering into manufacture in the United States, by class and grade, annually, 1918 to 1921.

Wholesale prices of domestic wool in Boston market, by class and grade, monthly, January, 1919, to April, 1922.

Wool prices in London, December, 1900, 1901, 1910 to 1913; July, 1914; December, 1915 and 1916; April, 1917, December, 1919 to 1921.

Tariff Information Series No. 28, entitled "Hides and Skins," issued by the Tariff Commission in 1922, contains the following statistical data:

Production and imports to United States, 1914 and 1920.

Average yearly prices of hides, live cattle, and carcass beef, Chicago, 1908 to 1921.

Raw hides and skins used in tanneries, 1909, 1914, and 1919.

Index numbers of wholesale prices of hides, leather and shoes, monthly average for each of years 1913 to 1920; figures for each month, 1920 and 1921.

Imports for consumption, fiscal years 1911 to 1918; calendar years 1918-21.

Value of leather exports, 1890 to 1922.

Average prices of hides, annually, 1895 to 1911.

Prices of leather, quarterly, 1901 to 1911.

The history of the raw milk, condensed milk, and butter industries from 1914 to 1918 is given in the report of the Federal Trade

Commission entitled "Report . . . on Milk Products, 1914-1918." The statistics include data on prices of raw materials and products, production, exports, imports, investments, and profits.

**Tobacco.** Reports on the tobacco industry have been made by both the Bureau of Corporations and the Federal Trade Commission. The publication entitled "Report of the Commissioner of Corporations on the Tobacco Industry" was published in three parts between 1909 and 1915, under the following subtitles:

- Part I. History of tobacco combination [issued in 1909].
- Part II. Capitalization, investments, and earnings [issued in 1911].
- Part III. Prices, cost and profits [issued in 1915].

These reports were devoted to tobacco products and did not cover the field of leaf tobacco. They related particularly to control of the industry by a combination of manufacturers generally known as the Tobacco Trust. Part I contains statistics on output of manufactured tobacco from 1890 to 1906, giving separate figures for the product of the combination and of the independent manufacturers. It also contains a text discussion of the organization and business of the combine and an account of the development of control of the industry. Part II contains statistics and discussion of capitalization, investment, and earnings. Part III gives statistics on prices, costs, and profits over a series of years. By the time Part III was issued the combination had been dissolved by an order of the court, and it was possible to give statistics on the business of the combination and on the separate companies which were its successors.

The "Report of the Federal Trade Commission on the Tobacco Industry," issued in 1920, is the result of an investigation whose primary purpose was to ascertain the causes of the decline in prices of leaf tobacco. This investigation did not cover the field of manufactured tobacco except to give figures on the cost of manufacture, the material cost, and the selling price in order to ascertain the margin between the raw material cost and the other costs. The more important statistical material in this report is as follows:

- Production of tobacco, by types, 1915 to 1919.
- Average prices of leaf tobacco, by types and regions, 1918 and 1919.
- Average prices, factory cost, material cost and labor cost of cigarettes, smoking tobacco, and plug tobacco, by months, October, 1919, to June, 1920.
- Exports of leaf tobacco, by countries, 1915 to 1919.
- New York exchange rates on foreign countries, monthly, October, 1918, to October, 1920.

**Canned Goods.** During the war the Federal Trade Commission made a study of the canned food situation, and issued two reports: "Report of the Federal Trade Commission on Canned Foods—General Report, and Canned Vegetables and Fruit," and "Report of the Federal Trade Commission on Canned Foods—Canned Salmon."

The report on fruits and vegetables contains data on the production cost, selling costs, and profits in various sections in 1916 and 1917. It also includes data on the expenses and profits of grocers and wholesale brokers and a discussion of processes of production, methods of distribution, and possible economics. Production statistics are given for the following products for the years indicated:

**Vegetables.**

- Corn, 1904, 1909, 1914, and 1917.
- Peas, 1904, 1909, 1914, 1917.
- Hominy, 1914 and 1917.
- Spaghetti, 1917.
- Tomatoes, 1904, 1909, 1914, 1917.
- Tomato pulp, 1914 and 1917.
- Beans, 1904, 1909, 1914, 1917.
  - Green or wax beans, 1917.
  - Red kidney beans, 1917.
  - Lima beans, 1917.
  - Pork and beans, 1917.
- Kraut, 1914, 1917.
- Cabbage, 1917.
- Spinach, 1909, 1914, 1917.
- Asparagus, 1909, 1914, 1917.
- Sweet potatoes, 1900, 1904, 1909, 1914, 1917.
- Beets, 1909, 1914, 1917.
- Pumpkin squash, 1904, 1909, 1914, 1917.
- Succotash, 1904, 1909, 1914, 1917.

**Fruit.**

- Peaches, 1904, 1909, 1914, 1917.
- Pears, 1904, 1909, 1914, 1917.
- Berries, 1904, 1909, 1914, 1917.
- Apricots, 1904, 1909, 1914, 1917.
- Apples, 1904, 1909, 1914, 1917.
- Cherries, 1907, 1909, 1914, 1917.
- Grapes, 1917.
- Pineapple, 1909, 1914, 1917.
- Figs, 1909, 1914.
- Plums and prunes, 1909, 1914, 1917.

**Fish.**

- Salmon, 1914, 1917.
- Sardines, 1914, 1917.
- Tuna, 1914, 1917.

The statistics for 1904, 1909, and 1914 listed above were obtained from the Census of Manufactures; those for 1917, from the Food Administration. Annual figures on the packing of corn, tomatoes, and peas, computed by the National Cannery Association, are given for each year from 1908 to 1917. Production statistics on condensed milk and on evaporated milk are given for 1915, 1916, May 1, 1916, to April 30, 1917, and November 1, 1916, to October 31, 1917.

The report on canned salmon contains data on number of fish purchased and packed, cost of packing, capital, investment and profits for 1916 and 1917, and opening prices of various classes from 1897 to 1917. There is included also a general description of the industry and methods of marketing.

**Potato Products.** A publication issued by the Tariff Commission in 1921, entitled "Information concerning the Domestic Potato-Product Industries" in addition to comments on uses, processes, and tariff history relating to the products listed below, contains the following statistical material:

Potato starch, production in United States, 1904, 1909, 1914.

Desiccated or dried potatoes, imports for consumption, annually, 1914 to 1918.

Potato-drying industry in Germany, production, annually, 1908 to 1911.

Potato products, production in Germany, 1910 and 1911.

Potato starch, production in United States, 1904, 1909, 1914.

Cornstarch, production in United States, 1904, 1909, annually, 1914 to 1918.

Potato starch and other starches, imports for consumption into United States, annually, 1908 to 1918.

Starch, imports into each of principal foreign countries, annually, 1910 to 1918.

Starch, exports from United States, by countries, annually, 1914 to 1918.

Starch, wholesale prices at New York, quarterly, January, 1910, to July, 1919.

Dextrine production in United States, 1904, 1909, 1914.

Dextrine, imports for consumption into United States, annually, 1908 to 1918.

Dextrine, prices, quarterly, at New York, January 1900, to July, 1919.

**Textiles.** A review of the woolen rag trade and its relation to the manufacture of shoddy is given in the "Report on the Woolen Rag Trade," issued by the Federal Trade Commission in 1919. In addition to the general discussion this report contains annual prices on woolen rags from 1904 to 1911 and monthly and quarterly prices from January, 1913 to March, 1919.

Tariff Information Series No. 3, "Silk and Manufactures of Silk," issued by the Tariff Commission in 1918, contains statistics over a series of years relating to the silk industry in the United States as well as general definitions and descriptions of silk fabrics. The main statistical tables are the following:

Consumption of raw silk, silk yarn and artificial silk in textile industries, 1899, 1904, 1909, and 1914.

Value of manufactures of silk at each census since 1830.

Imports (quantity) of unmanufactured silk since 1864.

General imports (quantity and value) of silk and silk manufactures, by articles, fiscal years 1906 to 1917.

Domestic exports (value) of manufactures of silk and silk waste, 1906 to 1917.

General imports (value) of silk by principal classes and countries, fiscal years 1912-17.

Imports for consumption of items on dutiable list of Schedule L of tariff of 1913 for fiscal years 1896, 1905, 1912, and 1914.

Exports (value) of silk from Japan to United States, 1913 to 1916.

Exports (quantity and value) of habutæ from Japan to principal countries, 1891-1916.

The Tariff Commission in 1919 published Tariff Information Series No. 10, "Cotton Venetians," which is devoted to a description of the American industry and a consideration of foreign competition. The statistics include the following:

Estimate of quantity produced and imported 1913 to 1918.

Prices 1913 and 1918.

Cost of production 1913 and 1918.

A comparison of the uses and demand for Egyptian and American long staple cotton is given in Tariff Information Series No. 27, entitled "The Emergency Tariff Act and Long Staple Cotton." This report contains weekly prices on the two commodities from January, 1921, to May, 1922, imports and reexports of cotton for the fiscal years 1891 to 1921, and cotton production, consumption, exports, and net imports from 1790 to 1920.

**Petroleum and Petroleum Products.** The "Report of the Commissioner of Corporations on the Petroleum Industry" issued in 1907, is devoted principally to an exposition of the position and practices of the Standard Oil Company. This report contains a comprehensive review of the investment, cost of production, and profits of that company during the years preceding 1907, as well as general statistics on production and prices over a series of years and a description of existing pipe lines and methods of marketing. The price statistics in most cases relate to the period from 1897 to 1905.

Factors bearing on the price of gasoline are discussed in the "Report on the Price of Gasoline in 1915" issued by the Federal Trade Commission. The more important statistical material in this report is the following:

- Monthly average prices of gasoline in specified states, 1915.
- Monthly average price of crude oil, 1915.
- Cost of production of gasoline, at seven representative refineries, July to December, 1915.
- Capital stock, surplus net earnings and dividends of 24 representatives refining and marketing companies.
- Monthly production of crude oil by fields, 1914 and 1915.
- Stocks of gasoline by fields, 1915.
- Sales of gasoline, monthly, 1915.
- Exports of gasoline by companies, 1914 and 1915.

The oil situation on the Pacific Coast, particularly in California is treated in the "Report of the Federal Trade Commission on the Pacific Coast Petroleum Industry," in two parts, issued in 1921.

This report contains some general statistics on the petroleum industry in the United States, in addition to the more detailed figures relating to the California field. The more important tables are the following:

- Imports and exports of petroleum and petroleum products, 1913 to 1920.
- Production of crude oil by states, 1859 to 1908, and annually, 1909 to 1920.
- Production of crude oil in California, by fields, prior to 1876 and annually from 1876 to 1920.
- Production of crude oil in California by each of seven large companies, annually, 1914 to 1920.
- Monthly stocks of crude oil in California, annually, 1914 to 1920.
- Balance sheet, fixed investment, and income account for Standard Oil Company of California, Union Oil Company, Associated Oil Company, General Petroleum Company, and Shell Company, annually, 1914 to 1919.
- Cost of producing crude oil and cost of refining in California, annually, 1914 to 1919.

The "Report of the Federal Trade Commission on the Petroleum Industry of Wyoming," issued in 1921, contains a discussion of the conditions affecting the production and refining of petroleum in that state. The more important statistical material is as follows:

- Production of crude oil in Colorado, annually, from 1887 to 1918.
- Production of crude oil in Wyoming, annually, 1894 to 1919.
- Production of crude oil in Wyoming, by fields, annually, 1914 to 1918.
- Production of crude oil in Wyoming, by companies, annually, 1917 to 1919.
- Pipe lines, length, diameter, crude oil transported, and income account.
- Balance sheet of Midwest Refining Company, annually, from 1914 to 1919.

The results of a general study of the increase in prices of petroleum products are given in the "Report of the Federal Trade Commission . . . on Advance in Price of Petroleum Products," issued in 1921. The basic statistics used in this report are as follows:

Prices of crude oil, monthly, January, 1918, to April, 1920.

Production of crude oil, annually, 1900 to 1919.

World production in 1918, and total for earlier years.

Production of crude oil, monthly, January, 1918, to March, 1920.

Monthly stocks of crude oil, January, 1918, to March, 1920.

Imports and exports of crude oil and petroleum products, annually, 1910-1919.

Production, consumption and stocks at refineries of gasoline, kerosene, gas oil, and fuel oil, monthly, January, 1918, to February, 1920.

Prices of gasoline and kerosene at various times between January, 1919, and May, 1920.

In a report of the Federal Trade Commission issued in 1923, entitled "Report . . . on Foreign Ownership in the Petroleum Industry," the statistical data relate almost entirely to the operations and finances of the Royal Dutch-Shell group and its affiliated companies. Among the other material worth noting are the following items:

Petroleum production of the world, by countries, annually, 1917 to 1921.

Petroleum production in Russia, by companies, annually, 1910 to 1914.

Location and capacity of oil-bunkering stations in all countries owned by American corporations, the Royal Dutch-Shell group, the Anglo-Persian Oil Company.

Capital invested in the Mexican petroleum industry, by American, British, Dutch and Mexican interests, on December 31, 1922.

In addition to a discussion of foreign holdings in the United States the text of the report contains a section on the restrictive policies and administrative practices of foreign governments.

**Coal.** A report, entitled "Report of the Federal Trade Commission on Anthracite and Bituminous Coal, 1917," prepared as a result of the war situation, contains data on coal production and prices, mostly for 1916. This report is primarily a study of merchandising conditions and practices. It shows for September to December, 1916, for all important cities, the maximum and minimum cost prices to dealers, typical sale prices, and gross margin of profit for a number of representative dealers in each place.

Included in the report is a brief review of the anthracite industry and the conditions affecting the local jobbing and retailing of anthracite in important local markets.



**Iron and Steel.** Part I of the "Report of the Commissioner of Corporations on the Steel Industry," issued in 1911 is devoted mostly to the organization, profits, investment, and position of the United States Steel Corporation. This report contains detailed financial statistics relating to the United States Steel Corporation as a whole and to its constituent companies. It also gives annual production statistics as reported to the American Iron and Steel Institute, for various classes of iron and steel products for 1901 to 1910, for the Steel Corporation and for independent companies. Parts II and III of the report are devoted to a study of the cost of production.

**Minerals.** Tariff Information Series No. 21, entitled "Industrial Readjustment of Certain Mineral Industries Affected by the War," was issued by the Tariff Commission in 1920. In addition to the statistics it contains considerable material on the character, uses, and substitutes for each mineral discussed. There is also a bibliography on each commodity. The statistical material contained in the bulletin is shown in the following table:

Minerals	Production in U. S.	Production in important foreign countries	Imports	Exports	Prices
Antimony .....	1910-1918	1910-1917	1910-1918	1910-1919	1910-1918
Chromite .....	1910-1919	1913-1918	1910-1919	.....	1909-1919
Graphite .....	1909-1919	1914-1918	1912-1919	1912-1919	1910-1918
Magnesite .....	1909-1919	1913-1917	1910-1919	.....	1913-1919
Manganese .....	1910-1918	1912-1918	1910-1918	.....	1910-1918
Potash <sup>a</sup> .....	1915-1919	1910-1918	1909-1918	.....	1912-1920
Pyrites .....	1910-1918	1910-1917	1909-1918	.....	1912-1920
Sulphur <sup>b</sup> .....	1909-1918	1901-1918	1902-1919	1909-1919	1912-1919
Quicksilver .....	1902-1919	1908-1917	1910-1919	1907-1919	1895-1919
Tungsten .....	1910-1918	1913-1918	1910-1919	.....	1901-1918

<sup>a</sup> Also consumption in agriculture by foreign countries.

<sup>b</sup> Also exports from Italy, 1910-1915; exports from Japan, 1913-1918.

Separate publications on most of the minerals listed above were issued later and are described below:

In a publication entitled "Information Concerning Graphite," published by the Tariff Commission in 1919, are reviews of the

description, use, and occurrence of the mineral, list of producers, and the following statistics :

Production in the United States, annually, 1909 to 1918.

Exports from the United States, by countries, annually, 1910 to 1918.

Production in each of principal foreign countries, annually, 1907 to 1918.

Imports into United States from each of principal foreign countries, annually, 1910 to 1918.

Prices, annually, 1910 to 1918.

The following statistics on tungsten-bearing ores are given in the report of the Tariff Commission issued in 1919, entitled "Information Concerning Tungsten-bearing Ores :"

World production, by each of principal countries, annually, 1910 to 1918.

Production in the United States, by states, annually, 1910 to 1918.

Average monthly prices, 1917 and 1918.

Imports, into United States, by countries, annually, 1912 to 1918.

This publication also contains text on the occurrence, uses, marketing, and other features of the trade in this product.

The publication, entitled "Information Concerning Manganese Ore," issued by the Tariff Commission in 1919, contains the following statistical material :

Production of manganese ore in the United States, by states, annually, 1910 to 1918.

Production of manganiferous iron ore in the United States, by states, annually, 1907 to 1912.

Production of manganese ore in each of principal foreign countries, annually, 1910 to 1918.

Imports of manganese ore into the United States by principal countries, annually, 1910 to 1918.

Cost of production of United States and foreign ores.

It also contains the material on uses and other topics usually found in the report of the Tariff Commission.

A report, entitled "Information Concerning the Magnesite Industry," published by the Tariff Commission in 1920,<sup>3</sup> contains data on the occurrence and uses of magnesite, as well as the following statistics :

Production in the United States, annually, 1900, 1904, 1909 to 1918.

Estimated world production, 1913 and 1917.

Imports, into United States, by countries, annually, 1911 to 1919.

A review of the zinc ore industry is given in the publication of the Tariff Commission entitled "Information Concerning Zinc Ore," issued in 1919, the statistical material including the following :

<sup>3</sup> Another report covering practically the same ground was issued in 1919.

Production, by states, annually, 1910 to 1918.  
Exports by countries, annually, 1910 to 1918.  
Production in each important foreign country, annually, 1910 to 1915.  
Imports, into United States, by principal countries, annually, 1904 to 1918.  
Imports for consumption, United States, annually, 1907 to 1918.  
Annual wholesale prices, 1901 to 1918.

There are also accounts of the history of the industry in the United States, of foreign resources, and of mining and milling practices and methods in the principal producing areas.

Data on the several salts of potash are given in the report of the Tariff Commission issued in 1919, entitled "Information Concerning the Potash Industry." This publication gives annual statistics for 1909 to 1918 of imports of each of the salts shown separately in the trade statistics, of wholesale prices quarterly for 1912 to 1918, and of the annual production in the United States from 1916 to 1918.

The history of the phosphate rock industry and data on cost of production are given in the Sixth Special Report of the Commissioner of Labor, 1893, entitled "Phosphate Industry of the United States." The data include figures on shipments of phosphate rock from South Carolina annually from 1867 to 1892 and from Florida from 1888 to 1892.

A report entitled "Information Concerning the Pyrites and Sulphur Industry," issued by the Tariff Commission in 1919, contains the following statistical material:

#### **Pyrites.**

Production, by states, annually, 1910 to 1918.  
Production in each country, annually, 1910 to 1917.  
Imports into United States, by countries, annually, 1909 to 1918.  
Prices at New York, quarterly, 1912 to 1919.

#### **Sulphur.**

Production in United States, annually, 1901 to 1917.  
Exports from Japan, by countries, 1914 and 1915.  
Production in each country, annually, 1900 to 1917.  
Imports into United States, by countries, annually, 1902 to 1918.  
Exports from United States, by countries, annually, 1909 to 1918.  
Prices at New York, quarterly, 1912 to 1919.

**Fertilizers.** In 1916 the Federal Trade Commission issued a publication entitled "Report on the Fertilizer Industry," which includes not only data on the manufacture of fertilizers in the United States, but also statistics relating to sources of supply of raw

material and the use of raw material in foreign countries.<sup>4</sup> The statistics in this report to which special attention should be called are the following :

Nitrate exports from Chile, annually, by countries, 1907 and 1913.

Imports of sulphate of ammonia into the United States, 1907-13, by countries.

Production of sulphate of ammonia, 1907 to 1913.

Consumption of nitrate of soda in principal world markets, 1909 to 1913.

Shipments of German potash salts to United States, 1904 to 1914.

Sulphate of ammonia produced and consumed in Germany, France and United Kingdom, 1908 and 1913.

Exports of sulphate of ammonia from United Kingdom, by countries, 1909 to 1913.

Crude potash salts extracted from mines of potash syndicate, Germany, 1890 to 1913.

World production of basic slag phosphate, by countries, 1907 to 1913.

World production of phosphate rock and apatite, by countries, 1907 to 1913.

Production of phosphate rock, by states, 1904 to 1914, also imports and exports.

Average monthly prices of nitrate of soda in principal world markets, 1906 to 1914.

Average monthly prices for foreign sulphate of ammonia, 1907 to 1914.

Average monthly prices for cottonseed meal by states, 1907 to 1914.

Average monthly prices for domestic sulphate of ammonia in United States principal districts, 1907 to 1914.

Prices of fertilizer material, annually, 1908 to 1914.

Consumption of fertilizer, by states, 1909 to 1914.

Plants, profits, sales, etc., of representative companies.

**Barytes, Barium Chemical and Lithopone Industries.** A report entitled "Barytes, Barium Chemical and Lithopone Industries," was issued by the Tariff Commission in 1920 as Tariff Information Series No. 18. This pamphlet contains statistics on production in the United States and foreign countries, imports into the United States, and prices, as well as a review of the tariff history of the industries, descriptions of the products and their uses, and a study of the costs of production.

**Acids.** Statistics for several acids are given in Tariff Information Series No. 13, entitled "The Acids of Paragraph I and Related Materials Provided for in the Tariff Act of 1913," issued by the Tariff Commission in 1920. In addition to the purely statistical matter, the text contains a review of the industry in the United

<sup>4</sup> A second publication, entitled "Report of the Federal Trade Commission on the Fertilizer Industry" was issued in 1923. This report relates primarily to control of materials, selling methods, and competitive conditions in 1921 and 1922. It contains no statistical material.

States and important foreign countries. The commodities for which figures are given for the United States and the years covered are shown in the following table:

Commodities	Production	Imports for consumption	Imports by countries	Prices
Crude borax material...	1903-1918	.....	.....	.....
Borax .....	1914-1917	1910-1919	.....	1913-1919
Boric acid .....	1914-1917	1909-1918	.....	.....
Citric acid .....	{ 1904-1909 1914-1917 }	1910-1919	1914	1911-1919
Citrate of lime.....	.....	1910-1919	1910-1918	.....
Oil of lemons.....	.....	1909-1919	.....	.....
Formic acid .....	.....	1906-1919	1914	.....
Gallic acid .....	1915-1917	1910-1919	1914	1915-1920
Pyrogallie acid .....	1915-1917	1910-1919	1914	1912-1919
Nutgalls .....	.....	1912-1919	.....	.....
Tannic acid .....	1914-1917	1910-1919	.....	1912-1919
Lactic acid .....	1917	1906-1919	.....	1895-1919
Oxalic acid .....	.....	1910-1919	1913-1918	1908-1919
Tartar .....	.....	1910-1919	.....	.....
Tartaric acid .....	.....	1909-1919	.....	1913-1919
Tartrate of soda.....	.....	1909-1918	.....	1913-1919
Argals and wine lees....	.....	1910-1919	1911-1918	.....
Crude calcium tartrate.	.....	1914-1919	.....	.....
Cream of tartar.....	.....	1910-1919	.....	1913-1919

The production statistics for borax, boric acid, citric acid, gallic acid, pyrogallie acid, and tannic acid for 1915 to 1917 were collected by the Tariff Commission and are original in this publication.

Import and export statistics of France, United Kingdom, Italy, and Germany are given for the principal acids and related materials for several years prior to 1918.

In addition to the above there are given statistics of exports of baking powder from the United States, for the fiscal years 1911 to 1918.

**Incandescent Gas Mantles.** Tariff Information Series No. 14, "The Incandescent Gas Mantle Industry," issued by the Tariff Commission in 1920, gives a history of the development of the industry, a bibliography, and the following statistics:

World production (quantity and value) of monazite sand, 1909 to 1917.

Exports (quantity) of monazite sand from Brazil, 1905 to 1918.

General imports (quantity and value) of monazite sand and thorite by countries, 1910 to 1918.

Imports for consumption (quantity and value) of monazite sand and thorite by countries.

Production of monazite sand (quantity and value) 1905 to 1918.

Production (quantity) of thorium nitrate, 1913 to 1919; original statistics collected by Tariff Commission.

Imports for consumption (quantity and value) of thorium nitrate 1909 to 1919.

Imports for consumption (quantity and value) of thorium oxide and other thorium salts, 1914 to 1919.

General imports (value) of gas burners, by countries, 1910 to 1918.

Imports for consumption (quantity and value) of gas mantles, 1910 to 1919.

Domestic exports (value) of gas mantles, by countries, 1918 and 1919.

Imports for consumption (value) of cerium, cerite or cerium ore, 1910 to 1919.

Imports for consumption (quantity and value) of gas mantle scrip, 1910 to 1919.

Imports and exports of gas mantles by Germany 1911 to 1913; Austria Hungary, 1909 to 1913; France, 1912 to 1918.

**Glass.** Tariff Information Series No. 5, "The Glass Industry as Affected by the War," published by the Tariff Commission in 1918, contains statistics on the following topics:

Value of production for census years, beginning with 1879, to 1899, quantity and value production, 1904 and 1914, quantity production of hand window glass factories for 1915-16 and 1916-17.

General imports and domestic exports (quantity and value) by articles and countries, fiscal years 1914 to 1917.

Value of imports and exports by foreign countries in 1913.

Exports from Japan 1913-17.

Cost of production in 1916 and 1917.

Earnings of wage earners in 1914 and 1917.

Certain specialized features of the glass industry are discussed in the publication of the Tariff Commission, issued in 1919, entitled "Information Concerning Optical Glass and Glassware," which contains the following statistical material:

Production of optical glass plates, monthly, April to October, 1918.

Imports of glass plates or disks, annually, by countries, 1913 to 1918.

Production of chemical glassware, annually, 1915 to 1918.

Exports of chemical glassware by countries, six months periods, July, 1917, to December, 1918.

**Furniture.** In 1923 the Federal Trade Commission published a volume entitled "Report . . . on House Furnishing Industries, Volume I, Household Furniture." The greater part of this report is devoted to a discussion of trade practices, but there are considera-

ble statistical data not available elsewhere, among which may be mentioned the following :

Wholesale prices of furniture, monthly, January, 1920, to April, 1922.

Prices of woods used in furniture making, monthly, January, 1920, to April, 1922.

Investments, sales, and profits of manufacturers and retailers, 1920 and 1921.

**Stoves.** The conditions in the stove industry and trade in 1920 and 1921 are discussed in the publication of the Federal Trade Commission entitled "Report . . . on House Furnishing Industries, Volume II, Household Stoves." The greater part of this report is devoted to trade practices, particularly those that involve the determination of prices through associations of manufacturers. The statistical data include the following :

Index numbers of dealer's costs and prices, quarterly, 1920 to 1922.

Index numbers of manufacturer's prices, monthly, 1920 to 1922.

Factory costs, 1920 and 1921.

Investments, sales, costs and profits of manufacturers, 1920 and 1921.

**Farm Machinery and Implements.** A report issued by the Commissioner of Corporations in 1913, entitled "The International Harvester Company," contains detailed statistics on the operations, finances, and output of that concern and its constituent companies. This report does not cover the entire agricultural implement industry, but describes the development and methods of the largest corporation engaged in that business.

The publication entitled "Report of the Federal Trade Commission on the Causes of High Prices of Farm Implements," issued in 1920, contains a general statistical review of the farm implement industry. Production statistics for the years covered by the various censuses of manufactures from 1849 to 1914 are given in order to show the growth of the industry. There are also original data collected by the Commission pertaining to the prices of farm implements and figures for leading concerns dealing with costs, sales, income, and investment during the period from 1913 to 1918.

**Surgical Instruments.** Prior to 1914 surgical instruments, like dyes, were obtained largely from Germany. A review of the domestic industry was published by the Tariff Commission in 1918 as Tariff Information Series No. 7, "The Surgical Instrument Industry in the United States," which contains statistics on produc-

tion, wages, and prices in 1914 and 1918. While the statistics are somewhat general they are the only ones available on this industry.

**Paper.** The "Report of the Federal Trade Commission on The Newsprint Paper Industry," published in 1917, contains a general review of the factors which had resulted in the scarcity of paper and the increase in price. This publication includes statistics for 1913 to 1916 on imports, exports, prices, and production and shipments by individual mills in the United States and Canada.

As the paper situation remained acute, the Commission continued to collect statistics on production, stocks, and shipments, which were later issued monthly in mimeographed form. These monthly statistics were not confined to newsprint, but included figures on book paper, pasteboard, boxboard, wrapping paper, bag paper, fine writing, ledger, and bond papers, tissue, wall paper and felt and building paper. There were also given production statistics for the various grades of woodpulp and figures on the number of machines idle in the pulp and paper industry, the hours idle, and the causes of cessation of operations. An annual mimeographed statement was issued at the end of each year giving a summation of the figures for the year. The collection of these statistics has been discontinued.

Tariff Information Series No. 1, "Paper and Books," issued by the Tariff Commission in 1917, contains statistics of general imports of paper, books, etc., from 1906 to 1916, with detailed statistics by countries for 1915 and 1916. It also gives the following statistics for the fiscal years 1896, 1905, 1912 and 1914 on the dutiable items of Schedule M of the Tariff of 1913: Quantity and value of imports for consumption, value of domestic exports, duty collected, and quantity and value of production if given in censuses of manufactures for 1904, 1909, and 1914. The consumption figures are approximate only, as the import and export figures on the one hand and the production figures on the other hand do not refer to the same period. The fiscal years 1896, 1905, 1912, and 1914 were selected in order to compare the figures for one year under the Wilson, Dingley, Payne, and Underwood tariffs.

**Brushes.** Tariff Information Series No. 8, "The Brush Industry," issued by the Tariff Commission in 1918, contains informa-



tion on methods of manufacture and statistics on the following topics:

- Production in 1849, 1859, 1869, 1909, and 1914.
- General imports (value), 1910 to 1917.
- Imports for consumption (value), 1894 to 1917.
- Domestic exports (value), by countries, 1913 to 1917.
- Statistics on imports and exports of foreign countries.

**Buttons.** The button industry is discussed in Tariff Information Series No. 4, "The Button Industry," issued by the Tariff Commission in 1918. In addition to the statistics, the pamphlet contains a review of the industry in the United States and foreign countries, descriptions of processes, and a bibliography. The statistical material includes the following:

- Production (quantity and value), in 1914.
- General imports (value) of buttons and material for buttons for fiscal years 1889-1917, with principal countries of shipment for fiscal years 1910 to 1917.
- Domestic exports (value) to principal countries for fiscal years 1910 to 1917.
- Imports for consumption (quantity and value), rates of duty, and revenue for fiscal years 1896, 1905, 1912, 1914, and 1917.
- Drawbacks paid during fiscal years 1910 to 1916.

**Wood-Using Industries.** The Forest Service, in coöperation with state organizations and trade journals, has made a series of surveys of the wood-using industries in various states. These reports were not issued by the Forest Service, but they are listed here as they represent a statistical activity of that organization, which had general charge of the collection of the data. These reports treat each industry separately and show the quantity of each variety of wood used during the year, the average cost per one thousand feet, the total cost f. o. b. factory, the amount used that was grown in the state, and the amount brought in from other states or foreign countries. While most of these reports are some years old, they furnish the only available guide to the consumption of the various species of woods in the several states. The titles of the reports, the year published and the names of the organizations publishing them are as follows:

- Alabama—The wood-using industries of Alabama, 1912, by John T. Harris. (In coöperation with the Lumber Trade Journal.)
- California—Wood-using industries of California, 1912, by Andrew E. Armstrong. (In coöperation with the California State Board of Forestry.)

- Connecticut—Wood-using industries of Connecticut, 1913, by Albert H. Pierson. (In coöperation with the Connecticut Agricultural Experiment Station.)
- Florida—Wood-using industries of Florida, 1912, by Hu Maxwell. (In coöperation with the Florida Department of Agriculture.)
- Georgia—Wood-using industries of Georgia, 1915. (In coöperation with the Lumber Trade Journal.)
- Idaho—The wood-using industries of Idaho, 1912, by C. W. Dunning. (In coöperation with the Pacific Lumber Trade Journal.)
- Illinois—The wood-using industries of Illinois, 1911, by R. E. Simmons. (In coöperation with the Department of Horticulture of the University of Illinois.)
- Indiana—Indiana's wood-using industries, 1915, by Jesse C. Nellis. (In coöperation with the Hardwood Record.)
- Iowa—The wood-using industries of Iowa, 1913, by Hu Maxwell and John T. Harris. (In coöperation with the Iowa Agricultural Experiment Station.)
- Kentucky—A study of the wood-using industries of Kentucky, 1911, by R. E. Simmons. (In coöperation with Kentucky State Board of Agriculture, Forestry and Immigration.)
- Louisiana—The wood-using industries of Louisiana, 1912, by Hu Maxwell. (In coöperation with the Lumber Trade Journal.)
- Maine—Wood-using industries of Maine, 1912, by Jesse C. Nellis. (In coöperation with the Maine Forest Commission.)
- Maryland—The wood-using industries of Maryland, with a chapter on Maryland's lumber and timber cut and the timber supply, 1910, by Hu Maxwell and F. W. Besley. (In coöperation with the Maryland State Board of Forestry.)
- Massachusetts—A study of the Massachusetts wood-using industries, 1910, by Hu Maxwell. (In coöperation with the State Forester of Massachusetts.)
- Michigan—Wood-using industries of Michigan, 1912, by Hu Maxwell. (In coöperation with Michigan Public Domain Commission.)
- Minnesota—Wood-using industries of Minnesota; timber resources of Minnesota, 1912, by Hu Maxwell and others. (In coöperation with the Minnesota State Forestry Board.)
- Mississippi—The wood-using industries of Mississippi, 1912, by Clark W. Gould and Hu Maxwell. (In coöperation with the Lumber Trade Journal.)
- Missouri—Wood-using industries of Missouri, 1912, by Charles F. Hatch and Hu Maxwell. (In coöperation with the St. Louis Lumberman.)
- Montana—Wood-using industries of Montana, 1912. (In coöperation with the Timberman.)
- New Hampshire—Wood-using industries of New Hampshire, 1912, by R. E. Simmons. (In coöperation with the New Hampshire Forestry Commission.)
- New Jersey—The wood-using industries of New Jersey, 1914, by Albert H. Pierson. (In coöperation with the New Jersey Forest Park Reservation Commission.)
- New York—The wood-using industries of New York, 1913, by John T. Harris. (In coöperation with the New York State College of Forestry at Syracuse University.)

- New York—Wood-using industries of New York, 1921, by R. V. Reynolds and R. J. Hoyle. (In coöperation with the New York State College of Forestry at Syracuse University.)
- North Carolina—Wood-using industries of North Carolina, 1910, by R. E. Simmons. (In coöperation with North Carolina Geological and Economic Survey.)
- Ohio—Wood-using industries of Ohio, 1912, by C. W. Dunning. (In coöperation with the Ohio Agricultural Experiment Station.)
- Oregon—Wood-using industries of Oregon, with special reference to the properties and uses of Oregon woods, 1911, by H. B. Oakleaf. (In coöperation with the Oregon Conservation Commission.)
- Pennsylvania—Wood-using industries of Pennsylvania, 1914, by R. E. Simmons. (In coöperation with the Pennsylvania Forestry Department.)
- South Carolina—Wood-using industries of South Carolina, 1913, by Stanley L. Wolfe. (In coöperation with the South Carolina Department of Agriculture, Commerce and Industries.)
- Tennessee—The wood-using industries of Tennessee, 1912, by Clark W. Gould and Hu Maxwell. (In coöperation with the Southern Lumberman.)
- Texas—The wood-using industries of Texas, 1912, by Hu Maxwell and Charles F. Hatch. (In coöperation with the Lumber Trade Journal.)
- Vermont—The wood-using industries of Vermont, 1913, by Hu Maxwell. (In coöperation with the Vermont Department of Agriculture and Forestry.)
- Virginia—Wood-using industries of Virginia, 1912, by R. E. Simmons. (In coöperation with the Virginia Department of Agriculture and Immigration.)
- Washington—Washington's secondary wood-using industries, 1911, by H. B. Oakleaf. (In coöperation with the Pacific Lumber Trade Journal.)
- West Virginia—The wood-using industries of West Virginia, 1915, by J. C. Nellis. (In coöperation with the West Virginia Department of Agriculture.)
- Wisconsin—A study of the Wisconsin wood-using industries, 1910, by F. H. Smith. (In coöperation with the Wisconsin State Forester.)

**Cost of Production.** Studies of the cost of production have been made at different times by the Department of Labor, the Bureau of Foreign and Domestic Commerce, the Tariff Board, the Tariff Commission, and the Federal Trade Commission. These studies were not made at regular intervals, and there has never been an effort to issue supplements bringing the information to a later date. They are, therefore, of historical value only, as changes in rates of wages and in prices of raw material have resulted in the reports becoming quickly out of date. Incidental to the study of costs of production, most of these reports contain considerable statistical detail on supply of raw materials, the quantity of finished

products, wages, and expenses. The text generally includes an outline of the history by the industry and descriptions of processes or trade customs.

There are listed below the reports that deal with cost of production.

**Commissioner of Labor.**

Sixth Annual Report, 1890. Cost of production: Iron, Steel, Coal, etc., 1890.

Seventh Annual Report, 1891. Cost of production: The textiles and glass.

**Tariff Board.**

Wool and manufactures of wool. House Document 342, 62d Congress, 2d session, 1911.

Pulp and newsprint paper. Senate Document 631, 62d Congress, 1st session, 1911.

Cotton manufactures. House Document 643, 62d Congress, 2d session.

**Bureau of Foreign and Domestic Commerce.**

Miscellaneous Series 16. Cost of production in the pottery industry: Summary of results, 1914.

Miscellaneous Series 21. The pottery industry, 1915.

Miscellaneous Series 29. The women's muslin underwear industry, 1915.

Miscellaneous Series 31. The hosiery industry, 1915.

Miscellaneous Series 32. The knit underwear industry, 1915.

Miscellaneous Series 34. The men's factory-made clothing industry, 1916.

Miscellaneous Series 36. The shirt and collar industries, 1916.

Miscellaneous Series 37. The cotton spinning machinery industry, 1916.

Miscellaneous Series 53. The cane sugar industry, 1917.

Miscellaneous Series 60. The glass industry, 1917.

**Commissioner of Corporations.**

Report . . . on the petroleum industry, 1907.

International Harvester Company, 1913.

**Federal Trade Commission.**

Report . . . on combed cotton yarns, 1921.

Report . . . on leather and shoe industries, 1919.

Cost reports of the Federal Trade Commission—Copper, 1919.

Cost reports of the Federal Trade Commission—Coal.

Report . . . on war-time costs and profits of southern pine lumber companies.

Report . . . on shoe and leather costs and prices [1918 to 1920]. 1921.

Report on the beet-sugar industry in the United States [1909-1914].

Report . . . on flour milling and jobbing [1913 to 1917].

Preliminary report . . . on investment and profit in soft coal mining [1916 to 1921].

Report . . . on the tobacco industry. [1919 and 1920.]

Report . . . on the causes of high prices of farm implements. [1913 to 1918.]

**Federal Trade Commission—Continued.**

Report on the beet sugar industry in the United States. [1910 to 1914.]

Report . . . on house furnishing industries. Volume I. Household furniture. [1920 and 1921.]

Report . . . on house furnishing industries. Volume II. Household stoves. [1920 and 1921.]

Report on the price of gasoline, 1915.

Report . . . on the Pacific Coast petroleum industry. [1914 to 1919.]

Report . . . on canned foods. General report and canned vegetables and fruit. [1916 and 1917.]

Report . . . on canned foods. Canned salmon. [1916 and 1917.]

**Tariff Commission.**

Tariff Information Series No. 5. The glass industry as affected by the war, 1918.

Tariff Information Series No. 9. Cost of production in the [raw] sugar industry, 1919.

Tariff Information Series No. 10. Cotton venetians. [1913 and 1918.]

Tariff Information Series No. 15. Cost of production in the dye industry in 1918 and 1919.

Tariff Information Series No. 16. Refined sugar: Costs, profits, and prices, 1920.

Tariff Information Series No. 18. Barytes, barium chemical, and lithopone industries, including cost of production, 1919.

Tariff Information Series No. 24. Production costs in the lithopone industry, first six months of 1921.

Wheat and wheat products. Report of the United States Tariff Commission to the President of the United States, 1924.

Information concerning manganese ore, 1919.

The wool growing industry, 1921.

Sheep and wool production in Argentine. [1918 and 1919.]

**United States Grain Corporation.**

Stabilization of the price of wheat during the war, 1925.

## CHAPTER XXIII

### IMPORTS AND EXPORTS

Statistics on imports and exports are compiled and published by the Bureau of Foreign and Domestic Commerce, although for some commodities the Tariff Commission has reexamined the original import entries in order to obtain a more detailed classification of certain groups of commodities. The statistics of the Bureau of Foreign and Domestic Commerce are regularly used in the "Agriculture Yearbook" for agricultural products and in "Mineral Resources of the United States," for minerals and mineral products. They will also be found in the publications of the Tariff Commission and the Federal Trade Commission if the international movement of commodities is of moment in connection with the subject under consideration. Almost all of the publications of these two organizations discussed in Chapter XXII contain statistics of exports and imports. Under each subdivision of Chapter XXII specific reference is made to the import and export statistics in the publications discussed.

#### TERMS USED AND LIMITATIONS OF THE STATISTICS

Import and export statistics are compiled from returns made under oath by importers or exporters. The import procedure is extremely technical and will not be discussed in detail, reference being made only to the general papers which result in the statistics. When an article is brought into the country a formal entry must be filed by the importer or his agent with the collector of customs. This entry contains statements under oath regarding the character of the merchandise, the value, and the place from which imported. This entry is checked by the customs officers with the goods and, in the case of articles dutiable *ad valorem*, with other sources of information regarding values. In the case of exports each shipper or his agent must file an export declaration containing statements

under oath regarding the character of the merchandise, the quantity, the value, whether the product of the United States or of a foreign country, and the destination. The export declaration is checked against the manifest, which must be filed by the master of a vessel before it is granted clearance. After the entries and the shippers' export declarations are checked they are classified according to the commodity and geographic classification used in the statistical reports. The data are then transferred to punched cards, which are run through sorting and tabulating machines in order to obtain the totals desired.

The term, "general imports," includes all goods brought into the country, regardless of whether they pass at once into the custody of the importers or are placed in bonded warehouses.<sup>1</sup> This class therefore is the total of all goods imported. The term, "imports for consumption," indicates articles which have been delivered to the importer and are no longer in the custody of customs officers. This class includes goods delivered immediately on arrival and goods withdrawn from bonded warehouses; goods delivered immediately on arrival are entered as "imports for immediate consumption," while goods delivered from bonded warehouses are known as "withdrawals from warehouse for consumption." Goods may also be withdrawn from warehouse for export, the total withdrawals from warehouse being the "withdrawals from warehouse for consumption" plus "the withdrawals for exports." The term "consumption" as applied to imports indicates simply that the articles have passed into the general stocks in the country and are available for human or industrial consump-

<sup>1</sup> A bonded warehouse is a place where an importer is allowed to store dutiable goods for three years without the payment of duty. The warehouse may be owned by the government, but it is more often a private establishment which has given bond that no goods will be removed except by authority of customs officers. Even if the warehouse is a private establishment, the goods are technically in the custody of the United States.

A bonded warehouse may be an entire building or part of a building in which space is rented to several tenants, it may be a warehouse used entirely by a single importer, or it may be a yard or shed used for the storage of bulky articles. The primary requisites on the part of the government are that a bond shall be filed to insure the payment of duties, that the building must be so protected that the merchandise cannot be surreptitiously removed, that the keys must be in the custody of the government storekeeper, and that the owner of the warehouse reimburse the government for the salary of the storekeeper.

tion. The term "immediate consumption" indicates that the goods were passed through the customs without being sent to a bonded warehouse. The term "entry for warehouse" indicates that the goods have been placed in bonded warehouses, and are still in the custody of the customs officers. Articles included in the class "imports for consumption" may be exported, and if exported in their original form are reported under foreign exports.

Figures for dutiable goods reported under general imports and under imports for consumption often do not agree for a specified period. Considerable time may elapse between the date when goods arrive and are reported under general imports and the date when they are withdrawn from warehouse and reported under imports for consumption. Conversely, goods reported under imports for consumption may have been entered for warehouse and reported under general imports during the period covered by an earlier report. In addition, some goods reported under general imports may never be reported under imports for consumption, as they may be exported directly from the warehouse and not enter the general stocks in the custody of merchants or importers. For any period the difference between the value of general imports and the value of imports for consumption will be the same as the difference between the value of entries for warehouse and the value of withdrawals from warehouse for consumption.

The net amount of foreign goods available in the country is generally determined by subtracting from the general imports during any period the foreign exports. This method takes no account of goods in warehouse at the beginning and end of the period, but it is usually satisfactory for ordinary purposes. While this shows the amount available, it does not show the quantity actually consumed, for some of the goods, although released from customs custody, may not have found a market. Thus, during 1920 the imports of mutton and lamb amounted to 101,168,321 pounds and the foreign exports to 195,602 pounds. In 1921 the imports were 25,394,988 pounds and the foreign exports 56,588,857 pounds. The greater part of the foreign exports of mutton and lamb in 1921 consisted of meat which was imported in 1920, but which could not be marketed and was subsequently reexported in 1921.



Most of the statistics show general imports, and in the absence of any statement to the contrary in the heading, it should be understood that the tables show general imports.

Domestic exports comprise domestic products or manufactured commodities of foreign origin which have been materially changed in form or enhanced in value by further manufacture. Foreign exports include foreign goods exported in essentially the same form as imported. For instance, green coffee imported from Brazil and exported would be reported under foreign exports; green coffee imported from Brazil, roasted in the United States, and then exported would be included under domestic exports, as its value has been increased by the roasting; coffee grown in Porto Rico or Hawaii would be reported under domestic exports, whether it was exported green or roasted, as the commodity is entirely the product of the United States.

Prior to the fiscal year ended June 30, 1893, the statistics of exports included only the movement of goods by sea, and took no account of the exports to Canada and Mexico by railroad. For some years the statistics of exports by rail were carelessly prepared, and it is only since about 1915 that they can be regarded as accurate.

All statistics by customs districts indicate the district in which imports were entered or from which exports left the country. Where the name of a particular port is the same as that of the customs district, care should be taken not to confuse the port with the district. As a general rule, however, the greater part of the business is done through one principal port in the district. The customs district of New York, for instance, includes Sussex, Passaic, Hudson, Bergen, Essex, Union, Middlesex, and Monmouth counties, New Jersey, and all of the state of New York not included in the St. Lawrence, Rochester, and Buffalo districts. The ports of entry in the New York district are New York, Albany, Greenport, Newark, Patchogue, and Perth Amboy. The boundaries of the customs districts in 1923 are given in Customs Regulations, 1923, pages 2-6. Changes in the boundaries of districts are published in the Weekly Treasury Decisions, issued by the Treasury Department.<sup>2</sup>

<sup>2</sup>A table showing the changes in customs districts from 1789 to 1879 is given in volume 2 of the Department of Agriculture publication entitled "Report on Forestry," by Franklin B. Hough, issued in 1880; this publication appeared also as House Ex. Doc. 37, 46th Cong., 2d sess.

A list of customs districts, showing headquarters and ports of entry in each district, is printed in the introductory pages of Foreign Commerce and Navigation. Prior to the fiscal year 1914 the number of customs districts was greater than during recent years.

It should be borne in mind that statistics by customs districts represent traffic through the several districts only in the case of exports. If an article for export moves on a through bill of lading from Pittsburgh to New York and leaves the country through the New York district, it is reported as being exported from the New York district. Imports, on the other hand, are reported for the district in which the entry for consumption or warehouse is made. Thus goods landed at New York, transported in bond to Pittsburgh, and entered at Pittsburgh are reported as being imported into the Pittsburgh district. The district of entry is thus not necessarily the district in which the goods are landed or the one in which they are consumed, as after clearance through the customs the merchandise may be again shipped to another district.

Whether an article is entered in the district of landing or in some other district, is a matter that depends entirely on the wishes of the importer. A person familiar with the trade in a particular commodity may be able to reason out whether the district of entry is the district of landing, but the statistics give no clue that will be of assistance.

It is impossible to obtain figures on the quantity or value of goods actually imported in one district and formally entered for consumption or warehouse in another district. The latest year for which summary figures were published showing value of imports entered in districts other than those of landing was the fiscal year 1912. During that year the total value of merchandise moved in this manner amounted to \$110,000,000, or 7 per cent of the total imports. It is likely that the percentage is greater at present. From the special table in the 1912 report there can be computed the total value of goods landed in each district, but this cannot be done from the present figures.

The misleading character of the present method of compilation is well illustrated by the following figures on imports of silk in 1921 and 1922.

District	1921	1922
	<i>Pounds</i>	<i>Pounds</i>
St. Lawrence .....	14,923,153	13,776,180
New York .....	25,494,937	1,200,733
Washington (State) .....	1,967,316	23,761,924
San Francisco .....	1,133,523	10,460,100
All other .....	1,836,166	1,512,889
Total .....	45,355,095	50,711,826

One might infer from this table that the silk trade was practically stationary in the St. Lawrence district, that it had decreased 96 per cent in the New York district, and had increased over 1100 per cent in the Washington district and over 800 per cent in the San Francisco district. The facts are that practically all of the silk is landed on the west coast and consumed in the New York and neighboring districts. The amount reported from the St. Lawrence district is a portion of that landed in British Columbia and moving east over Canadian lines; the figures for that district do not necessarily represent all the silk moving over this route, as some of it may have been shipped in bond, entered at New York, and reported for that district. The figures for the New York district are for silk that may have entered the country in either the Washington, San Francisco, St. Lawrence, or other districts. As a result of this method there are widely differing figures for years in which there was probably little variation in the movement.

The figures for districts not on the seaboard or frontiers are misleading in that they show only the commodities which were entered at those districts. The present method of presentation swells the figures in some cases and makes comparison between districts impossible. An instance of swelling is the Chicago district, which is reported with imports of \$46,914,351, of which the maximum amount which could have been imported into that district is \$6,145,998, the imports from Canada, and it is likely that some of these goods were imported through other districts. In the Ohio district the total imports are reported as \$11,619,849 of which \$4,994,503 are from Canada, leaving only \$6,625,346 from all other countries. It is manifest that this figure is entirely too low for the Ohio district, in which are extensive industries using large quantities of imported raw material. The value of crude imported rubber

brought into the Ohio district is probably several times that of all commodities reported as imported into that district. The imports of rubber into all districts, and the imports of all commodities reported for the Ohio district in 1922 are shown in the following statement:

Country of shipment	Imports of rubber into all districts	Imports of all commodities into Ohio district
England .....	\$8,922,588	\$1,211,398
Brazil .....	3,186,241	300
Straits Settlements .....	59,934,964	730
Java Madura .....	6,410,349	5,834
Other Dutch East Indies.....	8,246,451	.....
Canada .....	83,266	4,994,503
Other countries .....	15,059,329	5,407,084
Total .....	\$101,843,188	\$11,619,849

As Ohio produces approximately half of the rubber goods manufactured in the United States, it is safe to assume that about half of the imports of rubber, or \$50,000,000 worth, were consumed in that district. Nevertheless, the total value of all foreign goods entered in the Ohio district was only \$11,000,000 in 1922.

As exports of domestic merchandise are reported from the customs district from which they leave the country, the statistics in Commerce and Navigation give no information regarding the state of production or of original shipment. For instance, automobiles manufactured in the Michigan district may be shipped to a steamer at Baltimore sailing for South America. In this case the export would be reported from the Maryland district. As there are no statistics on the interstate shipment of commodities, there is no way of tracing exports to the place of production. In the case of automobiles the industry is centered in the Michigan and Ohio districts, and it is fair to assume that the exports of goods manufactured in these districts are proportional to the production. The exports from any district, however, may consist entirely of cars manufactured in areas other than the two mentioned. Recent statistics on exports originating in the several states are discussed on p. 353.

The import statistics show the countries from which the goods were invoiced for shipment to the United States and the export statistics indicate the countries to which the goods were exported in the first instance. The statistics by countries thus indicate the trade between countries, but do not necessarily indicate the country in which imports originated or in which exports eventually found a market. Prior to the war large quantities of American goods were purchased by German merchants and resold in Russia. If these goods were shipped directly to Russia they appear in the statistics as being exported to Russia. If the shipment had been consigned to Russia, but had moved by sea to a German port and then been immediately transshipped by land to Russia, it should appear as an export to Russia, but often in such cases the exporters misinterpret the instructions and report such shipments as being consigned to the country which is the terminus of the sea voyage. If the goods were shipped to Germany and placed in stock they appear in the export statistics as being exported to Germany. This is particularly true of raw cotton, which was purchased by German brokers for resale both in Germany, Russia, and other countries; cotton was also purchased by Belgian or Dutch houses, and consumed in these countries or perhaps shipped to Germany for consumption. In the case of countries which have little transshipment trade the export statistics serve as a guide for the consumption of American goods. With the exception of Paraguay, Uruguay, and Bolivia, goods generally move directly to all South American countries. Goods consumed in Paraguay and Uruguay are often consigned to merchants in Argentina, although a fair share moves directly; likewise, articles consumed in Bolivia are often consigned to houses in Chile.

The same comment is applicable to the import statistics, as they show countries of invoice, which are generally the countries of immediate shipment and not necessarily countries of origin. For only two commodities, cotton and wool, are statistics available showing countries of production. These statistics are published only in the Monthly Summary of Foreign Commerce of the United States. During February, 1921, Australian wool was shipped to the United States from the Netherlands, England, Scotland, and Australia. Prior to the war concentrates of tin produced in Bolivia went to Germany for smelting and were then reshipped to the

United States in blocks or bars. In this case the commodity was enhanced in value by the smelting. More to the point is the fact that during 1918 and 1919 the greater part of the tin ore imported into the United States was reported as coming from Chile. Tin is not a product of Chile, the imports credited to that country being the product of Bolivia, shipped from Chilean ports. The statistics of imports from and exports to Hongkong and the Straits Settlements indicate simply that the goods originated in or were consumed by some country which marketed its products or obtained its supplies through these great centers of trade. Transshipment trade is the despair of statisticians, as it is practically impossible to determine the extent to which goods are transshipped or to trace such transshipments. Without some knowledge of economic geography the student will be in danger of misinterpreting many of the statistics by countries.

The country classification used in the reports of the Bureau of Foreign and Domestic Commerce is given in the introductory pages of Foreign Commerce and Navigation. This table shows the area included in the country names used in the statistics.

The Philippine Islands are treated as a foreign country, and the Virgin Islands have not been taken out of the list of foreign countries and treated as a customs district of the United States. Goods shipped to and received from these possessions are enumerated as exports and imports.

Alaska, Hawaii, and Porto Rico are customs districts, and their foreign trade may be ascertained from the tables showing trade by customs districts. Only the total value of all shipments moving to and from these possessions and the Continental United States is shown each month in the Monthly Summary of Foreign Commerce, but separate figures are given for gold and silver. The December issue of the Summary contains figures on the quantity and value of principal articles shipped to and from the possessions during the calendar year, and the issue for June contains similar figures for the fiscal year. This is the only source for these statistics except for some more general statistics in the Statistical Abstract of the United States. Prior to 1922 detailed figures on commerce with these possessions were given in each issue of the Monthly Summary.

Shipments to and from the Canal Zone are treated as exports to and imports from Panama. The Act of March 2, 1905 (33 Stat. L., 843), provides that all laws affecting imports from foreign countries shall apply to merchandise coming from the Canal Zone. Imports into the Canal Zone, except those for the use of the United States, are subject to duties imposed by the Republic of Panama.

Up to May, 1921, the value of imported merchandise was the foreign value or the actual market value or wholesale price, at the time of exportation to the United States, in the principal markets of the country from which exported, including the value of all containers or coverings, and all other expenses incident to placing the merchandise in condition for shipment to the United States (38 Stat. L., 189). From June, 1921, to September 21, 1922, the value of goods subject to *ad valorem* duties was governed by Section 302, of the Emergency Tariff Act of May 27, 1921 (42 Stat. L., 15), which provided that the value should not be less than the export value, which was defined as follows:

That for the purposes of this title the export value of imported merchandise shall be the price, at the time of exportation of such merchandise to the United States, at which such or similar merchandise is sold or freely offered for sale to all purchasers in the principal markets of the country from which exported, in the usual wholesale quantities and in the ordinary course of trade, for exportation to the United States, plus, when not included in such price, the cost of all containers and coverings and all other costs, charges, and expenses incident to placing the merchandise in condition, packed ready for shipment to the United States, less the amount, if any, included in such price, attributable to any additional costs, charges, and expenses, and United States import duties, incident to bringing the merchandise from the place of shipment in the country of exportation to the place of delivery in the United States, and plus, if not included in such price, the amount of any export tax imposed by the country of exportation on merchandise exported to the United States.

Since September 22, 1922, the value of goods subject to *ad valorem* duties has been governed by section 402 of the Tariff act of September 21, 1922 (42 Stat. L., 949), which provides that the value shall be the foreign value or the export value, whichever is higher, the foreign and export values being defined as follows:

(b) The foreign value of imported merchandise shall be the market value or the price at the time of exportation of such merchandise to the United States, at which such or similar merchandise is freely offered for sale to all purchasers in the principal markets of the country from which exported, in the usual wholesale quantities and in the ordinary course of trade, including the cost of all containers and coverings of whatever nature, and all other costs, charges, and expenses incident to placing the merchandise in condition, packed ready for shipment to the United States.

(c) The export value of imported merchandise shall be the market value or the price, at the time of exportation of such merchandise to the United States, at which such or similar merchandise is freely offered for sale to all purchasers in the principal markets of the country from which exported, in the usual wholesale quantities and in the ordinary course of trade, for exportation to the United States, plus, when not included in such price, the cost of all containers and coverings of whatever nature, and all other costs, charges, and expenses incident to placing the merchandise in condition, packed ready for shipment to the United States. If in the ordinary course of trade imported merchandise is shipped to the United States to an agent of the seller, or to the seller's branch house, pursuant to an order or an agreement to purchase (whether placed or entered into in the United States or in the foreign country), for delivery to the purchaser in the United States, and if the title to such merchandise remains in the seller until such delivery, then such merchandise shall not be deemed to be freely offered for sale in the principal markets of the country from which exported for exportation to the United States, within the meaning of this subdivision.

If neither the foreign value nor the export value can be ascertained to the satisfaction of the appraising officer, the value is to be the United States value, which is defined as follows:

The United States value of imported merchandise shall be the price at which such or similar imported merchandise is freely offered for sale, packed ready for delivery, in the principal market of the United States to all purchasers, at the time of exportation of the imported merchandise, in the usual wholesale quantities and in the ordinary course of trade, with allowance made for duty, cost of transportation and insurance, and other necessary expenses from the place of shipment to the place of delivery, a commission not exceeding 6 per centum, if any has been paid or contracted to be paid on goods secured otherwise than by purchase, or profits not to exceed 8 per centum on purchased goods.



If the foreign value, the export value, or the United States value cannot be ascertained, the value is based on the cost of production. There is a still further provision that if by reason of there being any similar competitive article manufactured in the United States the President has increased the duty to the extent allowed by law in order to equalize the cost of production and the increase in duty is still not sufficient to equalize the cost of production, the President may proclaim that the American selling price shall be as the value, this being defined as follows :

The American selling price of any article manufactured or produced in the United States shall be the price, including the cost of all containers and coverings of whatever nature and all other costs, charges and expenses incident to placing the merchandise in condition packed ready for delivery, at which such article is freely offered for sale to all purchasers in the principal market of the United States, in the ordinary course of trade and in the usual wholesale quantities in such market, or the price that the manufacturer, producer, or owner would have received or was willing to receive for such merchandise when sold in the ordinary course of trade and in the usual wholesale quantities, at the time of exportation of the imported article.

There are thus at the present time five bases which may be used in determining the value of articles subject to *ad valorem* duty. It should be borne in mind, however, that the value given in the statistics is the unliquidated value or that declared by the importer in his entry before the entry is reviewed by the customs officers. In order to safeguard the revenues, provision is made for a critical review of all of the entries, and as the initial finding may be appealed, it may be several months before the final adjudication is made. Penalties are provided for deliberate undervaluations, but there are, nevertheless, many cases in which there are grounds for differences of opinion regarding the correct method of valuation. It is impracticable to compile statistics on the basis of the liquidated or adjudicated value, as such a practice would involve either a great delay or would result in continual correction of earlier figures.

The values of domestic exports are "their actual cost, or the values which they may truly bear at the time of exportation in the ports of the United States from which they are exported." The

value of foreign goods exported from warehouses is the same as their import value. The value of foreign goods exported "not from warehouse" is the same as the value of articles of domestic production. The values of foreign merchandise entered for transit across the territory of the United States or for transshipment in the United States to a foreign country are the same as the values of imports.

As the collection of revenues is not involved in the papers for domestic and foreign exports or those for transshipment and in-transit trade, the declarations of value are not scrutinized by customs officers as closely as those for imports subject to *ad valorem* rate of duty. The liability of error in these values lies in the carelessness of the person making the declaration. While all these declarations must be made under oath, the making of declarations, especially those for domestic exports, is often delegated to minor irresponsible employees of commercial houses.

The following statement by the Bureau of Foreign and Domestic Commerce illustrates the lack of care in preparing these papers:<sup>a</sup>

The thoughtless practice of some exporters in assigning office boys or inexperienced clerks to prepare shippers' export declarations is seriously jeopardizing the accuracy of official foreign trade figures, and the Department of Commerce requests that more care be exercised in preparing these vitally important documents.

Accurate, timely trade statistics will be impossible unless shippers extend more personal coöperation in seeing that necessary papers are properly prepared. The work should not be assigned to boys or some secondary agency having no special interest in the matter.

The new export classification recently adopted at the request of exporters to afford American business really useful statistical service has brought out the fact that serious errors have existed in the official figures for years, particularly in classes showing values only. Most of these errors are due to inaccurate description in the export declarations presented to customs officials by the shipper or his agent. Investigation has developed, for example, that ship and tank plates, punched and shaped, are reported as low as 1 cent per pound; alloyed steel bars at 1.6 cents per pound; copper wire at 4 cents per pound; wood and denatured alcohol at 1¼ cents per gallon; white lead at less than 2 cents per pound; 370 stationary electric motors of less than 200 horsepower at an average price of

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<sup>a</sup> Commerce Reports, June 12, 1922, p. 683.

\$11 ; 183 road plows, scrapers, and rollers at \$11 each ; 1 centering lathe chuck at \$3,800 ; grinding and sharpening machines at \$5 and \$5,000 ; and hoes and rakes at \$132.

The department realizes that the preparation of the necessary papers at times represents something of a burden and it does not wish to appear unreasonable. It expresses the hope, however, that export shippers generally will appreciate the fact that the figures in point are being compiled primarily for the benefit of the exporters who are now asked to coöperate. The illustrations given should convince any reasonable exporter as to the utter ridiculousness of some of the returns now received. Just a little more care and attention to the column "Class No. of Schedule B" on the export declaration, to make certain that an accurate entry is made of the number of the statistical export classification of 1922, under which the goods should be properly classified, will be a great help. It will avoid the time and expense involved in returning erroneous declarations to the original custom house, in some cases the West Coast, and will help the Department of Commerce to clear itself of the possible stigma of inefficiency when the burden of responsibility rests squarely upon the shoulders of the offending exporters.

The method of determining the value of free goods or articles subject to specific rate of duty is not defined by law, but the regulations provide that it shall be the same as dutiable goods. While the values assigned to free goods or to articles subject to specific rate of duty are not reviewed in detail by customs officers, there is no motive for the importer to undervalue such commodities.

All declarations relating to imports and exports contain information regarding the quantity, and these declarations afford a basis for the statistics. The unit of quantity is that commonly employed in commerce for the specific commodity. Thus, automobiles are reported in number, coffee in pounds, eggs in dozens, shoes in pairs, cereals in bushels, coal in tons, etc. Unless otherwise indicated in the tables the measures of quantity are as follows: Ton, 2240 pounds ; barrel of wheat and rye flour and corn meal, 196 pounds net ; barrel of rosin, 500 pounds ; barrel of tar and pitch, 280 pounds net ; barrel of pickled fish and lime, 200 pounds net ; barrel of cement, 376 pounds net ; bushel of wheat, beans, dried peas, and potatoes, 60 pounds ; bushel of barley and buckwheat, 48 pounds ; bushel of corn, rye, onions, and flaxseed, 56 pounds ; bushel of oats, 32 pounds ; bushel of malt, 34 pounds ; bushel of

castor beans, 50 pounds. In comparing exports with production, care must be taken to see that the same units are used in the two series of statistics. Thus, a ton of coal in the import and export statistics means 2240 pounds, while a ton in the production statistics published by the Geological Survey means 2000 pounds.

As the same unit of quantity is not used for all articles, it is impossible to give any figure showing the total volume of the foreign trade of the United States.

Several tables give statistics of imports and exports by great groups, in which commodities are classified according to the uses and degree of manufacture, the six groups being as follows: (a) Crude materials for use in manufacturing, (b) foodstuffs in crude condition and food animals, (c) foodstuffs partly or wholly manufactured, (d) manufactures for further use in manufacturing, (e) manufactures ready for consumption, and (f) miscellaneous. The specific commodities included in each group are shown in Tables IX and X of "Foreign Commerce and Navigation."

The import statistics include mail shipments of all goods valued at more than \$100 per shipment; occasionally shipments of dutiable goods valued at less than \$100 are reported but no returns are made for free goods valued at less than \$100. Parcels post exports of merchandise are supposed to be included in the statistics for each shipment valued at \$25 or more made by a wholesale dealer. There is no law requiring an export declaration to be filed when a parcel post shipment is made and there is reason to believe that many shipments are not reported.

It should be borne in mind that the import and export statistics are for the United States as a whole, that is, the states plus the territories of Alaska, Hawaii, and Porto Rico. If figures for receipts into and shipments from the continental United States are desired, account must be taken of shipments to and from the territories and exports and imports of the customs districts of Alaska, Hawaii, and Porto Rico. The examples given below indicate the steps in the computations. For receipts into continental United States proceed as follows:

# IMPORTS AND EXPORTS

341

	Pounds	Pounds
Imports into entire United States <sup>a</sup> .....		100,000
<i>Deduct</i>		
Imports into Alaska <sup>b</sup> .....	1,000	
Imports into Hawaii <sup>b</sup> .....	500	
Imports into Porto Rico <sup>b</sup> .....	1,500	3,000
Imports into continental United States.....		97,000
<i>Add</i>		
Shipments from Alaska <sup>c</sup> .....		800
Shipments from Hawaii <sup>c</sup> .....		700
Shipments from Porto Rico <sup>c</sup> .....		300
Receipts in continental United States.....		98,800

In the case of shipments the procedure is as follows :

	Pounds	Pounds
Domestic exports from entire United States <sup>d</sup> .....		50,000
<i>Deduct</i>		
Domestic exports from Alaska <sup>e</sup> .....	200	
Domestic exports from Hawaii <sup>e</sup> .....	300	
Domestic exports from Porto Rico <sup>e</sup> .....	500	1,000
Domestic exports from continental United States....		49,000
<i>Add</i>		
Foreign exports from entire United States <sup>f</sup> ....		1,000
Shipments to Alaska <sup>g</sup> .....		100
Shipments to Hawaii <sup>g</sup> .....		400
Shipments to Porto Rico <sup>g</sup> .....		200
Shipments from continental United States.....		50,700

- <sup>a</sup> Table 3 of Commerce and Navigation.
- <sup>b</sup> Table 4 of Commerce and Navigation.
- <sup>c</sup> Monthly Summary for December.
- <sup>d</sup> Table 5 of Commerce and Navigation.
- <sup>e</sup> Table 6 of Commerce and Navigation.
- <sup>f</sup> Table 7 of Commerce and Navigation.
- <sup>g</sup> Monthly Summary for December.

The above table showing shipments from continental United States does not take into account foreign exports from the territories which are not shown separately in the reports. However, these are generally small, and may be disregarded.

In the statistics of entrances and clearances of vessels are shown the number of vessels entered and cleared and total net registered tonnage of the vessels. The vessel ton used in these tables means 100 cubic feet internal cargo space. These tables, however, do not represent the volume of trade of any customs district or with any foreign country, as a vessel reported "with cargo" may be only

partially loaded. There is no duplication for vessels that discharge or obtain cargo in one or more customs districts. The entry of the vessel is made in the first customs district in which cargo is discharged, and the clearance is obtained in the last customs district at which cargo is loaded. (See page 349 for discussion of countries of departure and destination.)

The amount of duty is given in many tables of import statistics, but the figures are not those of duty collected or duty assessed, even though their heading may say duty collected. As the statistics are compiled from the unliquidated entries (see p. 337) the statistics are based on the rate and value claimed by the importer in his entry. When the entry is reviewed by the customs officers the classification may be changed or the valuation of goods subject to *ad valorem* duties may be increased. For instance, shipments of tooth brushes composed of bristles and celluloid were entered as dutiable at 45 per cent as tooth brushes under Paragraph 1407 of the tariff act of 1922. As celluloid was the component material of chief value, it was held that the duty should be 60 per cent *ad valorem* under Paragraph 31. In the statistics this shipment was undoubtedly included with other tooth brushes and the duty computed at 45 per cent, when the actual duty assessed and collected was 60 per cent.<sup>4</sup>

No figures are available in any report showing the exact net amount of duty collected on any class of commodities or on all commodities. Even the financial reports of the Secretary of the Treasury do not give this information. The item customs receipts in these reports includes the tonnage tax, which is not a duty on imports, and also the gross amount collected from importers. The amount repaid to importers for excess charge is not deducted from the receipts, but charged to expenses. For instance, when the goods are withdrawn from customs custody, the customs officers collect the estimated duty, which, let us assume, amounts to \$100. When the entry is finally audited and liquidated it may be found that the correct amount of duty is only \$90. Nevertheless, \$100 is reported as the customs receipts, the refund of \$10 being charged to

<sup>4</sup> This case illustrates the difficulty of reconciling a commodity classification with the tariff classification. As the statistical classification is essentially one by commodities, the classification of the shipment as one of tooth brushes is correct, but the amount of duty shown for tooth brushes is wrong.

a permanent indefinite appropriation. The adjustment of Treasury figures for the fiscal year 1922 to show the net receipts from duties is indicated by the following statement:

Customs receipts as shown in report of the Secretary of the Treasury.....		\$357,544,712.40
Deductions:		
Tax on tonnage (as stated in report of Commissioner of Navigation).....	\$1,818,330.07	
Drawback .....	28,595,261.15	
Proceeds of goods seized and sold.....	962.37	
Refunding money erroneously covered into Treasury .....	301.35	
Refunding penalties or charges erroneously exacted .....	50.00	
Refunding proceeds of unclaimed merchandise .....	19,179.49	
Repayments to importers for excess of deposits .....	7,972,344.04	
Philippine special fund, duties on articles imported from the Philippines; paid to government of Philippine Islands.....	833.37	
	<hr/>	38,407,261.84
Net receipts from duties.....		\$319,137,450.56

The above statement is probably not absolutely accurate, as it is possible that there are included under the item "Services of officers, fines, etc.," some navigation fees and fines, which should be deducted because they are not customs duties.

#### GENERAL CURRENT STATISTICS

**Annual Statistics of Imports and Exports.** Figures showing imports and exports by years are published in "Foreign Commerce and Navigation," "Trade of the United States with the World," and the "Statistical Abstract of the United States."

*Foreign Commerce and Navigation.* Annual statistics of imports and exports have been published since 1790. The reports for 1790 to 1822 were transmitted to Congress by the Secretary of the Treasury and will be found in Volume 1 and 2, Commerce and Navigation of Class 4 of the American State Papers. On February 10, 1820, an act was passed requiring the Secretary of the Treasury to submit an annual report on imports and exports to Congress. The first report was made for the fiscal year ending September, 1821, and annual statistics have been published every

year under the title, "Foreign Commerce and Navigation of the United States." The reports for 1821 to 1865 were compiled in the office of the Register of the Treasury; those for 1866 to 1903 were published by the Bureau of Statistics of the Treasury Department; those for 1904 to 1911 by the Bureau of Statistics of the Department of Commerce and Labor, and those for 1912 and subsequent years by the Bureau of Foreign and Domestic Commerce of the Department of Commerce.

The statistics were published for fiscal years ending September 30 up to 1842. The report for 1843 is for the nine months ending June 30. The fiscal year ending June 30 was used until 1918, when the change was made to the calendar year, the report for the fiscal year 1918 being the last one giving statistics by fiscal years. The report for the calendar year 1918 contains figures for the period from July 1 to December 31, 1918, and for the entire calendar year 1918. The report for the calendar year 1918 thus duplicates the figures for January to June of that year published in the fiscal year report. The figures for the fiscal year 1918, for the six months July to December, 1919, and for the calendar year 1919 give a continuous record without duplications.

The summary tables in Commerce and Navigation give totals of imports and exports for each commodity, for each customs district, for each country, and for great groups. There is also a table showing the total imports from and exports to each foreign country arranged by customs districts.

In the detailed tables the arrangement is primarily by commodities and secondarily by countries or by customs districts. There are no detailed statistics in this volume arranged primarily by countries or by customs districts. Thus, the tables show exports of wheat to each foreign country or from each customs district. If it is desired to ascertain the principal commodities exported to any one country, recourse should be had to the report entitled "Trade of the United States with the World," described below. This information may be obtained from Commerce and Navigation, but only by the laborious method of compiling a new table from the statistics of exports of each commodity. There is no table in any of the reports showing the commodities that enter into the trade of the several customs districts. This information must be computed from the statistics of commodities by customs districts.



Separate figures are given for free and dutiable imports, and as the same commodity may be both free and dutiable it is necessary to add the two columns in order to obtain the total imports of a commodity which falls into the two classes.

Most often the same commodity is reported as both free and dutiable because a new tariff act has been enacted during the year covered by the report. In some cases the matter of duty depends on the country from which the goods are imported. All articles which are grown in the Philippines and which do not contain foreign materials to the extent of 20 per cent of their value are admitted free of duty. Thus, hats from the Philippines, complying with the requirements mentioned above, are free, but hats from the Philippines which do not meet these requirements and hats from other countries are subject to duty.

The Tariff Act of October 3, 1913 (38 Stat. L., 164), provided that wheat, wheat flour, semolina, and wheat products should be dutiable when imported either directly or indirectly from a country which imposed a duty on wheat or wheat flour or semolina imported from the United States. Similar products from other countries were free.<sup>5</sup> Prior to 1922 some other products were given as both free and dutiable because the heading did not fully indicate the character of the commodity. Statistics for bread and biscuits were given under both headings. The dutiable goods were "biscuits, bread, wafers, cakes and other baked articles, and puddings, by whatever name known, containing chocolate, nuts, fruit, or confectionery of any kind, and without regard to the component material of chief value." The free goods under this heading were, "biscuits, bread, and wafers not specifically provided for."

At the end of the detailed tables of imports and exports are summary tables showing the value of goods imported from and exported to each country, classified according to method of transportation. There are shown the value of the goods carried by cars and other land vehicles and the value of goods brought in vessels, the vessels being subdivided by nationality. The table of imports shows also the value of parcels post imports from each country.

The division between cars and land vehicles is not the same in the tables of imports and exports. In the table of imports the

<sup>5</sup> The present tariff act imposes a duty on all wheat imported; the example given illustrates the principle.

only countries from which goods are indicated as coming in land vehicles are Canada and Mexico, and the figures are confined to shipments which originated in those countries, and do not include shipments moving on a through bill of lading by way of Canadian or Mexican ports and rail lines. The transshipment trade by way of Mexican ports and rail lines is of no importance, but considerable quantities of Japanese and Chinese products are landed at Canadian ports and transported by rail to the United States. In 1922 the total value of goods reported as moving by rail from Canada is given as \$288,730,083; for all these goods the initial bill of lading on the importation was made in Canada, although it does not follow that these were all Canadian goods. The report shows also that Chinese and Japanese goods to the value of \$94,368,919 were entered in the St. Lawrence district, all of these goods evidently being landed at Canadian ports and moved over Canadian rail lines. But these were not all the Chinese and Japanese goods moving in this manner, as some others were probably entered in other districts, particularly New York and Chicago. The table, therefore, does not show the total land movement, as goods from overseas countries are reported as being brought in vessels.

In the export table, on the other hand, goods moving to foreign countries by way of Canada or Mexico are shown as exports by car and land vehicles. The report for 1922 shows goods to the value of \$66,582,542 moving by land to noncontiguous countries. This table accurately reflects the extent of the movement by land.

The statistics of in-transit and transshipment trade show the value of all commodities transshipped through the United States on their way from one foreign country to another. No figures are given for separate commodities or classes of commodities. The total receipts from each country are subdivided according to the country of destination. During recent years there has also been printed a table showing the total value of goods shipped to each country, subdivided according to the customs district from which shipped. The figures of in-transit and transshipment trade differ from those for foreign exports, in that the in-transit and transshipment figures represent goods moving on a through bill of lading directly between two foreign countries, while foreign exports are goods which are consigned to the United States and which have

been entered for consumption or warehouse and afterward exported.

Statistics of imports for consumption are given in one section. The statistics of imports for consumption include goods entered for immediate consumption and goods withdrawn from warehouse. The figures on dutiable goods in this table often do not agree with the statistics of general imports, as explained on page 328. The information in this table includes the rate of duty, the equivalent *ad valorem* rate of duty for articles taxed at specific rates, quantities, values, and amount of duty. No information is given regarding countries of shipment. The statistics of imports for consumption give figures for many specific commodities that are included in general classes in the table of general imports. This is particularly true of the "all other" classes, which are often subdivided in the statistics of imports for consumption in order to give figures for specific products. Likewise, in the statistics of imports for consumption, many special classes are subdivided. Thus figures are given for sugar for the quantity of each degree of polarization and for cotton yarn for yarn of each number. Separate figures are also given for the quantity entered at the several rates of duty if more than one rate was in effect. A variation in the rate of duty occurs not only when the general rate is changed by act of Congress or Presidential proclamation, but also when the articles come from certain countries. All Cuban goods are entitled to a reduction of 20 per cent, while the duty on several articles varies according to the duty assessed by foreign countries on similar goods imported from the United States. The figures for amount of duty are subject to a considerable margin of error, as explained on p. 342.

If the subdivision is made in accordance with the provisions of the tariff act, the figures are likely to be correct, but if they are not based on the tariff there is likely to be a wide margin of error. Thus, sugar at different degrees of polarization is dutiable at different rates, and as the classification is based on the duty, there is little margin of error. On the other hand, the figures for a product like "ichthyol," which is shown separately in the tables of imports for consumption, but which is included in a general class in the table of general imports, is subject to a wide margin of error. As

ichthyol is not mentioned separately in the tariff act, but falls into a class of medicinal and pharmaceutical preparations not specifically provided for, which are dutiable at 25 per cent, the importer may describe the importation as ichthyol or as a medicinal preparation. If he describes it as ichthyol it appears under the heading in the statistics of imports for consumption, but if he describes it in general terms it will fall in the "all other" class.

Drawback statistics are also given in Commerce and Navigation. Section 313 of the tariff act of 1922 provides that "upon the exportation of articles manufactured or produced in the United States by the use of imported merchandise, the full amount of the duties paid upon the merchandise so used shall be refunded as a drawback less 1 per centum of such duties" (42 Stat. L., 940). There are other provisions applying to drawback in the same paragraph, but the portion quoted above is sufficient to define the terms. The first part of the table of drawback statistics shows the quantity or value of the articles exported, followed by figures of the quantity or value of the imported material on which drawback was paid and the amount of drawback paid. The classification in this table is primarily according to the articles as exported. If the article exported contains imported material of several kinds, the table shows the quantity and value of each material and the amount of drawback paid on each kind and the total drawback. Thus, in 1918 there were exported 6,068,672 pounds of confectionery, entitled to a drawback of \$29,900.50. This confectionery contained gum arabic, figs, almonds, cocoanut meat, filberts, walnuts, and cane sugar, on which duty had been paid. Under confectionery the table shows the amount of drawback paid on account of each class of material used in the manufacture of confectionery, the total of which amounts to the drawback on confectionery. If information is desired regarding the total drawback paid on any commodity used in the manufacture of all articles exported, the second part of the drawback table must be used. The figures in this table are entirely for material as imported, no information being given regarding the exported articles which contained the imported material. For instance, this table shows the amount of cane sugar entitled to drawback, but does not show how much of the sugar was used in the manufacture of exported refined sugar, confectionery, condensed milk, etc.

Statistics on entrances and clearances of foreign vessels are given for customs districts and for foreign countries as follows:

Each customs district—	Each foreign country—
Steam vessels.	All vessels.
Sailing vessels.	Tanker vessels.
All vessels, classified by countries of departure and destination.	All vessels, classified by nationality of vessels.
Tanker vessels.	

All statistics of entrances and clearances differentiate between American and foreign vessels, and between vessels loaded and in ballast. There are shown both the number and tonnage of vessels but not the tonnage of the cargo.

In the statistics of entrances the rule that is supposed to be applied to the classification by countries is that the vessel is reported as coming from the country in which is located the first port in which cargo was loaded for the United States, but if the bulk of the cargo was loaded at a port in another country the vessel is reported from the country in which that port is located. In the case of clearances the rule is that the vessel should be reported as cleared for the country in which is located the first port for discharge of cargo, but if the bulk of the cargo is destined for a port in another foreign country, the clearance is reported for the country where that port is located.

There are thus two bases for the classification of countries of departure and destination and there is no way of determining the extent to which each is used. The statistics therefore do not show the direct movement of vessels between the United States and foreign countries. The interpretation of the statistics is further complicated by the fact that there is reason to believe that some customs districts report uniformly the first country of destination and the first country of departure regardless of bulk of cargo, while other districts take account of the country to which the bulk of the cargo is consigned or in which the bulk of the cargo was loaded. It should be noted that the classifications made on reports of first country of destination or departure are based on official papers filed with the customs officers while the classifications made on the reports of bulk of cargo are to a certain extent based on hearsay.

*Trade of the United States with the World.* A publication issued biennially, but containing figures for separate years, is

“Trade of the United States with the World,” issued by the Bureau of Foreign and Domestic Commerce. In this report the arrangement is primarily by countries, so that it is possible to ascertain easily the character of the commerce with each country. Separate figures are given for only the principal commodities, some of the classes being consolidated and some of the commodities of minor importance being grouped under “all other.” For instance, Commerce and Navigation shows exports of woodworking machinery in two classes, sawmill machinery and other woodworking machinery. In Trade of the United States with the World these exports to Finland in 1921 are included in the one item woodworking machinery. Additional data on the classes of minor importance may be obtained from the statistics by commodities and countries in Commerce and Navigation.

For the fiscal year 1912 and earlier years, this information was published in Commerce and Navigation, each issue giving statistics for five years. Since the fiscal year 1912 the volumes containing these statistics have been published as numbers of the Miscellaneous Series issued by the Bureau of Foreign and Domestic Commerce. The serial number of each issue is given below.

Fiscal years 1912 and 1913: Miscellaneous Series 12.

Fiscal years 1914 and 1915: Miscellaneous Series 38.

Fiscal years 1916 and 1917: Miscellaneous Series 63, Part 1, Imports; Part 2, Exports.

Fiscal years 1917 and 1918: Miscellaneous Series 78, Part 1, Imports; Part 2, Exports.

Calendar years 1918 and 1919: Miscellaneous Series 106, Part 1, Imports; Part 2, Exports.

Calendar years 1919 and 1920: Miscellaneous Series 109, Imports only.

Calendar years 1920 and 1921: Miscellaneous Series 115, Part 1, Imports; Part 2, Exports.

It is not unlikely that in the near future the trade by countries will be published as Part II of Commerce and Navigation.

*Statistical Abstract of the United States.* The figures in the “Statistical Abstract of the United States,” published annually beginning with 1878, are derived from Commerce and Navigation, but as they are arranged differently and generally cover a longer period it is advisable to describe them separately. For a historical study involving the use of totals the Statistical Abstract will be found more convenient than the separate volumes of Commerce and Navigation. In using the Statistical Abstract care should be taken to distinguish fiscal years ending June 30 from calendar

years, as the Abstract for 1918 and prior years gives all trade statistics by fiscal years. In some of the tables in later volumes statistics are given for fiscal years up to 1918 and for calendar years 1918, the intervening six months being omitted. Particular attention should be paid to the foot-notes, which indicate the changes.

The Abstract is particularly valuable for statistics of imports and exports for a long series of years. The schedules below indicate the more important tables of this character. In order to prevent the tables from occupying more than one page, most of the tables covering a long series of years do not give figures for every one of the earlier years. In the Abstract for 1923, statistics are given for every year since 1870, for every fifth year between 1850 and 1870, and for every tenth year prior to 1850. Figures for intervening earlier years may be obtained from previous abstracts.

TABLES IN STATISTICAL ABSTRACT GIVING STATISTICS OF IMPORTS AND EXPORTS

Items	Imports			Exports		
	Free	Dutiable	Total	Domestic	Foreign	Total
Totals since 1800.....	×	×	×	×	×	×
Great groups, since 1821.....	×	×	×	×	..	..
Grand divisions (Europe, North America, South America, Asia, Oceania and Africa), since 1800 .....	..	..	×	..	..	×
Countries, 5 latest calendar years, and average for 1910 to 1914.....	.. <sup>a</sup>	..	×	..	..	×
By American and foreign vessels, since 1830 .....	..	..	×	..	..	×
By land vehicles, since 1871.....	..	..	×	..	..	×
Principal customs districts and groups of customs districts, since 1860.....	..	..	×	..	..	×
Customs districts, five latest calendar years and average from 1915 to 1919.....	..	.. <sup>b</sup>	×	..	..	×
Articles, quantity and value for five latest calendar years and average for 1910 to 1914..	..	..	×	×	× <sup>c</sup>	..

<sup>a</sup> Shows percentage only.

<sup>b</sup> Shows duties assessed.

<sup>c</sup> 3 years only.

TABLES IN STATISTICAL ABSTRACT GIVING IMPORT AND EXPORT STATISTICS  
FOR SPECIFIC COMMODITIES FOR A TERM OF YEARS

Commodity or class	Imports		Exports	
	Class of statistics	Earliest year	Class of statistics	Earliest year
Agricultural implements . . . . .	.....	....	Value	1865
Agricultural products . . . . .	Value	1855	do	1855
Animals . . . . .	.....	....	do	1855
Cars, carriages, etc. . . . .	.....	....	do	1810
Chemicals, dyes, drugs, etc. . . . .	.....	....	do	1810
Coffee . . . . .	Quantity and value	1830	.....	....
Corn . . . . .	.....	....	do	1810
Cotton manufactures . . . . .	Value	1820	do	1830
Cotton, raw . . . . .	Quantity and value	1800	Quantity and value	1800
Explosives . . . . .	.....	....	Value	1810
Gold . . . . .	Value	1830	do	1830
Iron and steel and manufac- tures thereof . . . . .	do	1830	do	1800
Leather and manufactures of	.....	....	do	1810
Meat and meat products. . . . .	.....	....	do	1855
Mineral oils, refined. . . . .	.....	....	do	1865
Naval stores . . . . .	.....	....	do	1830
Paper.				
Books, maps, engravings etc. . . . .	.....	....	do	1830
All other . . . . .	.....	....	do	1830
Rubber, raw . . . . .	Quantity	1865	.....	....
Silk manufactures . . . . .	Value	1830	.....	....
Silk, raw . . . . .	Quantity	1865	.....	....
Silver . . . . .	Value	1830	do	1830
Sugar . . . . .	Quantity and value	1830	Quantity	1865
Tea . . . . .	do	1830	do	1847
Tin plates . . . . .	Quantity	1870	.....	....
Wheat . . . . .	.....	....	Value	1820
Wheat flour . . . . .	.....	....	do	1810
Wood and manufactures of.	.....	....	do	1820
Wool manufactures . . . . .	Value	1820	.....	....
Wool, raw . . . . .	Quantity	1830	.....	....

The total trade of the non-contiguous possessions, subdivided by shipments to and from the United States and exports and imports to and from foreign countries, is shown for each, the earliest years being as follows: Alaska, 1882; Porto Rico, 1904; Hawaii,



1901; Philippine Islands, 1912; American Samoa, 1916; Guam, 1916.

From 1878 to 1921 the Abstract contained tables giving quantities and values of imports and exports of individual classes of commodities for each of ten consecutive years. This was the only place where these figures for ten consecutive years were available. The Abstract for 1922 gives the averages for 1910 to 1914 and 1915 to 1919, and separate figures for each of the years 1919 to 1922; the Abstract for 1923 gives the averages for 1910 to 1914 and separate figures for each of the years 1919 to 1923. Later issues will probably follow this plan, one year being added and one dropped in each succeeding volume.

**Quarterly Statements of Exports.** Beginning with the first three months of 1924 the Bureau of Foreign and Domestic Commerce issued in mimeograph form quarterly statements purporting to show the value of exports originating in the several states. It is likely that annual figures will be published in pamphlet form. These statements are of no value as they indicate simply the state in which the shipper's export declaration was prepared. They do not indicate the value of goods exported that were manufactured or grown in each state, the value of goods shipped from each state for export, nor the value of transactions consummated in each state. Thus corn moving from Iowa to Europe on a through bill of lading would be reported from Iowa; but if it moved on a domestic bill of lading to Baltimore, was placed in an elevator, and then exported, it would be reported from Maryland. Again Iowa corn might be sold to a Chicago broker and forwarded to him at Chicago on a domestic bill of lading. If it were shipped to the seaboard on an export bill of lading it would be reported as from Illinois, but if it were shipped on a domestic bill of lading and immediately exported it would be reported from the seaboard state. The statements for the first three quarters of 1924 show the value of corn exports according to state of original shipment as \$1,881,322 for Maryland and \$692,037 for Missouri. The estimated value of the corn crop in these states in 1923 was \$20,689,000 for Maryland and \$145,676,000 for Missouri. It is evident that the export figures given above show the interest of neither state in the corn trade. The total export and domestic demand determines the price in both Maryland and

Missouri, and it is entirely immaterial whether the product actually exported was grown in one state or the other. As Baltimore is an important grain port it is interested in its business compared with other ports regardless of state or origin. The same is true of manufactured goods.

The point where the export declaration is made out varies with the character of the commodity, the method of marketing, and the business methods of the manufacturer. There are so many uncertain factors that it is impossible to make any estimate of the margin of error.

**Monthly Statistics of Imports and Exports.** Statistics by months are published in the "Monthly Summary of Foreign Commerce," in special statements issued by the Bureau of Foreign and Domestic Commerce, in the "Survey of Current Business," and in the Federal Reserve Bulletin.

*Monthly Summary of Foreign Commerce.* Monthly statistics of imports and exports and entrances and clearances have been published regularly since the organization of the Bureau of Statistics in the Treasury Department in 1866. The names of the bureaus issuing these reports and the titles of the series at various times were as follows:

**Bureau of Statistics, Treasury Department.**

Monthly Report of Director of Bureau of Statistics, November, 1866, to August, 1868.

Monthly Report of Deputy Special Commissioner in charge of Bureau of Statistics, January, 1869, to June, 1875.\*

Summary Statement of Imports and Exports, July, 1875, to December, 1894.

Finance, Commerce and Navigation, January to December, 1895.

Monthly Summary of Finance and Commerce, January, 1896, to June, 1898.

Monthly Summary of Commerce and Finance, July, 1898, to June, 1903.

**Bureau of Statistics, Department of Commerce and Labor.**

Monthly Summary of Commerce and Finance, July, 1903, to June, 1912.

**Bureau of Foreign and Domestic Commerce.**

Monthly Summary of Commerce and Finance, July, 1912, to June, 1914.

Monthly Summary of Foreign Commerce, beginning with July, 1914.

The earlier numbers in this series, particularly those issued by the Bureau of Statistics, contain a mine of information on various

\* The gap between this series and the preceding one is only in time of publication. The statistics are continuous.

subjects, such as immigration, banking, railroads, and internal commerce, as well as monographs on foreign and domestic trade in particular commodities. Between 1897 and 1906 the Monthly Summary of Commerce and Finance contained monographs dealing with the trade of the United States with specified foreign countries over a series of years. Many of these monographs also contain statistics on the commerce between the country discussed and other countries, as well as data relating to economic conditions in the countries under consideration. Some of these are discussed under appropriate headings in other places in this volume. The student making an historical study will find this series indispensable. During recent years, however, this publication has been confined exclusively to foreign trade statistics.

This publication contains statistics for the current month and the cumulative period of the current year as well as for the same month and period of the previous year. However, the minimum period for which cumulative figures are given is seven months, the January and July numbers containing figures for this length of time. One month is added in each issue so that the June number gives statistics for the fiscal year and the December number for the calendar year. Statistics for periods shorter than seven months must be obtained by adding the monthly figures or by subtracting monthly figures from the seven months total. Often the sum of the monthly figures given in successive issues will not agree with the cumulative total, owing to corrections that have been made in the statistics for earlier months. Generally this error is not great, and the monthly figures will serve for plotting curves. If the monthly figures do not add to the cumulative total, and it is desired to have exact figures, it will be necessary to write to the Bureau of Foreign and Domestic Commerce for the corrections. While the purpose of the Monthly Summary is to give statistics of transactions during the calendar month, at times the reports have contained figures compiled during the month, in which case the statistics represent neither the calendar month nor any other thirty-day period. Owing to pressure of work the returns have at times been carried over into the totals of the next month. This was particularly true of the export statistics. The result was that when the work became current the monthly figures were unduly swollen. There, has thus been considerable overlapping, but no duplication.

Beginning with April, 1921, the Monthly Summary was issued in two parts in order to expedite the publication of the statistics. From April, 1921, to September, 1922, the detailed export and import statistics were in Part I; from October, 1922, to April, 1923, the export statistics were in Part I, and the import statistics in Part II; beginning May, 1923, the export and import statistics have both been in Part I.

The schedule below indicates the figures now being published in the Monthly Summary. For each item listed, figures are published for the current month, for most of them figures are also given for the cumulative period and for the corresponding month and cumulative period of the preceding two years. In a few cases, however, only figures for the current month are given. In the list below, notation is made of figures for any period other than those cited above.

#### STATISTICS IN MONTHLY SUMMARY OF FOREIGN COMMERCE

All merchandise; total value.

Imports and exports.

Without regard to groups, countries or customs districts (separate figures for free, dutiable, and total imports and for domestic, foreign, and total exports) for each of a series of months and fiscal and calendar year.

By great groups (separate figures for free, dutiable, and total imports and for domestic exports).

By countries.

By grand divisions for series of calendar years.

By customs districts.

By groups of customs districts for series of calendar years.

Entries for immediate consumption.

Entries for warehouse.

Withdrawals from warehouse for consumption.

Individual commodities, quantities and values.

Imports, by principal countries.

Domestic exports, by principal countries.

Foreign exports, totals for each commodity without regard to countries.

Principal commodities remaining in warehouse, quantity only.

Cotton.

Imports, quantity only, by countries of production.

Domestic exports, quantity and value by countries of destination.

Gold and silver, separate figures for each metal.

Total without regard to countries or customs districts (imports, domestic exports, foreign exports, total exports) for each of a series of month and calendar and fiscal years.

STATISTICS IN MONTHLY SUMMARY OF FOREIGN COMMERCE—*Continued*Gold and silver—*Continued*.

By countries (total imports and total exports).

By customs districts (imports, domestic exports, and foreign exports),  
by form of metal.

## Total amount of duty.

Average import prices of principal articles.

Average export prices of principal domestic articles exported.

## Commerce with noncontiguous territories.

Total value of shipments of merchandise.

Value of gold and silver combined.

## Foreign carrying trade.

Value of imports and domestic exports carried in cars and land vehicles,<sup>†</sup>  
by parcels post, and in American and foreign vessels, with separate  
figures for leading foreign nations.

Value of foreign exports carried in cars and other land vehicles, in  
American vessels, and in foreign vessels.

Tonnage of American and foreign vessels entered and cleared, by coun-  
tries of departure and destination (separate figures for those with  
cargo and for total tonnage).

Tonnage of American and of foreign tanker vessels entered and cleared,  
by countries of departure and destination (separate figures for those  
with cargo and for total tonnage).

In the tables giving statistics of individual commodities the clas-  
sification is the same as in Commerce and Navigation. For the  
more important classes of imports and exports there are shown  
principal countries of shipment or destination. The selection of  
these countries is based on the trade of an earlier year and not on  
the trade of the current month or current year. Therefore, for any  
month or cumulative period there may be countries which have a  
larger share in the trade than some of those for which data are  
given. For instance, in 1922 flour to the value of \$2,461,834 was  
exported to Russia in Europe, but exports to Russia in Europe are  
not shown separately in the Monthly Summary for December, 1922,  
although separate figures are given for twelve other countries re-  
ceiving less flour than Russia in Europe. Separate figures are given  
for Venezuela to which was exported flour valued at \$567,134, but  
exports to Peru, valued at \$590,433, are included in other South  
America. Therefore, while the country figures are correct so far  
as they go, they cannot be taken as an indication of the distribution  
of trade among the most important purchasers. However, figures  
for all countries may generally be obtained from the special state-  
ments described on the next page.

<sup>†</sup> See comment on p. 345.

The Monthly Summary is the only publication giving data on warehouse transactions, import and export prices, and trade with noncontiguous possessions.

*Advance and Special Statements.* The following statements are issued in mimeograph form by the Bureau of Foreign and Domestic Commerce in advance of the issuance of the Monthly Summary: (1) Total values of general imports and of total exports of merchandise and of gold and silver for the current month, the corresponding month during the previous year, the month preceding the current month, and the cumulative period of the current year and of the previous year. (2) Total values of imports and exports—data on value of imports and exports of gold and silver, of free, dutiable, and free and dutiable general imports of merchandise, of domestic, foreign, and total exports of merchandise, of excess of imports or exports during current month, the corresponding month for the previous year, and the cumulative period for two years; this statement also shows value of total general imports and of total exports during each month for four preceding years. (3) "Breadstuff statement," giving quantity and value of domestic exports of breadstuffs, cottonseed oil, meat and dairy products, cotton, and mineral oils for the current month, the corresponding month during the previous year, and the cumulative period for two years. (4) Imports and exports by great groups for general imports and domestic exports for the current month, the corresponding month during the previous year, and the cumulative period for two years. (5) Total value of general imports and of total exports, by grand divisions and principal countries, for the current month, the corresponding month during the previous year, and the cumulative period for two years.

The Bureau of Foreign and Domestic Commerce prepares each month a number of special mimeographed statements for certain commodities giving for the current month quantities of exports by countries of destination and quantities of imports by countries of shipment. These statements show exports to and imports from each country. There is no table in any of the reports showing by articles the country of shipment of imports entered in each customs district or the country of destination of exports shipped from each customs district. A monthly statement is prepared in mimeograph form showing the quantity and value of articles exported from

each customs district and the countries to which they were shipped. These may be consulted at the Washington office of the Bureau of Foreign and Domestic Commerce, and at the office of the collector of customs for each district. Neither the Bureau of Foreign and Domestic Commerce nor the collectors of customs can undertake to make extracts from these statements. A similar statement for imports is not prepared.

*Federal Reserve Bulletin and Survey of Current Business.* The Federal Reserve Bulletin and the Survey of Current Business contain statistics on value of all imports and exports as well as figures for individual classes of commodities which reflect the general economic and business situation.

#### LIMITED STATISTICS OF IMPORTS AND EXPORTS

**Minerals.** Statistics of imports and exports of minerals are given in the annual volume entitled "Mineral Resources of the United States," issued by the Geological Survey<sup>\*</sup> annually since 1882. For some minerals only total imports and exports are given, while for others there are more detailed statistics by countries. These figures are all taken from the publications or the records of the Bureau of Foreign and Domestic Commerce. If statistics on imports for consumption for calendar years prior to 1918 are desired, they may be obtained more readily from the chapters in Mineral Resources. To obtain calendar year figures on imports for consumption during earlier years from the publications of the Bureau of Foreign and Domestic Commerce, it is necessary to add the figures for the four quarters as given in the quarterly publication, entitled "Imported Merchandise Entered for Consumption." Mineral Resources also contains statistics for exports and general imports of minerals for calendar years.

Statistics for calendar years may also be obtained from the December issues of the Monthly Summary of Foreign Commerce of the United States. The statistics by countries for calendar years prior to 1918 may be found only in Mineral Resources.

<sup>\*</sup> The work of collecting mineral statistics has been transferred to the Department of Commerce, and it is reported that this publication will be issued by the Bureau of Mines. For general description of this publication see page 234.

**Agricultural Products.** The "Agriculture Yearbook," first issued in 1894, contains statistics (quantity and value) for three latest fiscal years of the total general imports and domestic exports of each agricultural commodity shown separately in the classification of the Bureau of Foreign and Domestic Commerce. For the principal farm products imported or exported there are statistics (quantity) by principal countries of shipment or destination. The table, headed "Origin of principal farm products imported etc.," gives the country of shipment and not country of origin. (See discussion of countries on page 333.)

Other tables give quantity of general imports and of domestic exports of selected farm and forest products over a series of years.

The following publications of the Department of Agriculture give statistics of imports or exports over a series of years, but do not indicate countries of shipment or destination :

- Bulletin of the Division of Foreign Markets No. 34. Agricultural exports of the United States, 1851-1902.
- Bulletin of the Bureau of Statistics No. 51. Foreign trade of the United States in forest products, 1851-1908.
- Bulletin of the Bureau of Statistics No. 74. Imports of farm products into the United States, 1851-1908.
- Bulletin of the Bureau of Statistics No. 75. Exports of farm products from the United States, 1851-1908.

In addition to the publications listed above the Division of Statistics, the Bureau of Statistics, the Bureau of Crop Estimates, and the Bureau of Markets and Crop Estimates have issued a number of publications giving statistics of exports and imports, covering periods of from one to five years. These are listed in Department of Agriculture Circular 150, entitled "Statistical Data compiled by the Bureau of Markets and Crop Estimates."

Statistics of monthly imports and exports of important farm products from 1910 to 1920 are given in Bulletin 982 of the Department of Agriculture, entitled "Market Statistics."

**Water-Borne Exports and Imports.** Beginning with the fiscal year 1921 the Shipping Board has compiled statistics on the tonnage movement of water-borne imports and exports. These statistics are compiled from a special cargo report submitted by the operator of each vessel. Being primarily statistics of shipping and not of trade, they differ materially in several respects from those compiled by the Bureau of Foreign and Domestic Commerce. The Shipping



Board statistics do not show values. Quantity is expressed uniformly in tons of 2240 pounds, while the Bureau of Foreign and Domestic Commerce shows the unit used by the trade, such as the ton, pound, yard, pair, bushel, etc. The quantity shown by the Bureau of Foreign and Domestic Commerce is the net weight of the goods, while the quantities of the Shipping Board show the gross weight carried, including the packing cases. In the country classification the Bureau of Foreign and Domestic Commerce shows the ultimate origin or destination as shown by the invoice, but the Shipping Board shows only the seaboard country of origin and destination. Thus a shipment invoiced to Austria is reported by the Bureau of Foreign and Domestic Commerce as exported to that country, but in the Shipping Board statistics its destination would be the country in which the goods were landed.

The first report of the Shipping Board, for the fiscal year 1921, was published by the Bureau of Foreign and Domestic Commerce as Miscellaneous Series 112, entitled "Volume of United States Trade, 1921, by Ports of Origin and Destination." Figures are given for the trade of each United States port with each foreign port. There is no classification of commodities, the only differentiation being that between bulk cargoes and general cargoes.

The report for the fiscal year 1922 was published in two parts by the Shipping Board under the titles "Report on Volume of Water-Borne Foreign Commerce of the United States by United States Ports of Origin and Destination . . . Part One," and "Report on Volume of Water-Borne Foreign Commerce of the United States by Foreign Ports of Origin and Destination . . . Part Two." In this report a maximum of six principal classes of commodities is shown separately for each port, the particular commodities shown being determined by the character of the trade of the port. As the importance of commodities is based on weight, the greater part of the commodity statistics pertain to raw materials or articles for further use in manufacturing.

Reports for the fiscal years 1923 and 1924 are being printed by the Shipping Board. Summary statements<sup>9</sup> have been issued for these years showing principal commodity movements by trade regions and countries. The statements show also totals for principal

<sup>9</sup> These statements are not printed; they are reproduced from the type-written sheets by photographic process.

classes of commodities imported into and exported from each of the five coast districts into which the United States is divided,<sup>10</sup> classified by coast districts and flag under which carried, namely, United States Shipping Board, Independent American, British, and other foreign. They show also total cargo tonnage moving to and from the several foreign trade regions classified by flag as indicated above. For the fiscal years 1923 and 1924, summary statements have been issued showing the total tonnage of exports and imports moving from and to each United States port without regard to destination or commodity.

A monthly statement issued by the Shipping Board contains the following data on tonnage of water-borne exports and imports.

Total tonnage for each coastal district.<sup>11</sup>

Tonnage of principal commodities, by coastal districts and flag (United States Shipping Board, Independent American, British, and other foreign).

Total tonnage by United States coastal districts, foreign trade regions, and flag.

Tonnage of principal commodities, by foreign trade regions and countries.

#### GENERAL COMPILATIONS

Under this heading are grouped the reports of historical interest which give information for a series of years on imports and exports of all commodities. Reports dealing with one article or a group of related articles are discussed under the heading "Commodity Compilations" on pages 369 to 372.

**Trade with Various Countries.** There have been several compilations dealing with the foreign trade of the United States over a long period of years, some of which also contain data on domestic trade as well as on the commerce of foreign countries. The statistics in these reports relating to exports and imports are generally available also in the several issues of *Foreign Commerce and Navigation*, but the data on domestic trade and on the commerce of foreign countries are usually not available in other publications.

In 1864, in response to a resolution of the Senate, the Secretary of the Treasury submitted a report entitled "Statistics of Foreign and Domestic Commerce of United States," etc., published also as

<sup>10</sup> North Atlantic, South Atlantic, Gulf, Pacific, and Great Lakes; these districts have no relation to customs districts.

Senate Executive Document 55, 38th Congress, 1st Session, the following portions of which are worth noting:

- General data on foreign trade and shipping, every fifth year, 1821 to 1863.
- English statistics on trade and shipping, annually, 1859 to 1863.
- Trade with Canada, annually, 1849 to 1863.
- Canadian trade statistics, annually, 1855 to 1860.
- Internal or domestic commerce between the Mississippi Valley and the Atlantic states, including merchandise movement on New York canals annually from 1836 to 1862, freight movement on Pennsylvania Railroad, annually from 1859 to 1863, and trade of principal lake ports for varying periods.
- Commerce of the Pacific Coast.
- Overland trade and communication between the Pacific Coast and the Mississippi Valley states.

A report of historical interest to the student of Latin-American trade is one published by the Bureau of Statistics of the Treasury Department in 1889, entitled "Commerce of the United States and Other Foreign Countries with Mexico, Central America, the West Indies and South America."<sup>4</sup> This report contains the following material not readily available elsewhere:

- Trade of United States with each Latin American country, by principal classes of commodities, annually from 1860 to 1889.
- Trade of United Kingdom and France with principal Latin-American countries, showing important classes of commodities, annually for 1870 to 1888.
- Total trade of important Latin-American countries with the United Kingdom, France, Germany and Spain, each year, 1859 to 1888.
- Immigration into Brazil, Uruguay, and Argentina over a series of years.
- Tonnage movement to Latin-American countries over a series of years.

In 1893 the Bureau of Statistics of the Treasury Department issued a publication entitled "Statistical Tables Exhibiting the Commerce of the United States with European Countries from 1790 to 1890." This report contains the following data:

- Total value of all imports and exports (merchandise and gold and silver) to each European country, annually, 1790 to 1892.
- Value of merchandise and of gold and silver imported from or exported to each European country, annually, 1821 to 1892.
- Imports and exports of principal specific commodities from and to each European country, annually, 1871 to 1890.

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<sup>4</sup> This was published originally in the "Quarterly Report showing Imports and Exports," 1887, No. 4, for the three months ending June, 1887. It was also issued separately.

A summary of the exports of manufactured articles up to 1906 is given in the report of the Bureau of Statistics of the Department of Commerce and Labor entitled "Exports of Manufactures from the United States and their Distribution by Articles and Countries, 1800 to 1906." The more important tables in this publication are the following:

Total exports of principal manufactured articles or groups of articles, annually, 1800 to 1906.

Exports of principal manufactured articles by country of destination, annually, 1895 to 1906.

Exports by great groups, annually, 1820 to 1906.

The foreign trade by countries from 1895 to 1905 is shown in the report of the same bureau entitled "Analysis of Foreign Commerce of the United States, 1895-1905," which shows the exports and imports of principal articles and countries of destination or shipment during this period.

Between 1897 and 1906 the Monthly Summary of Commerce and Finance contained monographs dealing with the trade of the United States with specified foreign countries over a series of years. Many of these monographs also contain statistics on the commerce between the country discussed and other countries, as well as data relating to economic conditions in the countries under consideration.

**Imports, 1867-1918.** Total imports for consumption for each year from 1867 to 1918 for each commodity shown separately in the statistical classification are given in the three following publications:

Imports and exports, Part I. Imports from 1867 to 1893, inclusive . . . compiled . . . by Charles H. Evans. Published as Senate Report 259, Part I, 53d Congress, 2d session.

Imports and duties, 1894 to 1907 . . . by William W. Evans. Published by the Ways and Means Committee of the House of Representatives.

Statistics of imports and duties, 1908 to 1918 inclusive. Published by the Tariff Commission.

These three publications give a consecutive history of imports from 1867 to 1918; the following contain statistics for portions of this period:

Imports-Duties from 1867 to 1878, inclusive, . . . by Charles H. Evans. Published as Senate Miscellaneous Document 46, 46th Congress, 1st session.

Imports-Duties from 1867 to 1883, inclusive, . . . by Charles H. Evans. Published by the Bureau of Statistics, Treasury Department and also as House Miscellaneous Document 49, 48th Congress, 1st session.  
Imports for consumption into United States 1884 to 1894. Published by Bureau of Statistics, Treasury Department.

All of the reports mentioned above show the quantity, value, rate of duty, amount of duty, average value, and the equivalent *ad valorem* rate of duty for articles assessed at specific rates. The figures in Statistics of Imports and Duties, 1908 to 1918 and the earlier volumes are for fiscal years. Statistics for the calendar years 1918 to 1920 and the first nine months of 1921 are contained in "Summary of Tariff Information, 1921," issued by the Tariff Commission. It should be observed that the two reports do not give a continuous statistical history, as the fiscal year 1918 includes the first six months of the calendar year 1918. Consecutive figures without overlapping may be compiled by using the quarterly statement of imports for consumption, issued by the Bureau of Foreign and Domestic Commerce for either the first or last half of the calendar year 1918.<sup>12</sup>

The report covering 1867-1893 also contains the following summary statistics for each fiscal year:<sup>13</sup>

- Quantity and value of article transferred to manufacturing warehouses, 1872 to 1893.
- Summary by leading classes of imports showing value, duty collected, and average *ad valorem* rate, 1867 to 1893.
- Quantity and value of articles admitted free of duty for the construction and equipment of vessels, 1873 to 1893.
- Quantity and value of articles admitted free of duty under treaty of May 8, 1871, from Dominion of Canada and Newfoundland, 1874 to 1885.
- Quantity and value of articles admitted free of duty from Hawaiian Islands under convention of January 30, 1875, and Act of August 15, 1876 (19 Stat. L., 200), 1877 to 1893.
- Quantity and value, by ports, of salt withdrawn from warehouse and admitted free of duty for curing fish, 1871 to 1893.
- Quantity and value of articles withdrawn from warehouses as supplies for merchant vessels, 1885 to 1893.
- Value of free and dutiable imports, withdrawals from warehouse, and immediate entries, 1867 to 1893.
- Receipts and expenses at principal and "all other" ports, 1870 to 1893.
- Import business of each port of entry, 1869 to 1893: Value of free and dutiable goods entered, average rate of duty, duties collected, expenses of collection.

<sup>12</sup> This report was issued for each quarter of the fiscal years 1911 to 1920.

<sup>13</sup> The same statistics from 1867 to 1883 are contained in Imports-Duties from 1867-1883, inclusive, . . . by Charles H. Evans.

**Import business of each state and geographical division for fiscal years 1874 to 1893.** Value of free and dutiable merchandise, average *ad valorem* rate of duty, duty collected, and expenses of collection.

**Exports, 1697-1893.** Statistics on exports from 1697 to 1893 are contained in Part II of the report for 1867 to 1893 mentioned on page 364, the full title of which is as follows: "Imports and Exports, Part II, Exports, Domestic and Foreign, from the American Colonies to Great Britain from 1697 to 1789, inclusive; Exports, Domestic, from the United States to all Countries, from 1789 to 1893, inclusive, compiled and collated from Official Papers, by Charles H. Evans." This was published as Senate Report 259, Part 2, 53d Congress, 2d Session." It contains statistics for each fiscal year on the following subjects:

Total values of exports for 1697 to 1789 from New England, New York, Pennsylvania, Virginia and Maryland, Carolina, Georgia.

Quantity and value of domestic exports of each article shown separately, 1790 to 1893.

Value of domestic exports to each foreign country, 1790 to 1893.

Value of domestic exports by states from which exported, 1790 to 1893.

Value of exports carried in American and foreign vessels, 1790 to 1893.

Currency value of gold and gold value of currency, by months from January, 1862, to December, 1878.

Export statistics up to the end of the fiscal year 1883 identical with those listed above are contained in Part 2 of the report of 1867 to 1883, entitled "Imports-Duties from 1867 to 1883 Inclusive," by Charles H. Evans, published by the Bureau of Statistics, Treasury Department, and also as House Miscellaneous Document 49, 48th Congress, 1st Session.

**Imports and Exports, Fiscal Year 1905, Production 1904.** In 1909 the Director of the Census, at the request of the Ways and Means Committee, prepared a statement showing imports for consumption and domestic exports during the fiscal year 1905 and production in the calendar year as far as shown by the Census of Manufactures. The arrangement of the material is by the tariff schedules. The quantities and values are given if they are shown in the original statistics. In some cases the production figures are for the industry and not for specific commodities, but the industry figures are indicated by a note. This report was published under the following title: "Imports, Exports, and Domestic Manufactures, arranged according to paragraphs of Tariff Law of 1897.

Prepared by the Director of the Census for Committee on Ways and Means of the House of Representatives."

**Dictionary of Tariff Information.** The volume entitled "Dictionary of Tariff Information," issued by the Tariff Commission in 1924, contains data on imports and exports, generally for the years 1918 to 1923. It contains also production statistics for recent years if they are available. The statistics are only incidental to the major purpose of the book which comprises information of three types: (1) Technical and statistical data relative to commodities; (2) description of tariff systems, methods, practices, and history; and (3) a table comparing the rates of the tariff acts of 1909, 1913, and 1922. With regard to the general data, the introduction contains the following comment:

The subjects falling under class (2) cover so wide a field that neither time nor money was available for a thorough first-hand investigation. Nevertheless, as information is required from time to time on many problems of tariff method, administration, or principle, the commission has made digests or summaries of the best available literature on the principal tariff subjects, and has appended such bibliographies as will provide an elementary acquaintance with the subjects treated. The method followed has been to organize the material in readable articles, indicating by footnotes the source of each general statement. Statements contained in the general articles are summaries of other publications, including official documents. They are not to be taken as representing the views or conclusions of the Tariff Commission; nor are they, except where specifically indicated, the result of original investigations conducted by the commission. The accuracy of the statements in such articles is not vouched for, except in so far as they are derived from the published reports of the Commission. Careful effort has been made to select trustworthy authorities, but no responsibility is assumed for the accuracy of statements by such authorities with respect to facts or theory.

It should be noted that the reservation just made principally applies to general articles; articles on specific commodities represent original investigations by the commission.

**Summary of Tariff Information.** The volume entitled "Summary of Tariff Information, 1921," published by the Tariff Commission, contains summary statistics of imports, exports and production during recent years and notes on the character and uses of

the several commodities. An earlier edition, entitled "Summary of Tariff Information, 1920," was issued by the Ways and Means Committee of the House of Representatives. This early edition contains few statistics, but includes all the notes on the character and uses of commodities. In addition the early edition contains references to the leading cases in which the provisions of tariff acts prior to that of 1922 were interpreted. The 1921 edition is arranged according to the paragraph in HR 7456, which became the tariff act of 1922, while the 1920 edition is arranged according to the provisions of the tariff act of 1913; both volumes are well indexed by commodities.

**Tariff Information Surveys.** Statistics of imports, generally from 1910 to 1920, are given in the pamphlets with the title "Tariff Information Surveys," published by the Tariff Commission.<sup>4</sup> There are in this series over a hundred pamphlets treating of all commodities covered by the tariff act of 1913. The data include not only statistics of imports, but also prices, notes on the uses of the commodity, and the history of the industry. The arrangement of the material is entirely by paragraphs of the tariff act of 1913, some pamphlets containing data on several paragraphs and some paragraphs being discussed in several pamphlets. The series is divided into lettered subseries corresponding to the schedules of the act of 1913. Thus, No. A-1 to A-19 relate to Paragraphs 1 to 70, which comprise schedule A. The subseries FL refers to the free list. It is announced that a general introductory pamphlet will be issued which will contain a detailed index to the series, but as this volume goes to press the introductory volume has not appeared.

Until the introductory number is published the easiest way for one unfamiliar with the Tariff Classification of 1913 to find material is to use the latest edition of the pamphlet with the main title, "List of Principal Subjects Investigated and Reported Upon by the Tariff Commission," and the cover title, "Subject Index of Tariff Commission Publications." This index appears in essentially the same form as an Appendix of the Annual Report of the Commission.

<sup>4</sup> Tariff Information Surveys must not be confused with the Tariff Information Series. An earlier edition of each of the Tariff Information Surveys was published also by the Ways and Means Committee of the House of Representatives.



## COMMODITY COMPILATIONS

Under this heading are discussed the reports giving information regarding imports and exports of specified commodities or groups of commodities. In addition to the publications here described, practically all the publications of the Tariff Commission discussed in Chapter XXII, Surveys of Industries, also contain statistics of imports and exports.

**Imports of Dyestuffs.** A detailed compilation of the quantity and value of all dyestuffs imported into the United States during the fiscal year 1914 was published by the Bureau of Foreign and Domestic Commerce as Special Agents Series 121, under the title "Artificial Dyestuffs Used in the United States," by T. H. Norton. In the regular annual statistics for the fiscal year 1914 all the figures for dyestuffs are given under less than ten general classes. In Special Agents Series 121 statistics are for imports of several thousand individual dyes, arranged by Schultz numbers. There is also a good alphabetical index. These detailed figures were obtained by a reëxamination and reclassification of all the entries of dyestuffs made during that year. Quantities and values are shown, and also the names of the manufacturers are indicated, but figures are not given for countries of shipments. The volume contains also an excellent bibliography on the manufacture of dyestuffs.

The censuses of dyes and coal tar for 1917 to 1923, published by the Tariff Commission (see p. 280) contain statistics on imports. The reports for 1917 and 1918 contain statistics of general imports (quantity and value) of dyes by quarters for fiscal years 1913 to 1918 and the first three quarters of the fiscal year 1919, and imports for consumption (quantity and value) of natural dyes, extracts, and coal tar products, fiscal years 1910 to 1918. The reports for 1919 to 1923 contain detailed statistics on the imports of individual dyes during those fiscal years, the statistics being compiled through a reëxamination of all entries.

**Imports of Chemicals Other Than Dyestuffs.** Detailed statistics of the imports of chemicals of all kinds, except dyestuffs, during the fiscal year 1914 have been published by the Bureau of Foreign and Domestic Commerce as Miscellaneous Series 82, "Chemicals and Allied Products Used in the United States." In the regular

annual statistics for the fiscal year 1914 the figures for chemicals are shown under a limited number of heads, but in Miscellaneous Series 82, the quantity and value are given for imports of several thousand chemicals, and in addition there are articles listed for which the imports during the year were valued at less than \$100. For the articles for which the total imports were valued at more than \$100 the percentage of quantity from each important country is shown. The articles for which the imports were valued at less than \$100 are simply listed without details regarding the quantity, value, or country. The detailed list is well indexed, while the articles in the general list are arranged in alphabetical order. Therefore, if any article is not found in the index to the detailed list, the general list should be consulted in order to determine whether the commodity was imported during the year. In this publication the term "chemical" has been used in a very broad sense, and figures are given for practically every commodity which is used in the chemical industry or which is the result of chemical processes. The statistics include such articles as paints, gums, medicinal plants, and minerals. They do not include dyestuffs, which are reported in Special Agents Series 121. As in the case of dyestuffs these statistics were compiled by reexamining and reclassifying all the entries made during the year. Miscellaneous Series 82 also contains statistics of production of chemicals in 1914 as given in the reports of the Census of Manufactures.

**Imports of Crude Botanical Drugs.** Import statistics for crude botanical drugs are given in Tariff Information Series No. 19, entitled "The Crude Botanical Drug Industry," issued by the Tariff Commission in 1920. This publication gives statistics of imports for consumption (quantity and value) and duty for each fiscal year from 1909 to 1919. It also contains considerable information on the character and uses of these commodities as well as price statistics during late years.

**Imports of Cotton Yarn.** The import trade in cotton yarn is exhaustively discussed in Tariff Information Series No. 12, "Cotton Yarn," issued by the Tariff Commission in 1920. This publication contains the result of a reclassification of entries for consumption made during the fiscal years 1914 and 1918. The statistics are therefore more detailed than those in the annual publications of the

Bureau of Foreign and Domestic Commerce. This publication is the best general summary of the cotton yarn trade in all its aspects.

Among the objects sought in this special study were the amounts imported of each particular count and ply; the amounts that were carded as compared with those combed, the amounts that were in gray, or bleached, or dyed, the amounts that were subjected to special finishing processes, such as mercerizing, gassing, preparing or polishing; the use of imported yarns and the reason why foreign yarns were preferred in certain industries; the main centers of origin, and the main importing centers.<sup>15</sup>

The investigation was confined to the New York, Philadelphia, Chicago, Rhode Island, Connecticut, and Massachusetts customs districts in which were entered 91.2 per cent of the imports during the fiscal year 1914 and 92 per cent during the fiscal year 1918.

The principal statistics cover the following topics:

Imports for consumption, by counts (quantity), fiscal years 1901-10.

Total imports for consumption (quantity), by ranges for fiscal years 1895-1918.

Uses of imported yarn (quantity), fiscal years 1914 and 1918.

Imports for consumption (quantity), by uses, counts, and places of shipments, fiscal years 1914 and 1918.

Exports of cotton yarn (value), by countries, fiscal years 1913-18, quantity for 1918.

Imports and exports of cotton yarn (quantity and value) by foreign countries in 1913.

**Imports and Exports of Seeds.** Imports and exports of seeds are given in Statistical Bulletin 2 of the Department of Agriculture, entitled "Seed Statistics." For seeds shown separately in the reports of the Bureau of Foreign and Domestic Commerce, this report gives total imports by months from July, 1912, to December, 1922, imports by countries for the fiscal years 1913 to 1917 and calendar years 1918 to 1922, total exports by months from 1910 to 1922, and exports by countries for the fiscal years 1910 to 1919 and calendar years 1920 to 1922. In the country statistics there is, therefore, an interval of six months for which no figures are given.

For forage plant seeds, figures of total imports are given for the fiscal years 1911 to 1922. Imports by principal countries are shown

<sup>15</sup> Tariff Information Series No. 12, p. 59.

for the more important kinds for the fiscal years 1919 to 1923. These statistics of forage plant seeds are compiled mostly from the records of permits issued under the Seed Importation Act. Most of these varieties are not shown separately in the reports of the Bureau of Foreign and Domestic Commerce. A few varieties are shown in the regular reports, and for these, the totals as compiled from the seed permits do not agree with the totals in the regular reports. This is probably due to differences in classification or perhaps to that fact that the importations did not take place in the year during which the permits were issued.

**Imports and Exports of Lumber and Wood Products.** Volume 2 of the work entitled "Report on Forestry," issued by the Department of Agriculture between 1878 and 1884,<sup>16</sup> contains a compilation of exports of lumber and wood products from 1789 to 1879 by countries of destination, and imports of the same commodities for various periods from 1854 to 1879. All of this material was compiled from the several issues of Commerce and Navigation, and presented as in the original reports. This volume contains also figures on exports by foreign countries for various periods.

<sup>16</sup> Volumes 1 to 3 of this report were by Franklin B. Hough; Volume 4 was by N. H. Egleston. Volume 2 was published as House Doc. 37, 46th Cong., 2d sess., and Volume 3 as House Misc. Doc. 38, 47th Cong., 1st sess.

## CHAPTER XXIV

### LAND TRANSPORTATION AND COMMUNICATION

In this chapter will be discussed in general only the publications relating to the finances and operation of railroads; statistics on wages are covered in Chapter XII and those on railroad accidents in Chapter IX. The discussion in this chapter is divided into General Statistics, which deal with a number of topics, and Limited Statistics, which deal with certain restricted phases of railroad operation.

#### GENERAL STATISTICS ON RAILROADS

**Early Reports and Summaries.** Prior to 1880 the only official general statistics of railroads published by the government were brief tables in the reports of the censuses of 1850 and 1860. These were contained in the following reports:

Seventh Census: 1850.

Statistical view of the United States—Compendium of the Seventh Census.

Abstract of the Seventh Census.

Eighth Census: 1860.

Preliminary report on the Eighth Census.

Statistics of the United States in 1860.

The Tenth Census, 1880, was the first one which made a serious effort to obtain detailed statistics of railroad operation. The statistics collected were comparable in a general way with those compiled at the present time. They included figures on construction, equipment, capital, revenues, expenses, freight tonnage, average rates, assets and liabilities, profits, employees, accidents, and physical character of the roads, such as grades, cuts, curves, mileage of steel track and mileage of iron track. One particularly interesting historical table is the one showing the mileage built by each railroad for every year from 1830 to 1879. The report on railroads comprised 647 pages of Volume IV of the report entitled "Agencies of Transportation." Condensed statistics were published in the "Compendium of the Tenth Census, Part II."

At the census of 1890 the collection of statistics was made under the direction of Henry C. Adams, who was statistician of the Interstate Commerce Commission. This report was also a comprehensive one and presented the facts along the same general lines as the reports of the Interstate Commerce Commission. It was issued under the title "Report on Transportation Business in the United States at the Eleventh Census, 1890: Part I. Transportation by Land." Summary statistics were published in Part III of the Compendium of the Eleventh Census, and in the Abstract of the Eleventh Census.

Some scattering statistics on railroads were contained in Reports on Internal Commerce of the Bureau of Statistics of the Treasury Department issued for 1876, 1878, 1880, 1882, 1884, 1886, 1887, and 1889-91 (see page 416). These reports contained some general data on railroad lines but no systematic collection of statistics. The statistical material consisted mainly of figures on commodity movements and receipts and shipments. These reports comprise essentially a series of monographs furnishing material on the history of commerce, but supply little material on the problems of railroad development.

Summary statistics of railways by calendar years from 1867 to 1909, compiled from the issues of Poor's Manual of Railroads, are given in the report of the National Monetary Commission entitled "Statistics of the United States, 1867 to 1909." The later figures will not agree with those of the Interstate Commerce Commission, which were for fiscal years during this period, while these statistics are for calendar years. The topics for which data are given are mileage, passengers and freight carried one mile (beginning with 1882) and total gross receipts (beginning with 1878).

Some general statistics on the land grant and bond-aided railroads are contained in the annual reports of the Auditor of Railroad Accounts from 1878 to 1880 and the annual reports of the Commissioner of Railroads from 1881 to 1903. These will be most readily found in the annual reports of the Department of the Interior, although they were issued also in separate form. The figures pertain particularly to finances and the area of land patented to each road.

The annual reports of the government directors of the Union Pacific Railway, issued from 1864 to 1898, contain financial data

and general information on that road. The reports from 1864 to 1869 and from 1872 to 1885 were republished in Senate Document 69, 49th Congress, 1st Session. The reports for 1870 and 1871 were apparently not printed. From 1877 to 1898 the reports form part of the annual report of the Department of the Interior; after 1885 they were also published separately.

**Interstate Commerce Commission.** Statistics of railroads have been published continuously by the Interstate Commerce Commission beginning with 1888.

*Annual Reports.* The final statistical report for each year is published under the title "Annual Report on the Statistics of Railways in the United States." From 1888 to 1916 the figures covered the fiscal year ending June 30; since 1916 the reports have been for the calendar year. There were two reports in 1916, one for the fiscal year and one for the calendar year. From 1894 to 1905 the statistical report was also printed as a part of the administrative report of the Commission. The statistics have been compiled in approximately their present detail beginning with 1911.

The first part of the statistical report has been printed separately since 1902, during recent years under the title "Text of the . . . Annual Report on the Statistics of Railways in the United States." During some of the earlier years this portion was printed under the title, "Advance Copy," and during other years in separate form with a half title. The term "text" is somewhat misleading, as this portion of the report contains all the general statistics relating to the United States as a whole, the only additional material in the large report being the statistics relating to individual roads. The Text is all that is needed by the student who does not desire details regarding individual roads.

Beginning with 1911 an advance report has been issued under the title "Preliminary Abstract of Statistics of Common Carriers." This report appears about nine months earlier than the final report. A similar report was issued from 1893 to 1907 under the title "Preliminary Report on the Income Account of Railways in the United States." For 1909 to 1911 this information was contained in the issue of the "Bulletin of Revenues and Expenses of Steam Roads in the United States," containing figures for the year. The annual bulletin for 1909 also contained figures for 1908.

Prior to the report for 1921 the Preliminary Abstract contained both general statistics for all Class I roads and detailed statistics for individual Class I roads.<sup>1</sup> Beginning with the report for 1921 only the total figures for all Class I roads have been given.

In many of the summary tables the statistics are given by three geographic districts—Eastern, Southern, and Western, which are substantially identical with the three great freight classification territories. The Eastern district includes the area bounded by the northern and western shore of Lake Michigan to Chicago, thence by a line to Peoria, thence to East St. Louis, thence down the Mississippi River to the Ohio River, thence along the Ohio River to Parkersburg, W. Va., thence by a line to the southwestern corner of Maryland, thence by the Potomac River to its mouth. The Southern district comprises the area bounded on the north by the Eastern District and on the west by the Mississippi River. The remainder of the continental United States is assigned to the Western district.<sup>2</sup> Each reporting carrier is assigned to the district in which the major part of its operations lie, or with which it seems most closely allied in character. The present geographic classification was first used in the report for 1911; prior to that year the country had been divided into ten districts.

In some of the reports the districts are subdivided into the following regions:

#### EASTERN DISTRICT

**New England Region.**—This region comprises the New England States.

**Great Lakes Region.**—This region comprises the section on the Canadian boundary between New England and the westerly shore of Lake Michigan to Chicago, and north of a line from Chicago via Pittsburgh to New York.

**Ohio-Indiana-Allegheny Region.**—This region comprises the section south of the Great Lakes Region, east of a line from Chicago through Peoria to St. Louis and the Mississippi River to the

<sup>1</sup> For statistical purposes, the railroads are separated into classes, based on the amount of their annual operating revenues, as follows: Class I, above \$1,000,000; Class II, from \$100,000 to \$1,000,000; Class III, below \$100,000. As the large rate increase in 1920 was likely to increase the number of Class I roads to such an extent as to disturb the comparison of the figures, the Commission made the revenues of 1919 the basis for the classification.

<sup>2</sup> Statistics of Railways, 1922, p. ix.



mouth of the Ohio River, and north of the Ohio River to Parkersburg, W. Va., and a line thence to the southwestern corner of Maryland and by the Potomac River to its mouth.

#### SOUTHERN DISTRICT

Pocahontas Region.—This region comprises the section north of the western boundary of Virginia, east of Kentucky and the Ohio River north to Parkersburg, W. Va., and south of a line from Parkersburg to the southwestern corner of Maryland and thence by the Potomac River to its mouth.

Southern Region.—This region comprises the section east of the Mississippi River and south of the Ohio River to a point near Kenova, W. Va., and a line thence following the eastern boundary of Kentucky and the southern boundary of Virginia to the Atlantic

#### WESTERN DISTRICT

Northwestern Region.—This region comprises the section adjoining Canada lying west of the Great Lakes Region, north of a line from Chicago to Omaha and thence to Portland and by the Columbia River to the Pacific.

Central-Western Region.—This region comprises the section south of the Northwestern Region, west of a line from Chicago to Peoria and thence to St. Louis, and north of a line from St. Louis to Kansas City and thence to El Paso and by the Mexican boundary to the Pacific.

Southwestern Region.—This region comprises the section lying between the Mississippi River south of St. Louis and a line from St. Louis to Kansas City and thence to El Paso and by the Rio Grande to the Gulf of Mexico.<sup>3</sup>

The statistics of the Interstate Commerce Commission are compiled from returns required by law to be rendered in a uniform manner by all railroad common carriers engaged in interstate commerce. While detailed reports for roads not subject to the jurisdiction of the Commission are not given, the general tables on mileage and operation included data compiled from unofficial sources.

The statistics relate to the continental United States only, although figures are given for one railroad in Alaska and one in Hawaii. Statistics for these roads, however, are not included in the totals. The statistics are collected primarily to serve as an aid

<sup>3</sup> Statistics of Railways, 1921, p. xcvi.

in the regulation of rates, and the approach is therefore from the fiscal side. This necessarily involves consideration of the movement of passengers and freight as well as other operating statistics, but the Commission has never attempted to collect commodity statistics which might give an index of the consumption of and market for different commodities in various parts of the country.

In using the reports of the Interstate Commerce Commission and the statistics in other publications derived from the reports of the Commission, it is essential to bear certain features in mind. The statistics are those of steam roads, and do not include data relating to independent electric lines which do not form part of a steam railroad system, but which may carry freight and passengers in interstate commerce. If, however, a portion of a steam road is operated by electric power, such as the New York, New Haven, and Hartford and the Chicago, Milwaukee, and St. Paul, or if electric street railways are operated by the railroad, the statistics of such operations are included in the reports but are not given separately.

As the statistics are on the basis of operation they also include such steamer lines as are operated as a part of the railroad system. In some cases the water traffic may be more important than the rail movement. For instance, in the case of the Baltimore, Chesapeake, and Atlantic Railroad the operating receipts from rail line transportation amounted in 1922 to \$428,873, while those from water line transportation were \$1,130,583. In all cases separate figures are given for water line transportation.

All the detailed statistics relate to operating corporations, regardless of ownership of the capital stock or the lease of the property to another railroad. Thus, in the case of the Illinois Central Railroad Company, the operating statistics relating to revenue, expenses, traffic, etc., apply only to the lines controlled by the Illinois Central Railroad Company which are operated under the name of that road. The operating statistics of the Chicago, St. Louis, and New Orleans Railroad Company, which is a leased subsidiary line operated as an integral part of the Illinois Central, are included in those of the Illinois Central Railroad Company. On the other hand, the operating statistics of the Central of Georgia Railway Company, which is also a subsidiary corporation but operated as an independent unit, are not included in the statistics of the Illinois Central, but appear separately. The revenue derived by the Illinois Central

from the Central of Georgia appears in the financial statements of the Illinois Central Railroad Company under income account, non-operating income, dividend income.

The financial statistics of leased roads which are operated by other roads appear in abstract form in a separate table relating to lessor railroads.

As the statistics relate to operating railroads no data are given for purely holding companies. Thus, the Southwestern Construction Company is a holding corporation, which is owned mainly by the Southern Railway Company and which in turn controls several other roads, including the Cincinnati, New Orleans, and Texas Pacific Railway Company, an operating road leasing the Cincinnati Southern Railway. As the Southwestern Construction Company is not an operating road no data are given for it, but as the Cincinnati Southern is a leased road summary financial data are found in the table giving statistics for lessor roads. The profits of the Cincinnati Southern accrue first to the Cincinnati, New Orleans and Texas Pacific Railway Company, are then distributed to the Southwestern Construction Company and other stockholders, and are again distributed to the Southern Railway Company and other stockholders of the Southwestern Construction Company.

As the investment of each operating road in other companies is shown in the detailed statistics for Class I roads, it is possible to determine the degree of control exercised by one operating company over another operating company by comparing the amount of stock owned by one company with the total stock issued by the other company. This cannot be done in the case of holding companies, for while the report shows the stock of holding companies owned by each operating road it gives no figures on the total stock issued by any holding company. A table at the end of the report shows the intercorporate relation of the several roads, and indicates generally whether the control is exercised through ownership of all or of a majority of the capital stock.

The report entitled "Statistics of Railways in the United States" is divided into two parts. The first part gives general statistics on finances and operation of Class I roads as a group, and contains summary data on accidents, certain telephone companies, the Pullman Company and individual express, telegraph, and pipeline companies. The second part contains detailed statistics on the

individual Class I roads, and less detailed tables dealing with individual roads of Class II and Class III.

The statistics of railways cover both finance and physical operation. For individual Class I roads on the financial side there are given a balance sheet and statements of income, profit and loss, operating revenues, operating expenses, investments in other companies, cash and securities in special funds, capital stock, and funded debt. The main tables are subdivided in considerable detail, the items given below being merely illustrative of the extent to which detailed figures are available. Railway operating revenues are shown under forty-four heads and subheads, separate figures being given for such items as excess baggage, parcel-room receipts, demurrage, and hotel and restaurant receipts. Operating expenses are given under 235 heads and subheads. Under "Maintenance of Way and Structures," separate figures are given for the direct outlay and for depreciation on such items as right-of-way fences both in yards and elsewhere. Under "Maintenance of Equipment" are shown separately the amount expended for each class of equipment, such as passenger train cars, for repairs, depreciation, and retirement. Under "Transportation" are indicated the expenditure for drawbridge operation, clearing wrecks, loss and damage of freight, etc.

As regards physical operation the tables give, in addition to data on quantity of freight and number of passengers, figures for train miles, locomotive miles, and car miles for various classes of service. In the reports prior to the one for 1924 there was given also the total tonnage of revenue freight carried in carload lots for the sixty-nine classes of commodities listed on page 383. For 1924 these figures are in a separate publication entitled "Freight Commodity Statistics—Class I Steam Railways." It has been announced that hereafter these figures will be omitted from Statistics of Railways and issued under the title given above. The equipment figures indicate the number and capacity of various types, such as box cars, coal cars, refrigerator cars, etc., at the beginning and end of the year, together with separate figures for additions and retirements.

The several items of the classification are described in the following pamphlets:

Classification of investment in road and equipment of steam roads . . . effective on July 1, 1914.

[Amendment of second paragraph of section 2 of above effective January 1, 1921.]<sup>6</sup>

Classification of income, profit and loss and general balance sheet accounts for steam roads . . . effective on July 1, 1924.

[Amendment relative to short-term notes, effective January 1, 1921.]

[Addition of third section to general instructions on page 10, effective January, 1921.]

[Substitute for text relating to account 751; addition of Note F to text relating to account 728; and addition of Note G to text relating to account 729, effective October 1, 1921.]

Classification of operating revenue and operating expenses of [Class I] steam roads . . . effective on July 1, 1914.

[Substitute for Section 19 and cancellation of Section 20 of special instructions; addition of accounts 280 and 338; effective January 1, 1924.]<sup>6</sup>

Index to the classification of operating expenses of [Class I] steam roads.

Condensed classification of operating expenses of steam roads [for roads of Classes II and III], effective on July 1, 1914.

Rules relative to [monthly] operating statistics of large [Class I] steam railways, effective January 1, 1921.

[Substitute for paragraph 13 under title "Freight train performance" effective January 1, 1922.]

Classification of train miles, locomotive miles and car miles for steam roads . . . effective July 1, 1914.

Rulings on specific questions that have arisen in connection with finances are given in Accounting Bulletin 15, entitled "Interpretation of Accounting Classifications . . . for Steam Roads."

The present plan of detailed statistics for Class I roads begins with the report for 1911. Prior to 1917 the figures for Class II and Class III roads were given in greater detail than at present, but not in as great detail as for Class I roads.

The first part of Statistics of Railways contains summary figures for all roads on the topics for which figures are given for individual roads. In addition it contains summary figures on the division of expenses between freight and passenger traffic,<sup>6</sup> consumption of fuel, compensation of employees,<sup>7</sup> distribution of taxes, seating

<sup>6</sup> Earlier amendment effective July 1, 1915.

<sup>6</sup> Earlier order relating to same subjects effective January 1, 1921.

<sup>6</sup> The plan for making this separation is outlined in the pamphlet entitled "Rules governing the separation of operating expenses between freight service and passenger service on large steam railways . . . effective January 1, 1920."

<sup>7</sup> The table in this report gives figures only for seven groups of employees; details for the 148 classes of employees are given in an annual statement entitled "Wage Statistics."

capacity of passenger cars, number of cars of steel and other construction, and tonnage of rails and number of ties laid in connection with replacement and betterment work.

It also contains a list of roads in the hands of receivers, figures for individual roads showing changes during the year in capital and debt outstanding, and a summary statement of investment, capitalization, and income.

Condensed statistics for all roads are also given in the administrative report entitled "Annual Report of the Interstate Commerce Commission."

The operating averages of individual Class I railroads are reported annually in the publication entitled "Comparative Statement of Operating Averages." The first issue of this publication contains figures for 1916, 1921, and 1922; the second gives similar data for 1921, 1922, and 1923.

Another publication issued first for 1924 and containing selected items for Class I roads is entitled "Preliminary Statement of Capitalization and Income."

*Quarterly Reports on Commodity Movements.* For several years the Interstate Commerce Commission has issued quarterly a statement entitled "Summary of Freight Commodity Statistics of Class I Roads," showing the total revenue-freight carried by Class I roads, subdivided into seventy classes of commodities, car lot shipments being divided into sixty-nine classes and all the less than car lot shipments being grouped in one class. The classes given in this statement are as follows:

Products of agriculture.

- Wheat.
- Corn.
- Oats.
- Other grain.
- Flour and meal.
- Other mill products.
- Hay, straw, and alfalfa.
- Tobacco.
- Cotton.
- Cottonseed and products, except oil.
- Citrus fruits.
- Other fresh fruits.
- Potatoes.
- Other fresh vegetables.
- Dried fruits and vegetables.
- Other products of agriculture.
- Total.

**Animals and products.**

- Horses and mules.
- Cattle and calves.
- Sheep and goats.
- Hogs.
- Fresh meats.
- Other packing-house products.
- Poultry.
- Eggs.
- Butter and cheese.
- Wool.
- Hides and leather.
- Other products of animals.
- Total.

**Products of mines.**

- Anthracite coal.
- Bituminous coal.
- Coke.
- Iron ore.
- Other ores and concentrates.
- Base bullion and matte.
- Clay, gravel, sand, and stone.
- Crude petroleum.
- Asphaltum.
- Salt.
- Other products of mines.
- Total.

**Products of forests.**

- Logs, posts, poles, and cord wood.
- Ties.
- Pulpwood.
- Lumber, timber, box shooks, staves, and headings.
- Other products of forests.
- Total.

**Manufactures and miscellaneous.**

- Refined petroleum and its products.
- Vegetable oils.
- Sugar, sirup, glucose, and molasses.
- Boats and vessel supplies.
- Iron, pig and bloom.
- Rails and fastenings.
- Bar and sheet iron, structural iron, and iron pipe.
- Other metals, pig, bar, and sheet.
- Castings, machinery, and boilers.
- Cement.
- Brick and artificial stone.
- Lime and plaster.
- Sewer pipe and drain tile.
- Agricultural implements and vehicles other than automobiles.
- Automobiles and autotrucks.
- Household goods and secondhand furniture.
- Furniture (new).

Manufactures and miscellaneous—*Continued.*

Beverages.

Ice.

Fertilizers (all kinds).

Paper, printed matter, and books.

Chemicals and explosives.

Textiles.

Canned goods (all canned food products).

Other manufactures and miscellaneous.

**Total.**

This statement shows the number of carloads and number of tons of each class of freight which moved as an original shipment and the total of each class moved, figures being given for the entire United States and the several districts. For years prior to 1924 similar annual statistics for each Class I railroad were published in Statistics of Railways, but beginning with 1924 the annual figures are in a separate publication entitled "Freight Commodity Statistics—Class I Steam Railways."

It should be noted that this table takes no account of distance, a shipment moving one hundred miles having the same weight as a shipment moving one thousand miles. It cannot be used as a guide to the quantity of any commodity entering into the commerce of the country, as several shipments of the same product may be duplicated. Thus, cotton moves from the gin to the compress, then to the warehouse, and then to the seaboard or to the mill; it may also move again by rail from the terminus of the steamship line to the mill. There are, thus, at least four possible shipments of the same bale of cotton, each of which would be reported as originating on road. There is also duplication in the figures showing total tonnage, as the same shipment may pass over several railroads and each carrier would make a separate report on the tonnage received from connecting roads. The greatest value of the figures is in their use as index numbers to show the relative amount of freight of various classes handled by the railroads in different years. The duplications will probably average the same from year to year, and, therefore, the table furnishes a good index to the amount carried.

For April, 1920, the Interstate Commerce Commission issued a mimeographed report, showing tonnage, number of carloads, and revenue from freight moving from each state to every other state of the following fifteen selected groups of commodities:



Wheat.  
 Corn.  
 Cotton.  
 Fruits and vegetables.  
 Cattle and calves.  
 Hogs.  
 Fresh meats.  
 Bituminous coal.  
 Lumber, timber, box shooks, staves and headings.  
 Refined petroleum and its products.  
 Sugar, sirup, glucose, and molasses.  
 Bar and sheet iron, structural iron, and iron pipe.  
 Cement.  
 Automobiles and autotrucks.  
 Fertilizers.

This statement is the only attempt that has been made to determine the interstate movement of commodities. Unfortunately, the switchmen's strike occurred in the month for which these statistics were compiled, and they are not as representative as is desirable.

*Monthly Reports.* Monthly reports giving summary statistics for the entire United States and figures for individual roads were published by the Interstate Commerce Commission from March, 1911, to August, 1914, under the title "Bulletin of Revenues and Expenses of Steam Roads in the United States." The first issue was for the nine months ending March, 1911, subsequent numbers containing monthly figures. There were also annual bulletins of the same title giving figures for the fiscal years 1909, 1910, and 1911. This publication was discontinued with the issue for August, 1914, but the statistics were prepared each month and issued in mimeograph form to the press. In 1920 the monthly statistics covering the period from July, 1914, to December, 1919, were printed under the title "Operating Revenues and Expenses of Large Steam Roads, by Months, July, 1914, to December, 1919." The monthly figures for 1920 were published in the pamphlet entitled "Operating Revenues and Expenses of Large Steam Roads, by Calendar Years 1915 to 1920, and by Months, January to December, 1919 and 1920." All of these reports refer to Class I roads only.

In 1921 the printing of the monthly statistics was resumed, the reports being issued in sheet form. Each of the reports listed below is on a separate sheet and gives figures for the current month, for the cumulative period of the year ending with the current month and for the corresponding month and period of the preceding

year. Each of the general statements shows the number of roads for which statistics are given and it should be noted that the number is not the same for each month.

Beginning with the report for 1921 the volume on Statistics of Railways contains the more important items by months relating to all Class I roads. As these figures can be made to cover a later period than the most of the other data in the volume, they are given for the year succeeding the one indicated by the title of the report. Thus, Statistics of Railways for 1922 contains monthly data on selected items for all Class I roads for 1922 and 1923.

The statement entitled "Operating Revenues and Operating Expenses of Class I Steam Roads" gives only totals for Class I roads by districts and regions for the following items :

Average number of miles operated.

Revenues.

Freight.

Passenger.

Mail.

Express.

All other transportation.

Incidental.

Joint facility—Cr.

Joint facility—Dr.

Total.

Expenses.

Maintenance of way and structures.

Maintenance of equipment.

Traffic.

Transportation.

Miscellaneous operations.

General.

Transportation for investment—Cr.

Total.

Net revenue from railway operations.

Railway tax accruals.

Uncollectible railway revenues.

Railway operating income.

Equipment rents—Dr. balance.

Joint facility rent—Dr. balance.

Net railway operating income.

Ratio of expenses to revenues (per cent).

The statement entitled "Operating Revenues and Operating Expenses of Large Steam Roads" gives statistics for individual roads having annual operating revenues above \$25,000,000 for the following items :

Average miles of road operated.

Operating revenues.

Freight.

Passenger.

Total.

Operating expenses.

Maintenance of way and structures.

Maintenance of equipment.

Transportation.

Total.

Net railway operating income.

Maintenance expenses, per cent of

Operating revenues.

Operating expenses.

Transportation expenses, per cent of

Operating revenues.

Operating expenses.

The statement entitled " Freight and Passenger Service Operating Statistics of Class I Steam Roads " gives only totals for all Class I roads by districts and regions for the following items :

Freight service.

Average miles of road operated.

Average miles of all main tracks operated.

Train-miles.

Locomotive-miles.

Principal and helper.

Light.

Car-miles.

Loaded.

Empty.

Cars owned.

Per cent unserviceable of total locomotives.

Per cent all cars on line of cars owned.

Per cent unserviceable of total cars on line.

Car-miles per car-day.

Net ton-miles per car-day.

Net tons per loaded car.

Cars per train.

Car-miles.

Per cent loaded.

Per cent loaded east.

Per cent eastbound of total.

Ton-miles.

Gross.

Including locomotives and tenders.

Excluding locomotives and tenders.

Net revenue and nonrevenue.

Train-hours.

Train-load.

Gross tons per train, excluding locomotives and tenders.

Net tons per train.

**Freight service—Continued.**

Average mile per hour, trains in freight service.

Locomotive-miles per locomotive-day.

Traffic density.

Gross ton-miles, including locomotives and tenders, per mile of main track per day.

Net ton-miles per mile of road per day.

Coal consumption in road-service.

Net tons of coal consumed.

Per 1,000 gross ton-miles, including locomotives and tenders.

Average number of locomotives on line daily.

Serviceable.

Unserviceable.

Total.

Stored.

Average number of freight cars on line daily.

Home.

Foreign.

Total.

Stored.

**Passenger service.**

Average miles of road operated.

Train-miles.

Passenger-train car-miles.

Passenger-train cars per train.

Locomotive-miles per locomotive-day.

Per cent unserviceable of total locomotives.

Coal consumption in road service.

Net tons of coal consumed.

Pounds of coal per passenger-train car-mile.

The statement entitled "Operating Statistics of Large Steam Roads" gives figures for individual roads with annual operating revenues above \$25,000,000, for the following items:

**Freight service.**

Average miles of road operated.

Train-miles.

Locomotive-miles.

Principal and helper.

Light.

Car-miles.

Loaded.

Empty.

Per cent loaded.

Per cent loaded east.

Per cent eastbound of total.

Ton-miles.

Gross.

Including locomotives and tenders.

Excluding locomotives and tenders.

Net revenue and nonrevenue.

Freight service—*Continued.*

Average number of locomotives on line daily.

Serviceable.

Unserviceable.

Per cent unserviceable.

Stored.

Average number of freight cars on line daily.

Home.

Foreign.

Total.

Per cent unserviceable.

Stored.

Gross tons per train excluding locomotives and tenders.

Net tons per train.

Net tons per loaded car.

Net ton-miles per car-day.

Car-miles per car-day.

Net ton-miles per mile of road per day.

Pounds of coal per 1,000 gross ton-miles, including locomotives and tenders.

Locomotive-miles per locomotive-day.

## Passenger service.

Train-miles.

Passenger-train car-miles.

Passenger-train cars per train.

Per cent unserviceable of total locomotives.

Pounds of coal per passenger-train car-mile.

Locomotive-miles per locomotive-day.

The statement entitled "Revenue Traffic Statistics of Class I Steam Roads" gives only totals for all Class I roads by districts and regions for the following items:

## Revenue freight traffic.

Average miles of road operated.

Revenue tons carried.

Revenue tons carried one mile.

Freight revenue.

Miles per revenue-ton per road.

Revenue per ton-mile.

Revenue per ton per road.

## Revenue passenger traffic.

Average miles of road operated.

Revenue passengers carried.

Revenue passengers carried one mile.

Passenger revenue.

Miles per passenger per road.

Revenue per passenger-mile.

Revenue passengers per car.

Commutation traffic included above.

Revenue passengers carried.

Revenue passengers carried one mile.

Passenger revenue.

**Revenue passenger traffic—Continued.**

- Miles per passenger per road.
  - Commutation.
  - Other than commutation.
- Revenue per passenger-mile.
  - Commutation.
  - Other than commutation.

The statement entitled "Freight and Passenger Train Service Unit Costs" gives only totals by districts and regions for all Class I roads for the following items:

**Freight train service.**

- Cost per freight train-mile.
  - Locomotive repairs.
  - Train enginemen.
  - Fuel for train locomotives.
  - Engine-house expenses.
  - Trainmen.
  - Other locomotive and train supplies.
  - Total selected accounts.
- Cost per 1,000 gross ton-miles (excluding locomotives and tenders).
  - Locomotive repairs.
  - Train enginemen.
  - Fuel for train locomotives.
  - Engine-house expenses.
  - Trainmen.
  - Other locomotive and train supplies.
  - Total selected accounts.

**Passenger train service.**

- Cost per passenger train-mile.
  - Locomotive repairs.
  - Train enginemen.
  - Fuel for train locomotives.
  - Engine-house expenses.
  - Trainmen.
  - Other locomotive and train supplies.
  - Total selected accounts.

**Freight-train and passenger-train service.**

- Coal consumed in road service.
  - Cost.
  - Net tons for train locomotives charged to operating expenses.
- Fuel oil gallons for train locomotives.
  - Charged to operating expenses.

## LIMITED STATISTICS ON RAILROADS

**Freight Rates.** Notwithstanding the control over freight rates exercised by the Interstate Commerce Commission, only a comparatively small amount of material giving assembled statistics on

this subject has been published. The decisions of the Commission on specific rate problems often contain reviews of the specific rates under discussion, but the Commission has not undertaken the task of making compilations showing rates in force between important points.

In 1901 the Senate directed the Finance Committee to make an investigation of prices, wages, and transportation rates, and in 1893 the results were printed as Senate Report 1394, 52d Congress, 2d Session, under the title "Wholesale Prices, Wages, and Transportation." This is generally known as the Aldrich Report, although the portion on transportation was prepared by the Interstate Commerce Commission. It is one of the few reports that contain statistics for rates on the principal commodities between important terminals. The period covered varies considerably, most of the tables go back to the seventies, and some give figures for 1862. For some years the rates are given monthly; for other years the rates are for less frequent intervals. Local commodity rates on selected roads are given for 1893 and for one to three earlier years. There is also a good discussion of the development of freight classification. In addition to the commodity rate statistics, there are also data on the following:

Average freight rates per ton per mile on important railways, 1852-1892.

Tons of freight handled by important roads, 1852 to 1892.

Tons of freight carried one mile by important railways, 1852 to 1892.

Gross freight earnings of important roads, 1862 to 1892.

The data on freight rates contained in the Aldrich report, described above, were repeated and extended to 1902 in the publication entitled "A Forty-Year Review of Changes in Freight Tariffs," which formed Part II of the publication of the Interstate Commerce Commission entitled "Railways in the United States in 1902," issued as Appendix G of the report of the Commission for that year.

A statement compiled by the Interstate Commerce Commission showing freight rates on important commodities between principal points from 1900 to 1910 is given in Senate Document 441, 61st Congress, 2d Session.

A report entitled "Panama Canal Traffic and Tolls," by Emory R. Johnson, published by the War Department in 1912, gives class rates and a limited number of commodity rates between various

eastern regions and the Pacific coast and between Pacific coast points and cities in the interiors. This publication also contains considerable data on the important canals of the world, among which may be mentioned the following:

**Suez Canal.**

Traffic at five-year intervals, 1870 to 1910, 1911.

Receipts and disbursements by classes, annually 1870 to 1911.

**Kaiser Wilhelm Canal.**

Traffic, annually 1896 to 1910.

Receipts and expenditures, by classes, annually 1895 to 1910.

**Manchester Canal.**

Traffic, annually, 1894 to 1911.

Revenues and expenses, annually 1894 to 1911.

**Amsterdam Canal.**

Traffic, annually, 1877 to 1911.

Rates on wool in force June 1, 1896, between the principal producing and consuming centers are given in Bulletin 10 of the Division of Statistics of the Department of Agriculture, entitled "Railway Charges for Transportation of Wool."

Bulletin 15 of the Division of Statistics of the Department of Agriculture, entitled "Changes in Rates of Charge for Railway and other Transportation Services," contains the following data of historical interest.

Average rates per ton per mile, annually, 1846 to 1897.

Miscellaneous commodities, average rate per 100 pounds between important points, annually, 1867 to 1897.

Average passenger rates per mile, annually, 1850 to 1897.

Rates on garden truck in effect during the summer of 1900 between principal producing and consuming centers are given in Bulletin 21 of the Division of Statistics of the Department of Agriculture, entitled "Rates of Charge for Transporting Garden Truck, with Notes on Growth of Industry."

Bulletin 25 of the Division of Statistics of the Department of Agriculture, entitled "Milk Transportation," gives the freight rates in force in 1903 on milk from shipping points on the several railroads supplying the following cities:

New York.	Baltimore.	Pittsburgh.
Chicago.	Cleveland.	New Orleans.
Philadelphia.	Buffalo.	Detroit.
St. Louis.	San Francisco.	Milwaukee.
Boston.	Cincinnati.	Washington.



The "Report of the Commissioner of Corporations on the Transportation of Petroleum," issued in 1906, contained statistics on freight rates for petroleum products. Special attention was paid to secret and discriminatory rates which were in force at that time and earlier.

The Yearbooks of the Department of Agriculture from 1894 to 1912 give freight rates on the more important classes of farm products from the main interior markets to seaboard.

The Yearbook for 1923 contains freight rates on the following commodities between important points:

Wheat, September, 1923.

Oats and corn, January, 1924.

Wool in grease, oranges, grapefruit, grapes, watermelons, cantaloupes, plums, lettuce, cotton, alfalfa, hay other than alfalfa, cottonseed oil, cottonseed oil cake, cottonseed meal, 1913 and 1923.

Ordinary livestock, January, 1924.

Pure-bred livestock, April, 1923.

The Yearbook for 1922 contains data on fifty representative freight rates on fifteen agricultural products from 1900 to 1923, with index numbers based on the average for 1913. The products on which rates are given are the following: Wheat, corn, oats, hay, cotton, tobacco, cattle, hogs, sheep, oranges, apples, potatoes, cabbage, butter, and eggs. The Yearbook for 1923 gives index numbers for the fifty rates, combined by months for the same period. The heading to the table in the 1923 Yearbook states that the data are for fifty agricultural products, but as the 1923 table is based on the data in the 1922 Yearbook, it is evident that the figures are for fifty representative rates. In the 1922 Yearbook rates are given on only fifteen products, but as for some products rates are shown between several points, there are fifty different rates.

Part III of the report of the Joint Commission of Agricultural Inquiry, published in 1922 as House Report 408, 67th Congress, 1st Session, is devoted to transportation. It contains a large amount of statistical material, compiled from the reports of the Interstate Commerce Commission and other sources, dealing with the operation and finances of railroads and the movement of commodities. It also contains many tables showing freight rates between specific points, as well as tables and diagrams showing the relation of freight charges to amounts received by the shipper. In addition to the statistics the report contains a large amount of text

dealing with railroad conditions, practices, history, finance, management, organization, and regulation.

The subject of special freight rates for imports and exports is discussed in the publication of the Tariff Commission entitled "Preferential Transportation Rates," issued in 1922. This contains the following statistical material on railroad and ocean freight rates:

Rates in 1920 from seaboard to a number of interior points on various commodities moving for export and import.

Customs duties compared with difference between domestic and import rates.

This volume contains detailed information on ocean freight rates, as listed on page 414.

The import and domestic rates in effect June 24, 1902, are given in Interstate Commerce Commission Reports, Volume IX, pages 650-700; also published as Senate Document 207, 57th Congress, 2d Session.

**Block Signals.** Beginning with 1908 the Interstate Commerce Commission has issued annual statistics on the use of block signals under the following titles:

1908 to 1913. Block signals on the railroads of the United States.

1914 to 1916. Tabulation of statistics pertaining to block signals, interlocking plants, and the telegraph and telephone for transmission of train orders.

1917 and later. Tabulation of statistics pertaining to block signals, and the telegraph and telephone for the transmission of train orders.

These reports give information as of January 1 of each year for each road regarding automatic and nonautomatic block signals, various kinds of automatic signals in use, and apparatus and methods used with the manual block system. They also show mileage of each road equipped with telegraph or telephone for the transmission of train orders. Statistics for 1902 and 1907 on the use of telegraph and telephone by railroads are given in the following reports of the Bureau of the Census:

Telephones and telegraphs, 1902. Bulletin 17. [Preliminary report.]

Telephones and telegraphs, 1902.

Electrical industries, 1902. [Portion on telephones and telegraph identical with Telephones and telegraphs, 1902.]

Telegraph systems, 1907. Bulletin 102.

**Train Operation.** A survey of freight train performance during the two weeks ending March 17, 1917, is given in the report of the Eight-Hour Commission, issued also as House Document 690, 65th Congress, 2d Session. This report gives statistics by divisions for the following roads:

Atlantic Coast Line Railroad.  
 Atchison, Topeka, & Santa Fe Railway.  
 Baltimore & Ohio Railroad.  
 Bessemer & Lake Erie Railroad.  
 Boston & Maine Railroad.  
 Chesapeake & Ohio Railway.  
 Chicago, Indianapolis & Louisville Railway.  
 Chicago, Milwaukee & St. Paul Railway.  
 Chicago, Rock Island & Pacific Railway.  
 Cleveland, Cincinnati, Chicago & St. Louis Railway.  
 El Paso & Southwestern Co.  
 Erie Railroad.  
 Great Northern Railway.  
 Illinois Central Railroad.  
 New York Central Railroad.  
 New York, New Haven & Hartford Railroad.  
 Norfolk & Western Railway.  
 Pennsylvania Co. and Pittsburgh, Cincinnati, Chicago & St. Louis Railway.  
 Pennsylvania Railroad.  
 Philadelphia & Reading Railway.  
 Southern Railway.  
 Toledo & Ohio Central Railway.  
 Union Pacific Railroad.

The first table in this section of the report gives separate figures by all divisions for eastbound and westbound, slow and fast freight, and for turn-around service. The classification in this table is as follows:

Per cent of maximum grade.

Number of trains.

Total operated.

Over 2000 gross tons per train-mile.

Having 30 or more loaded cars.

Having 50 or more loaded and empty cars.

Having initial terminal delay of 2 hours and over.

Having total delays of less than 2 hours, 2 but less than 4 hours, 4 but less than 6 hours, 6 but less than 8 hours, 8 hours and over.

Having average speed-miles per hour, actual running of under 10, 10 to 14.9, 15 to 19.9, 20 to 24.9, 25 and over.

Having average speed-miles per hour, elapsed time, of under 12½ and 12½ and over.

Another table shows averages for the divisions for which the reports could be tabulated showing for eastbound and westbound,

fast freight, slow freight, under fifty cars per train, and fast freight over fifty cars per train under the following classification:

- Per cent maximum grade.
- Number of trains.
- Average cars per train—loaded, empty, total.
- Average miles per train.
- Average gross tons per train-mile.
- Average delays per train.
  - Initial terminal.
  - Final terminal.
  - Orders passing.
  - Work en route.
  - Accidents to road-bed and equipment.
  - Other delays.
  - Total.
- Average hours per train.
- Average speed—actually running and including delays.
- Average pusher engine miles per train.
- Average wages per 1000 gross ton-miles—8-hour basis.

**Locomotive Boilers.** By the act of February 17, 1911 (36 Stat. L., 913), as amended by the act of March 4, 1915 (38 Stat. L., 1192), the Interstate Commerce Commission was authorized and directed to make inspections of locomotive boilers and tenders and to investigate all accidents resulting from the failure of locomotives and tenders or their parts. Statistics on accidents and casualties resulting from the failure of locomotives, classified by the part that failed, and on number of locomotives found defective and ordered from service, classified by railroads and by defects, have been published annually by the Interstate Commerce Commission, beginning with 1912, under the title "Annual Report of Chief Inspector of Locomotive Boilers to the Interstate Commerce Commission."

**Private Car Lines.** The "Report of the Federal Trade Commission on Private Car Lines," issued in 1920, contained a discussion of the results of the ownership of certain types of cars, particularly stock and refrigerator cars, by corporations other than railroad companies. This includes statistics for each car-line company showing the number of cars owned, the receipts, investments, profits, assets, liabilities, etc.

#### OTHER COMMON CARRIERS

**Pullman Company.** Abstract statistics regarding the operations of the Pullman Company have been given annually in the Preliminary Abstract of Statistics of Common Carriers beginning with

1911. This statement shows a balance sheet, income from operations and other sources, operating and other expenses, and profit and loss. There are also figures on the number of employees, average daily compensation, the equipment in service at the end of the year, and the following items of operating statistics :

Total number of revenue passengers—berth.  
 Total number of revenue passengers—seat.  
 Average revenue per passenger—berth.  
 Average revenue per passenger—seat.  
 Total number of car-miles.  
 Total number of car-days.  
 Average number of revenue passengers per car per day.  
 Operating revenue per car-mile.  
 Operating revenue per car-day.  
 Operating expenses per car-mile.  
 Operating expenses per car-day.  
 Net operating revenue per car-mile.  
 Net operating revenue per car-day.  
 Average number of car-miles per car-day.

Beginning with the report for 1921 Statistics of Railways contains the same information and in addition gives monthly figures on the following :

Gross revenue car operation.  
 Contract revenue Dr.  
 Total expenses car operation.  
 Operating income.  
 Number of passengers carried.  
     Revenue.  
     Nonrevenue.  
     Total.

The monthly statistics are for a year later than the detailed figures in the volumes. Thus, Statistics of Railways, 1922, contains monthly figures on the Pullman Company for 1923.

**Express Companies.** The first attempt to collect statistics for express companies was made at the Census of 1880, but as the act authorizing this work required returns to be made by incorporated express companies, most of the concerns refused to furnish the information requested on the ground that they were mere associations and not incorporated companies. Consequently, figures were published for only two concerns—the Southern Express Company and the Texas Express Company.

No further attempt was made to secure statistics of express companies until 1908, when the Bureau of the Census made an

inquiry, the results of which were published under the title "Express Business in the United States, 1907."

Statistics on express companies were published by the Interstate Commerce Commission for each year from 1910 to 1920 in the publication entitled "Annual Report on the Statistics of Express Companies in the United States." Separate figures were given for all companies and for each corporation. This report gave information on the following topics :

Mileage operated over steam roads, electric lines, steamboat lines, and stage lines.

Mileage operated in each state.

Cost of lands, buildings, and equipment; equipment being subdivided into cars, horses, automobiles and other items.

Inventory value of equipment owned. (This statement shows quantity and value of each kind of equipment.)

Income account. (This statement shows income from transportation charges and other sources, expenses for express privileges, operation and other items, and disposition of net income.)

Profit and loss account for the year.

Detailed analysis of operating revenues and operating expenses. It should be noted that the operating expenses are those incurred in the actual transportation and handling of goods. The payments made to the transportation companies for express privileges, the total of which is approximately the same as the operating expenses, are stated under a separate heading.

General balance sheet statement.

Prior to 1920 condensed statistics of express companies were published in the Preliminary Abstract of Statistics of Common Carriers. Since 1920 the Preliminary Abstract contains the most detailed statistics on the operations of express companies that are published.

Figures by months have been given in Statistics of Railways beginning with the report for 1921 for the following items:

Charges for transportation.  
Express privileges, Dr.  
Total operating revenues.  
Operating expenses.  
Operating income.

The figures in these volumes are for the year succeeding the one indicated by the title of the report.

Summary statistics on express companies are contained in Part III of the Report of the Joint Commission of Agricultural

Inquiry, published in 1922 as House Document 408, 67th Congress, 1st Session.

**Electric Railroads.** The first statistics on street railways were contained in a short table in the report of the Eighth Census (1860), which gives only the names of companies, the mileage, and the cost of construction. This table appears in the same form in the "Preliminary Report on the Eighth Census, 1860," and in "Statistics of the United States, 1860."

Statistics on street railways were not collected at the Census of 1870, but in 1880 some meager statistics were published in Volumes XVIII and XIX, entitled "Social Statistics of Cities," Parts I and II. The material generally gives no information beyond general statements, with at times the names of the various lines and the mileage. The street railway statistics are not assembled in one series of tables, but are scattered through the reports dealing with various cities.

At the Census of 1890 detailed statistics of street railways were published in Part I of the "Report on Transportation Business." General summary statistics by states were given for only a few of the main topics, most of the information being for individual roads. Brief tables are given in Part III of the Compendium of the Eleventh Census and in the Abstract of the Eleventh Census.

The earlier reports on street railways were confined to horse-drawn systems, as electric traction had not been developed; the later reports have included horse-drawn, electric, and cable systems, and during the recent years interurban roads and electrically operated divisions of steam roads. The development of motor-bus lines has been too recent for these utilities to find a place in the statistics.

Beginning with 1902, the Bureau of the Census has compiled statistics relating to street railways at five-year intervals.<sup>8</sup> The reports for every fifth year from 1902 to 1917 were issued under the following titles:

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<sup>8</sup> Figures on the mileage only by cities were published in the reports entitled "Statistics of cities having a population of over 25,000, 1902 and 1903," Bulletin 20, and "Statistics of cities having a population of 8000 to 25,000, 1903," Bulletin 45.

- Street and electric railways, 1902. Bulletin 3. [Preliminary report.]  
 Street and electric railways, 1902. [Final report.]  
 Electrical industries, 1902. [Contains same material as Street and electric railways, 1902.]  
 Street and electric railways, 1907.  
 Central electric light and power stations and street and electric railways, 1912. Bulletin 124. [Preliminary report.]  
 Central electric light and power stations and street and electric railways, 1912. [Final report.]  
 Census of electrical industries, 1917. Electric railways.

The earlier reports of this series were more voluminous and detailed than the later ones. The reports for 1902 and 1907 contain statistics for individual companies, material on street railways in foreign countries, a discussion of franchises, public regulation and public ownership, and chapters on construction, cars, and power-house equipment. The report for 1902 contains a condensed digest of state laws and local franchise regulations in leading states and a history of the development of electric traction.

The report for 1907 devotes some space to the use of electricity by steam railroads and to a discussion of subway systems.

The report for 1917 contains the following general statistics, all figures being given by states :

- Track-mileage, classified by use, motive power, electric transmission, and general character of lines.
- Trackage leased or operated under trackage rights.
- Rolling stock, classified by type and equipment.
- Prime movers used, number, and horse power developed of various types.
- Electric generators and subsidiary equipment.
- Current generated and purchased.
- Fuel used.
- Traffic statistics—passengers, revenue car-miles, revenue car-hours.
- Casualties—passengers and employees killed or injured.
- Capital stock, dividends, capitalization.
- Income, operating revenues, operating expenses.
- Distribution of net income.
- Condensed balance sheet of assets and liabilities.
- Employees—number of various classes, salaries, wages.
- Municipal and state railways.

A report on electric railways in 1922 will be published by the Bureau of the Census.

Statistics on electric railways in Porto Rico are given in Bulletin 99 of the Bureau of the Census, entitled "Electrical Industries of Porto Rico, 1907," which contains also a history of the street railway system of the island.



Beginning with the report for 1921 Statistics of Railways gives summary data for the electric railways which report to the Interstate Commerce Commission.

Figures for individual electric railways reporting to the Interstate Commerce Commission are given in a mimeographed statement issued annually and containing figures on the following items :

Mileage operated.  
 Investment in road and equipment.  
 Cash.  
 Material and supplies.  
 Total current assets.  
 Capital stock.  
 Unmatured funded debt.  
 Total current liabilities.  
 Accrued depreciation.  
 Total corporate surplus.  
 Freight revenue.  
 Total operating revenue.  
 Total operating expenses.  
 Operating income.  
 Net income.  
 Dividends—amounts and rates.

As the electric railways reporting to the Interstate Commerce Commission number less than three hundred and their total mileage is less than 15,000, these statistics represent only a small portion of the electric railways in the United States.

**Pipe Line Companies.** An annual mimeographed statement on pipe line companies reporting to the Interstate Commerce Commission contains figures for individual companies on the following items :

Mileage operated.  
 Investment in pipe line.  
 Other investment.  
 Cash.  
 Material and supplies.  
 Total current assets.  
 Capital stock.  
 Unmatured funded debt.  
 Total current liabilities.  
 Accrued depreciation.  
 Total corporate surplus.  
 Pipe line operating revenues.  
 Pipe line operating expenses.  
 Pipe line operating income.  
 Net income.  
 Dividends—amount and rate.

The annual volume on Statistics of Railways since 1920 has contained the following data on individual pipe line companies:

Mileage operated.  
 Investment in pipe lines.  
 Other investments.  
 Pipe line operating revenues.  
 Pipe line operating expenses.  
 Pipe line operating income.  
 Net income.  
 Dividends—amount and rate.

The publication entitled "Report of the Federal Trade Commission on Pipe Line Transportation of Petroleum," issued in 1916, contains data for 1911 to 1913 on the pipe lines operating from the midcontinent field only. The pipe lines discussed are the Prairie (Standard Oil) to Illinois and Indiana, the Oklahoma-Louisiana (Standard Oil) to Baton Rouge, the Magnolia to Beaumont and vicinity, and the Gulf and the Texas to Port Arthur and vicinity. The statistics include both the physical and financial operations of the companies, and comprise data on investments, assets, costs, profits, dividends, amount of oil transported, and capacity of the systems.

#### ROADS AND AUTOMOBILES

Statistics on the number of automobiles registered, the mileage of roads, and the expenditures on highways in each state have been published from time to time in the monthly publication entitled "Public Roads," issued by the Bureau of Public Roads of the Department of Agriculture. These figures are obtained from the state organizations having charge of the licensing of automobiles and the building and maintenance of highways. This monthly was issued from May, 1918, to December, 1921. It was then discontinued until March, 1924, when its publication was resumed. Earlier data are contained in the following publications of the Department of Agriculture:

##### Department Bulletins.

- 386. Public road mileage and revenues in Middle Atlantic States, 1914.
- 387. Public road mileage and revenues in Southern States, 1914.
- 388. Public road mileage and revenues in the New England States, 1914.
- 389. Public road mileage and revenues in the Central, Mountain and Pacific States, 1914.
- 390. Public road mileage in the United States, 1914. A summary.

Circulars of the Office of the Secretary of Agriculture.

49. Motor vehicle registrations and licenses, 1914.
59. Automobile registrations, licenses, and revenues in the United States, 1915.
63. State highway mileage and expenditures to January 1, 1916.
73. Automobile registrations, licenses, and revenues in the United States, 1916.
74. State highway mileage and expenditures for the calendar year 1916.

The number of automobiles and motor trucks on farms and the number of farms reporting such vehicles are shown by divisions and states in the reports of the Fourteenth Census (1920).

#### TELEGRAPH

The earliest statistics on telegraph systems were published in the "Abstract of the Seventh Census, 1850," which contains a brief history and description of the telegraph line and wire mileage of each company, the annual receipts for 1846-1852 of the Magnetic Telegraphic Company, operating between Washington and New York, the rates from Washington to various cities, and an account of the telegraph systems of foreign countries. Nothing further was done on telegraph statistics until the Census of 1880, when some attention was paid to this subject, the results being published in Volume IV of the reports of the Tenth Census, entitled "Agencies of Transportation, 1880," and in Part II of the Compendium of the Tenth Census. In addition to the statistics for the United States, Volume IV contained statistics and general information regarding the postal telegraph service in foreign countries.

There was, then, an interval of twenty years during which no statistics were collected, but since the organization of the permanent Census Bureau, a study has been made every five years, beginning with 1902. The report for 1902 was published in three forms: A preliminary report entitled "Telephones and Telegraphs, 1902," Bulletin 17; a final report entitled "Telephones and Telegraphs, 1902"; and the report entitled "Electrical Industries, 1902." The data on telephone and telegraph systems in "Electrical Industries, 1902," is identical with that in "Telephones and Telegraphs, 1902." The report for 1902 includes figures for domestic ocean cable companies operating from the United States, as well as a brief history of the development of the telegraph.

The report for 1907 was issued as Bulletin 102, under the title "Telegraph Systems, 1907." By this time the wireless service had been developed and separate statistics were given for this branch of the industry. The report for 1912 was issued under the title "Telephones and Telegraphs and Municipal Electric Fire Alarm and Police-Patrol Signaling Systems, 1912."

The report for 1917 was issued under the title "Census of Electrical Industries, 1917—Telegraphs and Municipal Electric Fire Alarm and Police-Patrol Signaling Systems." This report, which may be considered as typical of the earlier ones, contains statistics on the following topics: For land lines, ocean telegraphs and wireless systems: Mileage, number of messages, income, expenses, balance sheet, number of employees, salaries and wages. It also includes accounts of government telegraph and cable systems and figures on the use of the telegraph and telephone by railways, this feature being in all reports beginning with 1902.

Statistics for 1922 are contained in a report issued by the Bureau of the Census entitled "Census of Electrical Industries, 1922: Telegraphs." This pamphlet contains separate figures on commercial land lines, commercial cable systems, government telegraph and cable lines, and commercial wireless systems. Data are given for the total of the commercial land and of commercial cable systems as regards mileage, finance, number of employees, amount paid for salaries and wages, number of offices, and number of messages. For the government telegraph and the commercial wireless systems the figures are not in as great detail.

In 1901 the Industrial Commission held a series of hearings relative to the government ownership of telegraph lines, the testimony being given in Volume IX of the report of the Commission. The statistical material, consisting entirely of data submitted by the Western Union Telegraph Company, comprises the following:

Telegraph lines in foreign countries in 1898.

Telegraph offices of Western Union Company and other lines, by states.

Statistics of Western Union Telegraph Company for each year from 1866-1900 mileage, offices, messages, receipts, expenses, profits, average toll per message and average cost per message.

Beginning with the report for 1921 the Volumes entitled "Statistics of Railways" contain figures for each telegraph and cable company giving the following details:

Miles of wire.  
Investment in plant and equipment.  
Other investments.  
Operating revenues.  
Operating ratio.  
Operating income.  
Net income.  
Dividends declared—amount and rate.

#### TELEPHONES

Statistics on the telephone business have been published by the Bureau of the Census at various times since the beginning of the industry. As early as the Census of 1880 a report was prepared giving general statistics regarding the business of the companies, including mileage, receipts, expenditures, income, dividends, capital stock, exchanges, stations, and employees. This report forms part of Volume IV of the reports of the Tenth Census, entitled "Agencies of Transportation." It was also published in slightly abridged form in Part II of the Compendium of the Tenth Census. No statistics on telephones were collected at the censuses of 1890 and 1900, but when the permanent Census Bureau was organized in 1902 the electrical industry was one of the first to receive attention, and figures have been collected relating to the year 1902 and every fifth year thereafter. The results of the investigation of 1902 were published in three forms: Bulletin 17, "Telephones and Telegraphs," a preliminary report; "Telephones and Telegraphs, 1902"; and "Electrical Industries, 1902." The report on telephones in "Electrical Industries, 1902," is identical with the report entitled "Telephones and Telegraphs, 1902." In addition to the statistics relating to telephones in 1902, this report also contains considerable descriptive matter on apparatus and equipment, a brief history of the development of the telephone, statistics relating to telephone service and rates in foreign countries, and figures on the use of telephones by railroad companies.

The report for 1907 was issued under the title, "Telephones, 1907." This report also contains descriptive material on equipment and methods and statistics on use of telephones by railroads.

The results of the investigation for 1912 were published in two forms: A preliminary report entitled "Telephones and Telegraphs, 1912," issued as Bulletin 123 and as a final report entitled "Tele-

phones and Telegraphs and Municipal Electric Fire Alarm and Police-Patrol Signaling Systems, 1912." The report for 1912 contained information regarding use of telephones by railroads, but in 1917 this material was included in the report on telegraphs.

The report for 1917 was issued under the title "Census of Electrical Industries, 1917—Telephones," and includes data on the following topics: Number of lines, mileage, stations, local and long distance messages, employees, salaries and wages, revenues, expenses, capital stock, value of plant and equipment.

The reports for 1912 and 1917 are in more detailed form than the earlier ones, as they give separate figures by states for the lines controlled by the Bell System and for all other lines. All the reports give statistics by states for all systems combined.

Statistics on telephones in Porto Rico are contained in Bulletin 99 of the Bureau of the Census, "Electrical Industries of Porto Rico, 1907," which also contains a history of the telephone system of the territory.

Statistics of telephone systems in 1922 are given in the report of the Bureau of the Census entitled "Census of Electrical Industries, 1922: Telephones." Figures are given by states for wire mileage, systems and lines, telephones, calls, finances, number of employees, and amount spent for salaries and wages. One section compares directly the operations of the Bell System and of all other systems in the several states.

A brief summary of the census statistics for years covered by the reports up to 1917 is given in Circular 112 of the Bureau of Standards, entitled "Telephone Service."

The number of farms in each state reporting telephones is given in Volume V of the Reports of the Fourteenth Census (1920).

Monthly summary statistics of telephone companies having annual revenues in excess of \$250,000 are issued in mimeograph form by the Interstate Commerce Commission. These statements give figures for the current month, for the same month of the preceding year, and for the cumulative period of the current year and the preceding year. They show number of stations and revenues and expenses under various heads. They do not give figures for individual companies. The statistics are compiled from reports required by the Commission.

Beginning with the report for 1921 the volumes entitled "Statistics of Railways," contain separate figures for all companies reporting to the Interstate Commerce Commission for the following items:

- Miles of wire.
- Investment in plant and equipment.
- Other investments.
- Operating revenues.
- Operating income.
- Net income.
- Dividends declared.

Statistics of Railways contains also monthly figures for the larger companies reporting to the Commission giving the following data:

- Number of company stations.
- Operating revenues.
- Operating expenses.
- Operating income before deductions of taxes.
- Operating income.

The figures in Statistics of Railways are for a year later than that indicated by the title of the report.

The Interstate Commerce Commission issues also mimeographed statements giving annual figures for separate companies and totals for companies in the several classes showing the following items:

- Mileage.
- Investment in plant and equipment.
- Other investments.
- Cash.
- Total working assets.
- Capital stock.
- Unmatured funded debt.
- Total working liabilities.
- Accrued depreciation.
- Total corporate surplus.
- Operating revenues.
- Operating expenses.
- Operating income.
- Net income.
- Dividends—amount and rate.

## CHAPTER XXV

### SHIPPING

In this chapter are discussed the reports which deal primarily with the merchant marine, the facilities of ports, and water freight rates. Publications dealing with the movements of commodities on waterways of the United States are described in Chapter XXVI, Domestic Commerce, and those dealing with commodity movements in foreign commerce are described in Chapter XXIII, Imports and Exports.

The primary sources for statistics on the construction of vessels are the publications of the Bureau of Navigation of the Department of Commerce.<sup>1</sup> From 1884 to 1923 the statistics were given in detail in the series of annual reports of the Commissioner of Navigation. Beginning with the fiscal year 1924, the detailed statistics were published in the pamphlet entitled "Merchant Marine Statistics," only summary figures being given in the annual report. These reports contain statistics on the following subjects:

Number and tonnage of registered, enrolled and licensed vessels, by ports and states of documentation.<sup>2</sup>

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<sup>1</sup> From 1884 to 1902 the Bureau of Navigation was a part of the Treasury Department, from 1903 to 1912 it was a part of Department of Commerce and Labor, and since 1912 it has been a part of the Department of Commerce.

<sup>2</sup> Documented vessels are divided into three classes: Registered vessels, enrolled vessels, and licensed vessels. In the statements in this monograph the use of these three terms indicates that separate statistics are given for each class. The use of the term "documented vessels" indicates that only the total is given and that the three classes are not differentiated.

Vessels engaged in foreign trade and in trade with the insular possessions, except Hawaii and Porto Rico, and in the whale fisheries must be registered; vessels of twenty tons burden and upward exclusively engaged in the coasting, inland, and fishery trade must be enrolled; vessels between five and twenty tons burden engaged in the coasting, inland and fishery trades must be licensed. The general term applied to all three classes is documentation, which is not required for canal boats, barges, lighters, and similar crafts which have neither sails nor self-propelling power and which are employed wholly in harbor or upon canals or other internal waters.

The ton in the measurement of ships equals one hundred cubic feet; the gross tonnage is the measure of the entire ship; the net tonnage is the cargo-carrying capacity, or the gross tonnage less the space assigned to machinery, quarters, etc.



- Number and tonnage of registered, enrolled and licensed steam and gas vessels, by districts of documentation.
- Number and tonnage of registered, enrolled, and licensed metal vessels, by districts of documentation.
- Number and tonnage of registered, enrolled, and licensed steam and gas metal vessels, by districts of documentation.
- Number and tonnage of documented metal sailing, steam, and gas vessels and barges, by districts of documentation.
- Number and tonnage of registered, enrolled and licensed wood and metal sailing, steam, and gas vessels, canal boats and barges.
- Number and tonnage of sailing, steam, and gas vessels, canal boats, and barges, by ports of documentation and by states.
- Number and tonnage of sailing, steam and gas vessels, according to size and geographic distribution.
- Number and tonnage of enrolled and licensed sailing, steam, and gas vessels engaged in the cod and mackerel fisheries, by ports of documentation.
- Number and tonnage of sailing, steam, and gas vessels engaged in the whale fisheries, by ports of documentation.
- Number and tonnage of sailing, steam and gas vessels, canal boats, and barges built and documented during the year by ports of documentation.
- Number and tonnage of sailing and steam vessels built and documented during the year, by geographic distribution and following classes.
  - Sailing vessels.
    - Schooners.
    - Sloops.
  - Steam and gas vessels.
    - River.
      - Side wheel.
      - Stem wheel.
      - Screw.
    - Lake—Screw.
    - Ocean.
- Number and tonnage of documented sailing, steam, and gas vessels and barges, built during the year, by ports in which built.
- Number and tonnage of documented sailing, steam, and gas yachts, by ports of documentation.
- Number and tonnage of documented metal sailing, steam, and gas yachts, by districts of documentation.
- Number and tonnage of documented sailing, steam, and gas yachts, built during the year, by districts in which built.
- Number and tonnage of registered, enrolled, and licensed vessels engaged in foreign trade, coasting trade, whale fisheries, and cod and mackerel fisheries, 1789, every tenth year 1790-1910, every year 1911-24.
- Number and tonnage of registered, enrolled, and licensed sailing, steam, and gas vessels and canal boats and barges engaged in foreign trade, coasting trade, cod and mackerel fisheries, and whale fisheries at end of fiscal year.
- Number and tonnage of documented metal sailing, steam, and gas vessels and barges built each year since 1838.

Number and tonnage of registered, enrolled and licensed sailing and steam vessels, 1789, every tenth year 1790 to 1910, every year 1911 to 1924.<sup>a</sup>

Number and tonnage of documented canal boats and barges for each year from 1868 to 1880, 1885, 1890, each year from 1895 to 1924.

Balance sheet of tonnage accounts showing increase and decrease in registered, enrolled and licensed vessels.

Balance sheet of tonnage accounts showing increase and decrease in sailing, steam, and gas vessels, canal boats, and barges.

Number and tonnage of steel sail, steam, and gas vessels and barges built and documented during the year.

Number and tonnage of documented sailing and steam vessels, canal boats, and barges built each year 1797-1800, every tenth year 1810-1910, each year 1911-24.<sup>a</sup> This table gives the number and tonnage for each class mentioned and in addition gives number for the following subclasses: Sailing vessels—(1) ships, barks and barkentines; (2) brigs; (3) schooners; (4) sloops. Steam vessels—(1) side wheel; (2) stern wheel; (3) propeller.

Number and tonnage of vessels built, by geographic divisions, for each year since 1857.

Tonnage of vessels built, foreign vessels admitted to registry and vessels lost, sold to aliens or otherwise disposed of, for each year since 1813.

Tonnage of steel steam vessels built during the past 10 years, by ports.

Steel merchant vessels being built or under contract, for private ship-owners, by individual yards.

Tonnage tax collections, beginning with 1884.

Tonnage tax collected during year, by customs districts, by nationality of vessels, and by countries from which entered.

Average monthly wages paid in the merchant marine during recent years for the following employees: Sailing vessels—able seamen, boatswains, carpenters, first and second mates; Steam vessels—able seamen, boatswains, carpenters, first and second mates, firemen, trimmers, first and second engineers. The reports contain also information regarding wage agreements and working conditions for some other classes of employees.

The reports also contain statistics of the number of seamen shipped before shipping-commissioners and collectors of customs who perform the duties of shipping-commissioners at ports where commissioners are not authorized. The seamen shipped before shipping commissioners are shown by nationality and port at which shipped. In using statistics of shipment of seamen, it should be borne in mind that the figures represent the number of transactions and not the number of individuals shipped. If the same individual shipped for six voyages during the year he would be reported six times in this table. While these tables do not show the number of American and foreign seamen serving at any specified time, they

<sup>a</sup> Figures for each year beginning with 1789 are given in the annual reports of the Commissioner of Navigation prior to 1924.

probably do give approximately correct information regarding the ratio of foreign seamen to native seamen. It may be assumed that the reshiments of each class offset each other.

Up to 1916 the reports of the Commissioner of Navigation included statistics on the number of seamen on American vessels shipped, discharged, and deserted in foreign ports.

Square rigged vessels have gradually declined in number and tonnage, and by reason of the historical interest of this type of vessel one table in the reports of the Commissioner of Navigation prior to 1924 shows the number, tonnage, and year built of all square rigged documented vessels.

All of the statistics discussed above are derived from the records of the Bureau of Navigation, therefore, these reports may be regarded as a primary source of information. The text of the annual report contains considerable discussion on the problems relating to shipping and the merchant marine, as the Commissioner of Navigation is specifically charged with the enforcement of all laws relating to the documentation of vessels.

In addition to the primary information discussed above the publications contain statistics, taken mainly from British sources, showing the amount of shipping under each flag, the number of vessels launched and under construction during the year, and the number and tonnage of oil burners and tankers under each flag. The annual reports prior to 1924 show the amount of shipping in foreign countries over a series of years.

The annual reports prior to 1924 and Merchant Marine Statistics for 1924 also contain statistics on vessel movement, the figures being derived from the reports of the Bureau of Foreign and Domestic Commerce, but the tables in the publications of the Bureau of Navigation cover longer periods. They show the following :

- Value of imports and exports in American and foreign vessels for each fiscal year beginning with 1821.
- Tonnage of American and foreign vessels entered and cleared for each fiscal year beginning with 1821.
- Value of water-borne imports and domestic exports by nationality of vessel during each of six latest fiscal years.
- Value of water-borne imports and domestic exports by months for each of the six latest fiscal years.

Current statistics of vessels entered and cleared in the foreign trade are published in the Monthly Summary of Foreign Com-

merce, and in the annual volume entitled "Foreign Commerce and Navigation" issued by the Bureau of Foreign and Domestic Commerce. These reports are discussed on pages 349 and 357.

The number and tonnage of ships built in each customs district from 1855 to 1879 are given in Volume 2 of the Department of Agriculture publication entitled "Report on Forestry" by Franklin B. Hough, issued in 1880; this publication appeared also as House Executive Document 37, 46th Congress, 2d Session.<sup>4</sup>

In 1870 the problem of the merchant marine resulted in two reports—one by Joseph Nimmo, Jr., published as House Executive Document 111, 41st Congress, 2d Session, and the other the report of a Select Committee of Congress on the reduction of American tonnage, issued as House Report 28, 41st Congress, 2d Session. Both of these reports contained a compilation of data in general relating to the period from 1850 to 1869 on shipbuilding, entrances of American and foreign vessels, and commodities carried in American and foreign vessels. The committee report contained also a list of steamship lines between American and foreign ports.

Statistics on the tonnage of vessels entered at and cleared from the leading ports by fiscal years from 1867 to 1909 are given in the publication of the National Monetary Commission entitled "Statistics of the United States, 1867-1909."

The annual report of the Board of Engineers for Rivers and Harbors, published as a portion of the annual report of the Chief of Engineers of the U. S. Army, contains information regarding the number and tonnage of vessel movements at many places. As entrances and clearances are not required for the greater part of the domestic movements, figures for arrivals and departures are not obtained from official documents, as in the case of movements in foreign trade. In this report also, there is some confusion in the use of the technical terms indicating the classification of vessels. The term "registered" is generally used when the terms documented, enrolled, or licensed should be employed.

Bulletin 74 of the Department of Agriculture, entitled "Inland Boat Service," gives figures on freight rates on principal inland waters in effect in September and October, 1912.

<sup>4</sup> For bibliographic note on other volumes of this report see page 372.

A comprehensive report on the terminal facilities, commerce, port charges, and administration at 68 leading ports in the United States was published by the Bureau of Foreign and Domestic Commerce in 1916 as Miscellaneous Series 33, "Ports of the United States." While the greater part of the report is descriptive there are statistics of the trade of each port for 1913 and 1914 taken mostly from the reports of the Chief of Engineers.

The Corps of Engineers of the Army and the Shipping Board are coöperating in the publication of a series of reports in which will ultimately be described all the important ports of the United States. Primarily these reports are descriptive and are planned to give information regarding the facilities, charges, and other factors affecting the movement of vessels, but they contain a considerable amount of statistical material dealing with trade, freight rates, and other related topics. They are published under the general title "Port Series," the volumes issued up to November, 1924, being as follows:

- No. 1. The port of Portland, Maine.
- No. 2. The port of Boston, Massachusetts.
- No. 3. The ports of Mobile, Alabama, and Pensacola, Florida.
- No. 4. The port of Philadelphia, Pennsylvania, including Camden, New Jersey, Chester, Pennsylvania, and Wilmington, Delaware.
- No. 5. The port of New Orleans, Louisiana.

Freight rates on grain and on provisions from New York to Liverpool from 1866 to 1892 are given in the report of the Aldrich Committee, entitled "Wholesale Prices, Wages, and Transportation," published as Senate Report 1394, 52d Congress, 2d Session. For some years these rates are given for each month, but for a number of years the interval is longer.

From 1905 to 1912 the Yearbook of the Department of Agriculture contained monthly ocean freight rates on grain and cotton, as well as combined rail, lake, and ocean rates on grain, cotton, livestock, and meats from Chicago to European ports.

Bulletin 12 of the Division of Statistics of the Department of Agriculture, entitled "Freight Charges for Ocean Transportation of Products of Agriculture, October 1, 1895, to October 1, 1896," gives monthly rates on important farm products between the principal American and European ports by months from October, 1895, to September, 1896.

Bulletin 67 of the Bureau of Statistics of the Department of Agriculture, entitled "Ocean Freight Rates and Conditions Affecting Them," gives annual figures on freight rates on the following products.

Wheat, corn, and rye to Liverpool and Cork from New York, Baltimore, and New Orleans, annually, 1886 to 1906.

Cotton from New York, New Orleans, and Savannah to Liverpool, Bremen, and Havre, annually, 1886 to 1906.

Various products from Boston, New York, and Baltimore to several European ports, annually, from 1903 to 1906.

In the report of the Tariff Commission entitled "Preferential Freight Rates," issued in 1922, are given the following data on ocean freight rates for selected commodities:

Rotterdam and Amsterdam from North Atlantic ports via Holland-American line in 1913.

Europe from North Atlantic ports via Hamburg-American line in 1913.

Liverpool from North Atlantic ports, 1913 and 1920.

Gothenburg from United States ports, 1920.

Antwerp from United States ports in 1913 and 1920.

Kingston, Jamaica from United States ports in 1913 and 1920.

Buenos Aires from United States ports in 1920.

Iquiqui, Chile, from United States ports in 1913 and 1920.

Singapore from United States ports in 1920.

Various foreign ports to United States ports, June, 1913, and June, 1921.

## CHAPTER XXVI

### DOMESTIC COMMERCE

With the exception of agricultural products the National government has done little in the way of investigations of marketing and distribution. The Monthly Summary of Commerce and Finance prior to 1912 contained data on the movement of commodities, and the Federal Reserve Bulletin almost since its first publication has contained some data along this line.

Data on the carload movement of certain agricultural products classified by states of original shipment are given in Part III of the Report of the Joint Commission of Agricultural Inquiry, published in 1922 as House Report 408, 67th Congress, 1st Session. Part IV of the same report contains data on the spread in price of raw farm products from the producer to primary markets, and the elements of wholesaler's, retailer's and consumer's cost of various manufactured products. The material in this volume was collected especially for this inquiry, being obtained by means of questionnaires.

In 1874 a select committee of Congress on transportation routes to the seaboard made a report, published as Senate Report 207, 43d Congress, 1st Session, which is largely devoted to testimony and a discussion of the transportation problem, but which contains some statistical material from unofficial sources on the grain movement, grain price, and freight rates on railroads in the United States, on ocean steamers, and on British canals and railways. The statistics are generally for the ten years ending in 1873, but some are for longer and some for shorter periods.

**Early Treasury Department Reports.** In 1845 and 1846 the Secretary of the Treasury made two reports to Congress entitled "Statistics of Agriculture and Manufactures, and Domestic Trade, Currency and Banks," published as Senate Document 21, 28th Congress, 2d Session,<sup>1</sup> and House Document 171, 29th Congress,

<sup>1</sup> This report was also issued as House Document 35, 28th Cong., 2d sess.

1st Session. The material was collected through officers of the Treasury Department and other sources. While not exhaustive, it contains interesting local statistics on the development of manufactures and domestic trade.

The Secretary of the Treasury in 1852 submitted another report, generally known as Andrews' British North American Colonies, which contains considerable material on internal commerce. This report was also published as Senate Executive Document 112, 32d Congress, 1st Session.<sup>2</sup> The first part is devoted to statistics of Canada and Newfoundland for 1850 and 1851. The portion on internal commerce includes detailed statistics on receipts and shipments at lake ports during three years, a description of railroad and canal development in each state, detailed statistics on movements of commodities on New York State canals, annually, from 1820 to 1851, statistics on manufactures and commercial movements at principal places, and the movement of vessels at principal eastern ports for each year from 1821 to 1851.

In 1864 the Treasury Department prepared a report on foreign and domestic trade which was published as Senate Executive Document 55, 39th Congress, 1st Session. The portion of this volume relating to domestic trade included statistics on the annual movement of commodities on the Pennsylvania Railroad for 1859 to 1863, the total tonnage movement each year on the New York canals from 1836 to 1862, shipments of principal classes of commodities from interior points for each year from 1854 to 1862, and detailed statistics on lake commerce at Buffalo. A chapter of this report entitled "Overland Trade and Communication between the Pacific Coast and the Mississippi Valley States," contained mostly a review of economic and industrial conditions in the Great Basin region; there was little statistical material in this chapter, as data were probably not available.

**Bureau of Statistics.** Between 1876 and 1891 the Bureau of Statistics of the Treasury Department issued eleven reports on the internal commerce of the United States under the following titles:

- [1] First annual report on the internal commerce of the United States . . . for the fiscal year ending June 30, 1876. (Published also as House Ex. Doc. 46, part 2, 44th Cong., 2d sess.)

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<sup>2</sup>A year earlier a somewhat similar report was published as Senate Executive Document 23, 31st Congress, 2d sess.



- [2] Report on the internal commerce of the United States . . . submitted December 1, 1879. (Published also as House Ex. Doc. 32, part 3, 45th Cong., 3d sess.)
- [3] Report on the internal commerce of the United States . . . submitted July 1, 1881. (Published also as House Ex. Doc. 7, part 2, 46th Cong., 3d sess.)
- [4] Report on the internal commerce of the United States . . . for the fiscal year 1881-82.
- [5] Report on the internal commerce of the United States . . . submitted December 31, 1884. (Published also as House Ex. Doc. 7, part 2, 48th Cong., 2d sess.)
- [6] Report on the internal commerce of the United States . . . submitted May 6, 1885. (Published also as House Ex. Doc. 7, part 3, 48th Cong., 2d sess.)
- [7] Report on the internal commerce of the United States . . . submitted December 20, 1886. The commercial, industrial, transportation, and other interests of the Southern States. (Published also as House Ex. Doc. 7, part 2, 49th Cong., 2d sess.)
- [8] Report on the internal commerce of the United States . . . submitted January 30, 1888. Special report on the commerce of the Mississippi, Ohio, and other rivers, and of the bridges which cross them. (Published also as House Ex. Doc. 6, part 2, 50th Cong., 1st sess.)
- [9] Report on the internal commerce of the United States for the fiscal year 1889. The commercial, industrial, transportation and other interests of Arkansas, Colorado, Dakota, Indian Territory, Kansas, Missouri, Montana, Nebraska, New Mexico, Texas and Wyoming. (Published also as House Ex. Doc. 6, part 2, 51st Cong., 1st sess.)
- [10] Report on the internal commerce of the United States for the year 1890. The commercial, industrial, transportation, and other interests of Alaska, Arizona, California, Idaho, Nevada, Oregon, Utah, and Washington. (Published also as House Ex. Doc. 6, part 2, 51st Cong., 2d sess.)
- [11] Report on the internal commerce of the United States for the year 1891. The commerce of the Great Lakes, the Mississippi River and its tributaries. (Published also as House Ex. Doc. 6, part 2, 52d Cong., 2d sess.)

These reports do not give a complete résumé of the internal commerce of the United States, nor are the statistics confined to the years indicated by the titles. Five of the volumes, as is indicated above, relate specifically to certain regions, and give a general statistical and economic review of the areas discussed. The other reports contain statistical reports on selected products or on the trade of specified cities or regions. There is no continuity in the material, and it is impossible to describe it except in general terms. The student interested in internal commerce of the United States between 1876 and 1891 would do well to consult all the volumes in this series, as they contain a mass of data which are not generally available elsewhere.

In 1898 a report entitled "Statistics of Lake Commerce," published by the Bureau of Statistics of the Treasury Department and also issued as House Document 277, 55th Congress, 2d Session, contained data on the trade in flour, grain, iron ore, coal, and lumber at the principal ports for varying periods. The figures were collected from the records and reports of commercial organizations and from other sources and are not based on government records.

From May to December, 1900, statistics of lake commerce were published in the Monthly Summary of Commerce and Finance, and during 1900, seven monographs dealing with domestic and foreign trade were published as follows:

January. Grain trade of the United States.

February. Provision trade of the United States.

March. Cotton trade of the United States.

April. Coal trade of the United States.

August. Iron and steel trades of the United States.

November. Lumber industry of the United States.

December. Shipping industry of the United States.

From January, 1901, to June, 1912, statistics of internal commerce were published regularly in the Monthly Summary of Commerce and Finance,<sup>3</sup> figures for the calendar year being given in the December number. These statistics did not pretend to give a complete account of all internal commerce, but they did give comparative information regarding the rail and water movement of specified commodities at designated points. They thus supply specific information regarding the movements of some commodities or the activities at certain points, and also a measure of the trend of general commercial conditions. The student of internal commerce during this period would do well to examine each number, as the information given varied considerably. The following transcript of the main topics on which data are given in the issue of December, 1911, will give a general idea of the scope of the statistics at that time:

Commercial movements<sup>4</sup> at interior centers.

Domestic commerce of the Great Lakes.

Commercial movements at the North Atlantic Seaboard.

Coastwise commerce at Atlantic and Gulf Ports.

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<sup>3</sup> Published by Bureau of Statistics of Treasury Department up to June, 1903, and by the Bureau of Statistics of the Department of Commerce and Labor from July, 1903, to June, 1912.

<sup>4</sup> Mostly of livestock, grain, and provisions.

Commercial movements in southern territory.

Commercial movements on the Pacific Coast.

Commercial movement on rivers and canals.

Commercial movements of coal, coke and petroleum and production of pig iron.

Lake freight rates.

Ocean freight rates.

Building operations.

**Reports of the Chief of Engineers, War Department.** Statistics on the commerce on the waterways of the United States that have been improved have been published in the annual report of the Chief of Engineers since about 1870. These reports vary considerably as regards the data, the earlier ones especially being very meager. They are confined to the streams that are being improved by the Engineer Corps of the Army, although the reports for 1920 and later years contain additional tables by ports and waterways with a general summary of the water traffic on all streams. Up to and including 1919 these statistics formed part of the report of each district engineer in charge of the improvement. In the reports for 1920 and later years all the statistics relating to transportation by water were brought together in one section which was entitled "Commercial Statistics," and which was also published separately. While the reports so far issued relate only to traffic through channels under improvement, it is planned to extend the work and obtain statistics for all streams.

These statistics are not collected from time to time during the year, but at the close of the year the district engineer calls upon the various transportation companies for reports regarding the volume of traffic. The reports of the separate companies are then combined in the office of the district engineer in order to obtain the report for any port or stream. In the early reports there was little uniformity in the classification for commodities, but during recent years the classification has been on a uniform plan. Owing to the lack of uniform treatment the student must be on his guard not to misinterpret some of the terms used. The terms "imports" and "exports" are frequently used simply to indicate inbound and outbound movements. The term "foreign exports" is often used as meaning exports of any character and not as exports of foreign goods previously imported into the United States, as in the statistics of the Bureau of Foreign and Domestic Com-

merce. The reports of the Bureau of Foreign and Domestic Commerce should be used for information on imports and exports. The Engineer Corps report for 1920 is particularly misleading for many items for which quantities are given in tons in the statistics of the Bureau of Foreign and Domestic Commerce. The "ton," as used in the reports of that Bureau, uniformly means the long ton of 2240 pounds. In the engineer report, the figures of the Bureau for many items are transcribed and called "short tons," without making the necessary conversions.

Notwithstanding the fragmentary character of the statistics in the reports of the Chief of Engineers, these reports constitute the only source of annual information regarding domestic water-borne commerce. Indexes to the reports from 1866 to 1912 and from 1913 to 1917 have been published by the office of the Chief of Engineers, but all the statistical material is not indexed.

At various times the earlier annual and special reports of the Engineer Corps of the Army on proposals for improving navigation on the rivers and Great Lakes contained some statistical material. The Annual Report of the Corps of Topographical Engineers for 1843, in the Annual report of the Secretary of War (Senate Document 1, 28th Congress, 1st Session, and House Document 2, 28th Congress, 1st Session) contains figures on total traffic at lake ports by value for each year from 1835 to 1841 and on total quantity and value of commodities moving at each port for 1841.

A special report by the Chief of Engineers on steamboats on the Mississippi River and northern lakes published as House Document 170, 27th Congress, 3d Session, contains figures for 1841 and 1842 for ports on the Ohio River and Great Lakes on the number of passengers, value of cargoes, and tonnage and cost of vessels. A report by Col. J. J. Abert, Chief of Topographical Engineers on the commerce of the lakes and western rivers is mostly descriptive, but contains some figures on total commerce at lake ports.

**Bureau of the Census.** Statistics of water transportation were collected in connection with the Censuses of 1850, 1860, 1880, and 1890. Since the organization of the permanent Census Bureau, reports on water transportation have been issued at ten-year intervals for years other than those in which the decennial census was taken. Two reports of this character have been published pertain-

ing to the years 1906 and 1916. Prior to the Census of 1880 only brief statistics were published, no data regarding traffic being given during that period. The reports for 1850, 1860, and later years contain data on canals and constitute the best sources for the history of canal transportation. The report for 1906 includes tables showing the amount appropriated up to that time for the improvement of waterways. The Census reports containing data on water transportation are as follows :

**Seventh Census: 1850.**

Statistical view of the United States—Compendium of the Seventh Census.

Abstract of the Seventh Census.

**Eighth Census: 1860.**

Preliminary report on the Eighth Census.

Statistics of the United States in 1860.

**Tenth Census: 1870.**

Vol. IV. Agencies of transportation.

Compendium of the Tenth Census, Part II.

**Eleventh Census: 1890.**

Transportation business—Part II, Transportation by water.

Compendium of the Eleventh Census.

Abstract of the Eleventh Census.

Statistical atlas of the United States.

**Intercensal publications.**

Transportation by water, 1906.

Transportation by water, 1916.

The report for 1916 contains data on the following topics :

Number, gross tonnage, value of vessels by various type.

Character of ownership.

Amount of construction.

Income received.

Employees, salaries and wages.

Freight and passengers carried.

The introductory chapter contains statistics for the United States as a whole, and there are separate chapters on the Atlantic Coast and Gulf of Mexico, the Pacific Coast, the Great Lakes and St. Lawrence River, the Mississippi River and its tributaries, and canals and other inland waters. For principal ports, statistics are given on the total movement of commodities by water; separate tabulations are also given also showing the movement of specific commodities or classes of commodities that form an important part of the trade of the larger ports.

**Industrial Commission.** Considerable statistical material on the production, cost, movement, and prices of farm products is contained in Volume VI ("Distribution of Farm Products") of the report of the Industrial Commission of 1898. Some of this information was compiled by the representatives of the Commission from original sources and some was taken from the reports of commercial organizations. It would require too much space to list all the topics, so the outline below gives the title of each study and a list of the more important and representative statistical material:

**Distribution of cereals.**

Movement of grain through St. Louis, 1897-99.

Expenses of marketing grain in St. Louis and Kansas City in 1899 and 1900.

Monthly visible grain supply at forty-seven points, March, 1899, to February, 1900.

Visible supply of wheat and corn in the United States on first of each month, 1890 to 1899.

Weekly wheat movement—January 30, 1899, to January 29, 1900, receipts at primary centers, exports of wheat and flour, surplus stocks.

Flour manufactured at various cities, 1895-98.

Shipments of grain and flour from Chicago, by lake and by individual railroads, 1898.

Port of shipment of grain received in Buffalo, season of 1898.

Freight rates on wheat from New York to Liverpool, 1880 to 1898.

**Cotton in commercial distribution.**

Spindles and looms in each cotton mill in southern states in 1900.

Cotton mills in northern and western states, number, capital, spindles and looms by states.

Sources and destination of cotton moving through St. Louis, 1895-96 to 1898-99.

Domestic movement of cotton crop of 1898-99.

Exports of cotton, by ports, fiscal years 1898 and 1899.

Expenses of marketing cotton.

**Speculation and prices of wheat and cotton.**

Average monthly prices of spot wheat at Chicago, 1885 to 1900.

Average prices of wheat in New York on first of each month, 1840 to 1859.

Average monthly prices of middling cotton in New York, 1880 to 1900.

Average prices of cotton in New York on first of each month, 1840 to 1859.

Average prices of wheat in Chicago, May, July, October and December, 1883 to 1898.

Prices of wheat in Liverpool, October, December and May, 1885 to 1900.

Prices of cotton at New York, Liverpool, and New Orleans, July, October, January, and April, 1880 to 1899.

Daily prices of spot middling cotton in New Orleans, New York, and Liverpool, 1894 to 1899.

**The marketing of American livestock.**

- Source and destination of livestock received at Kansas City in 1899.
- Receipts of livestock at principal seaboard cities, 1893 to 1899.
- Receipts and shipments of livestock at St. Louis, 1868 to 1899.
- Weekly prices of livestock at St. Louis, 1899.
- Expenses of marketing and cost of production.
- Daily prices of cattle at Kansas City in 1899.
- Pork-packing at principal points in Mississippi Valley, 1892-93 to 1897-98.
- Daily prices of hogs in Kansas City, 1898 and 1899.

**The distribution of dairy products.**

- Butter and cheese transactions on the Elgin Board of Trade, 1894 to 1899.
- Weekly butter prices of the Elgin Board of Trade, 1880 to 1899.
- Receipts and consumption of butter at New York, 1883 to 1897.
- Receipts and shipments of butter at Chicago, 1853 to 1898.
- Receipts and shipments of butter and cheese at Chicago and St. Louis by individual rail lines, 1898.

**The distribution of the tobacco crop.**

- Expenses of marketing.

**The distribution of wool.**

- Woolen mills—number, capital, spindles and looms, by states, 1890.
- Prices by grades, 1890.
- Expenses of marketing.
- Receipts and shipments at Chicago, 1853 to 1898.

**Distribution of farm products in city markets.**

- Prices and expenses of distribution at various centers.

**The milk trade in cities and towns.**

- Receipts of milk at New York, by individual railroads, 1895 to 1899, and by months for 1899.
- Prices in New York.
- Receipts of milk at Philadelphia, by individual railroads, 1888 to 1899, and by months for 1899.

**The broomcorn trade.**

- Production in Illinois, 1877 to 1898.

**The hay trade.**

- Receipts, shipments, and prices at important markets.

**The fruit and vegetable trade.**

- Dried fruit products of California, 1891 to 1898.
- Destination of fruit shipped from California, by cities, 1895 to 1899.

**List of grain elevators, warehouses and mills along Northern Pacific Railroad.****Daily closing prices of cotton futures in New York and Liverpool, 1894 to 1899.**

**Inland Waterways Commission.** In 1907, President Roosevelt appointed the Inland Waterways Commission to study and report on the use and development of the interior waterways of the country, and in 1908 transmitted to Congress a "Preliminary Report," of that body, which was published as Senate Document

325, 60th Congress, 1st Session. The text of the report without the appendices was also published under the same title, No final report was issued. The statistical material is entirely in the appendices, which are as follows:

1. Navigable streams of the United States.
2. Commerce on interior rivers.
3. Statistics of commerce on the Great Lakes.
4. Government aid to inland navigation.
5. Government slack water rivers.
6. Canals in the United States.
7. State and private canals.
8. Relation of water transportation to railroad rates.
9. Railroad control of river traffic and private canals.
10. Relations between waterways and railway traffic in Europe [Belgium, Germany, France, Austria-Hungary, Holland, Great Britain].
11. Effects of the purity of industrial water on their use.
12. Applications of water power.
13. Relation of water conservation to flood prevention and navigation in the United States.
14. Fuels, structural materials in relation to inland water transportation.
15. General relations of forests and streams.
16. Special relations of forests to rivers in the United States.
17. The Gallatin report on roads and canals.
18. Report of Windom select committee on transportation routes.
19. Statutes relating to water power.

The appendices which contain the greater part of the statistical materials are Nos. 1, 2, 3, 6, 7, and 8. The chapters on rivers and canals contain no original material, but include a large volume of data on movements of specific commodities and total commerce at important places compiled from earlier government reports and from the reports of commercial organizations. Statistics are not given for any year later than 1906, but the earlier statistics in some cases extend over a period of seventy years. The appendix dealing with freight rates contains a large amount of current data from original sources as well as historical tables compiled from various sources.

**National Waterways Commission.** The Act of March 3, 1909, created a body known as the National Waterways Commission, to make a study of the problem of inland transportation. The final report of this body was published as Senate Document 469, 62d Congress, 2d Session. This report, however, contains little statistical material, although the text is of interest to the student of the problem of water transportation. A preliminary report was pub-



lished as Senate Document 301, 61st Congress, 2d Session. While the Commission did not attempt to assemble any large amount of basic material, it published a series of monographs on waterways, most of which contain scattered statistics compiled from other reports, particularly those of foreign governments. The titles of these reports, given below, indicate the character of the material that may be found in them:

- Document 1. Mason, F. H. Report on canals and navigable rivers in district of Berlin. 1909. 8 p. map.
- Document 2. Questions [concerning European waterways] for consular officers in Europe, to follow letter from State Department, 1909. 1 p.
- Document 3. Straight, W. D. Memorandum on navigation of rivers of China, Korea, and Russian Far East. 1909. 10 p. 7 pl. map.
- Document 4. Statement of expenses, net earnings, excess of expenses, tons, and tons 1 mile of Delaware and Raritan Canal, 1872-1908. 1909. 2 p.
- Document 5. Mahan, F. A. Report [on port of Hamburg and lower Elbe.] 1909. 28 p.
- Document 6. Questions showing scope of work of commission, including inquiries transmitted to consular and engineer officers of the United States. 1909. 9 p.
- Document 7. Reports of consular officers of United States located in Germany, Austria-Hungary, France, Belgium, and the Netherlands, on river and harbor improvements in their respective districts. July 20, 1909. 142 p.
- Document 8. Germany. Act for construction of navigable canal from Rhine to Elbe, and report on project, description, and tables of cost, etc., of canals and canalized rivers in Germany; translated by Annie M. Brainard. July 21, 1909. 45 p.
- Document 9. Great Britain. Summary of [or excerpts from] report of Royal Commission on Canals and Waterways of Great Britain; by Woodbury Pulsifer. July 24, 1909. 117 p.
- Document 10. Tabulated statement relating to internal waterways improved by Government. [1909.] 29 p. 4°.  
Same; revised and corrected to Jan. 1, 1910. Dec. 1909 [published] 1910. 29 p. 4°.
- Document 11. Dixon, F. H. Traffic history of Mississippi River system. Dec. 1909. 70 p.
- Document 12. Wenusch, Josef, Ritter von. Danube-Oder Canal, arguments and comments; translation by Annie Brainerd. Jan. 1910. 8 p.
- Document 13. Merchant, E. O. Participation in expense of waterway improvements in Germany by localities interested. Jan. 1910. 3 p.
- Document 14. Bixby, W. H. Regarding practicability of storage reservoirs to prevent floods and to benefit navigation on Ohio and other rivers of United States. Jan. 1910. 17 p. [This is a review of Relation of water conservation to flood prevention and to navigation in Ohio River, by M. O. Leighton, which appeared in the Preliminary report of the Inland Waterways Commission, 1908, pages 451-490.]
- Document 15. Weber, A. H. Waterways of United States, actual expenditures and results to navigation and commerce. Mar. 1910. 18 p.

- Document 16. Mason, F. H. Railway freight rates, inland waterways, and canals in France. 1910. 78 p.
- Document 17. Griffiths, J. L. Inland waterways and canals and railway rates of United Kingdom. 1910. 83 p.
- Document 18. Railway freight rates, inland waterways, and canals in Holland; reports by Henry H. Morgan and S. Listoe. 1910. 64 p.
- Document 19. Thackara, A. M. Railway freight rates, inland waterways, and canals of Germany; supplemented by reports from other consular officers in Germany. 1911. 181 p.
- Document 20. Watts, Ethelbert. Railway freight rates, inland waterways, and canals in Belgium; with supplementary reports and appendices. 1911. 43 p.
- Document 21. Reports of army engineers upon proposed canals connecting Lake Erie with Ohio River and with Lake Michigan. 1911. 54 p. 1 tab.
- Document 22. Snodgrass, J. H. Railway rates, inland waterways, and canals in Russian Empire. 1911. 95 p.

It should be noted that the document numbers of these twenty-two reports are those of the Commission and do not refer to the regular series of congressional documents.

**Bureau of Corporations.** From 1909 to 1912 the Bureau of Corporations issued a report in four parts entitled "Transportation by Water in the United States," which embraced a comprehensive study of the general conditions and history of water transportation. The scope of the investigation is well indicated by the following subtitles of the four volumes:

- Part I. General conditions of transportation by water.
- Part II. Water-borne traffic.
- Part III. Water terminals.
- Part IV. Control of water carriers by railroads and by shipping combinations.

Part II of this report, "Water-borne Traffic," is the volume that is of greatest interest from the side of statistical material. While it contains practically no new material, it brings together in convenient form a mass of data relating to the total traffic and the movement of commodities and classes of commodities at all the principal ports in the United States. The statistics are compiled mainly from the reports of the Chief of Engineers, the Monthly Summary of Commerce and Finance, the Census reports, and the publications of chambers of commerce and other trade organizations. The period covered by the statistics varies, but in most cases data are not given for any year later than 1906. The number of earlier years varies according to the information available and the

importance of the port; the period covered ranges from a single year for less important streams to twenty-eight years for the Sault Ste. Marie Canal.

**Department of Agriculture.** Current statistics dealing with market conditions as regards agricultural products are published by the Department of Agriculture in Crops and Markets and annually in the Yearbook. Crops and Markets is a weekly publication of the Department of Agriculture issued under this title beginning January 5, 1924. The material published in it is similar to that previously published in Weather, Crops, and Markets (except the weather material, now published separately by the Weather Bureau) and to that in the Market Reporter and the Monthly Crop Reporter, which were combined to form Weather, Crops, and Markets in January, 1922. The weekly numbers contain market reviews and current prices for livestock, meats, wool, dairy products, fruits, vegetables, grain, hay, feeds, seeds, cotton, and foreign crops. A monthly supplement, generally issued about the third Saturday, contains monthly price and production statistics, data on movements to market, the complete and detailed reports of the crop-estimating service, reports on the foreign market situation, and special articles of economic and statistical interest concerning legal agricultural products.

In addition the Bureau of Agricultural Economics issues daily and weekly mimeographed report from Washington and its branch offices as follows:

A cotton quotation service bulletin is issued on Monday of each week from Atlanta, Charlotte, Memphis, New Orleans, and Dallas. It contains cotton prices, figures indicating the cotton movement, general cotton market information and prices for cottonseed and its products. Each gives this information primarily for the territory immediately surrounding the city from which it is issued.

A daily market report on butter, cheese, eggs, and dressed poultry is issued at New York, Chicago, Boston, Philadelphia, Washington, Minneapolis and San Francisco, and contains summaries of market conditions; receipts and storage movement of butter, cheese, eggs, and dressed poultry; wholesale prices of butter and cheese in New York, Chicago, Boston, Philadelphia, and San Francisco, and cheese prices at Wisconsin primary markets. It also includes information as to the daily storage holdings at six additional markets, Buffalo, Providence, Pittsburgh, Omaha, Kansas City and St. Louis, and once each week shows the storage holdings in a total of 26 markets, which in addition to those mentioned include Syracuse, Cuba and Lowville, N. Y.; Cleveland; Detroit; Minneapolis; St. Paul;

Milwaukee, Green Bay, Marshfield, and Plymouth, Wisconsin; Denver; Seattle; Portland; and Los Angeles. Wholesale egg prices are reported at Boston and San Francisco only. The daily report issued at Fond du Lac, Wisconsin, contains only cheese market information.

A weekly butter market review, issued every Saturday, contains a summary of market conditions, receipts, shipments, supplies, cold storage movement, and prices of butter in the cities mentioned above, during the current week. This review is also published in Crops and Markets.

The weekly cheese market review, issued every Tuesday, contains a summary of market conditions, receipts, shipments, and cold storage movement of cheese in the cities mentioned above, during the preceding week, together with a report of stocks in the hands of wholesalers and jobbers in each of these cities and in cold storage at primary markets in Wisconsin. This review is also published in Crops and Markets.

A monthly export report on dairy products, issued at New York, Chicago, Boston, Philadelphia, Washington, Minneapolis, Fond du Lac, and San Francisco, contains the monthly exports of butter, oleomargarine, cheese, eggs, condensed and evaporated milk, and powdered milk, together with destinations of shipments. It is summarized in Crops and Markets.

The monthly fluid milk market report gives the prevailing wholesale and retail prices of milk paid by the different classes of trade, and prices paid to producers in the larger and more important cities of the United States. These prices also appear in Crops and Markets.

A monthly condensed milk market report shows wholesale prices of sweetened condensed and unsweetened evaporated milk quoted by manufacturers, prices paid producers by condenseries for whole milk in each geographic section of the United States, and stocks in the hands of manufacturers on the first of each month. It is summarized in Crops and Markets.

The monthly powdered milk market report contains wholesale prices of the various classes of powdered milk and powdered buttermilk quoted by manufacturers, prices paid producers by milk powder factories for whole milk in each geographic section of the United States, and stocks in manufacturers' hands on the first of each month. It is summarized in Crops and Markets.

A monthly summary of cold storage holdings of dairy and poultry products shows the stocks of butter, American and foreign types of cheese, and case and frozen eggs in storage on the first of each month. It is released from the branch offices at New York, Chicago, Philadelphia, Boston, Minneapolis, Fond du Lac and San Francisco about the fifteenth of the month following the date covered. The figures are also included in the monthly report of cold storage holdings published in Crops and Markets.

Daily market reports of perishable fruits and vegetables are issued from permanent market stations located in 18 of the larger cities of the United States, including Washington, D. C., and from numerous temporary field stations in various producing areas during crop movement. They contain the following data:

1. Telegraphic reports from many important markets giving the number of cars of each commodity received daily, the state of origin of these commodities, prevailing jobbing prices, quality and condition of receipts, and marketing and weather conditions.
2. Telegraphic reports from all railroads handling the crops in question, giving shipments from each State up to midnight of the night before.

3. Numerous f. o. b. prices from representatives of the bureau in producing areas.

The weekly carlot summary of perishable fruits and vegetables shows the total number of cars shipped from each State by weeks and shipping seasons as reported telegraphically daily to the Bureau by transportation companies. These tabulations are summarized in Crops and Markets.

A regular weekly review on perishable fruits and vegetables, issued on Tuesday, summarizes market conditions, current supplies, and prices. This report is often supplemented by detailed reports on special crops during their heaviest shipping seasons. The monthly review, a statement issued to the press, summarizes market conditions and tendencies for the preceding four weeks.

After the close of each temporary field-station at which a bureau representative has issued market news reports, a summary of fruit and vegetable "deals" is issued, in which is reviewed the deal and which gives in detail the destinations of the cars shipped during the time the station was in operation. In a few instances summaries are not issued.

The monthly summary of cold storage holdings of apples shows the holdings of apples in storage on the first day of each month from October to June. It is compiled and issued from the branch offices of the bureau, about the fifteenth of each month. The figures are also published with the full cold storage report in Crops and Markets.

A semimonthly market report on honey and beeswax, issued throughout the year, shows the supplies of honey on the market at 9 important cities, and the range of market prices for the different flavors and grades of comb and extracted honey and for beeswax. Information concerning prices and general conditions is given from the principal honey-producing sections of the country. Once a month import and export statistics for honey and beeswax, from the Bureau of Foreign and Domestic Commerce, are published in the report. Twice a year detailed tabulations are published of the exports and imports of honey and beeswax for the preceding 12 months. A summary is occasionally printed in Crops and Markets.

A weekly report on peanuts, issued throughout the year, shows the arrivals of peanuts at 12 important markets, as reported by the railroads during the period intervening between each report; the range of market prices for different varieties and grades; prices and conditions prevailing in the three principal producing sections; and prices of peanuts and peanut oil in leading markets in England. Once a month import and export statistics for peanuts, peanut oil, cottonseed oil and soyabean oil, from the Bureau of Foreign and Domestic Commerce, are published in the report. Twice a year detailed tabulations are published of the exports and imports of peanuts and peanut oil for the preceding 12 months. A summary is occasionally printed in Crops and Markets.

A weekly grain market review is prepared each Saturday at the Washington office and issued the same day from that office and from Minneapolis, Chicago, and Kansas City. It contains a summary of grain market conditions at the principal grain markets for the week ending Saturday. It calls attention to the foreign market situation and other factors that have influenced the market during the week. This review is not for general distribution but is available to newspapers, county agents or other agencies which have need for it or can give it further distribution.

Monthly and semi-monthly grain market reviews are prepared about the first and fifteenth of each month and contain a rather comprehensive

review of the grain market situation, including price factors, crop developments and movements, and other desirable data. These reviews are prepared only at the Washington office and are available for distribution to monthly and semi-monthly farm papers which desire special reports of this character for their readers.

A weekly hay market review covers the hay market situation throughout the country. It is prepared each Saturday in the Washington office and distributed the same day from that office and from the field offices at Minneapolis, Chicago, and Kansas City. This report is not for general distribution but is available to farm papers, county agents or other agencies which have need for it or can give it further distribution.

A daily report on livestock markets shows supply and demand, prices and trend of market for cattle, calves, hogs, sheep, and lambs at Chicago, East St. Louis, Kansas City, Omaha, Los Angeles, San Francisco, Denver, Salt Lake City, Fort Worth, Portland, South St. Paul, Atlanta, Jersey City, and New York. It is issued daily from the local offices of the Bureau in the foregoing cities and in addition is issued in combination with the daily report of meat trade conditions and wholesale prices from the offices at Boston, New York, and Philadelphia.

A weekly review of livestock markets is issued each Thursday at Chicago, East St. Louis, Kansas City, Omaha, South St. Paul, Denver, San Francisco, Los Angeles, Portland, Fort Worth, Salt Lake City, and Atlanta. It reviews market conditions for the week at the market where released and includes detailed information as to receipts, demand and prices paid for the various classes and grades of livestock. A less detailed review of conditions at Chicago, East St. Louis, Kansas City, and Omaha is released each Friday at Boston, New York, and Philadelphia in combination with the weekly review of meat trade conditions. A review of the Chicago market for the calendar week is printed in Crops and Markets.

A weekly report on livestock market statistics shows receipts of cattle at 7 markets; movements of stocker and feeder cattle from 12 markets into 7 states, periodically and seasonally; native beef steers sold out of first hands for slaughter at Chicago; weights and prices of stocker and feeder steers shipped from Chicago; weekly average weight and cost of hogs at 5 markets; comparative receipts of hogs at 7 markets; percentages of lambs, ewes and yearlings in sheep receipts at Chicago. It is released each Monday from the Chicago office. A report showing the numbers, average weights, average prices and state destinations of stocker and feeder cattle shipped from St. Paul during the week is issued from that office.

A weekly report of stocker and feeder shipments from 12 markets, released each Thursday as a part of the daily or weekly livestock summary at Chicago, Kansas City, Omaha, East St. Louis, St. Paul, Atlanta, Denver, Fort Worth, Salt Lake City, and San Francisco, shows the shipments of stocker and feeder cattle, hogs and sheep from 12 markets for the preceding week with comparisons of the preceding week and the corresponding week a year earlier, and the percentage of increase or decrease as compared with the 3 year average of the corresponding weeks.

A daily report of meat trade conditions and wholesale prices shows supply and demand, prices and trend of market for western dressed fresh beef, veal, pork, lamb and mutton in Boston, Chicago, New York, and Philadelphia. It is issued daily except Saturday from the local offices of the Bureau at Boston, New York, Philadelphia, Chicago, East St. Louis,

Kansas City, Omaha, and South St. Paul. At Boston, New York, and Philadelphia this report is combined with the daily report of livestock markets described above.

A weekly review of meat trade conditions is issued each Friday from the local offices of the Bureau at Boston, New York, Philadelphia, Chicago, East St. Louis, Kansas City, Omaha, South St. Paul, and San Francisco. It reviews the week's trading in western dressed fresh meats at Boston, New York, Philadelphia, and Chicago. At the three eastern cities, Boston, New York and Philadelphia, this review is issued in combination with a brief review of livestock market conditions at Chicago, East St. Louis, Kansas City, and Omaha. A similar review is published in *Crops and Markets*.

A daily report on the Boston wool market, issued daily except Saturday, from Chicago, Kansas City, Omaha, East St. Louis, St. Paul, Boston, New York, Philadelphia, Denver, Fort Worth, and San Francisco, summarizes briefly the outstanding features of the day's wool market at Boston. Prices are quoted on domestic fleece wools, by grease basis, by classes and grades.

A weekly review of the wool market is a five or six page circular carrying a review of conditions in the wool markets of the Atlantic seaboard, quotations of prices on the principal grades of domestic and foreign wool, tops, noils, mohair and wastes, terse comment on conditions in the producing sections, data on receipts and shipments of wool in the markets and imports of wool at the principal ports, summaries of stocks and consumption of wool in the United States, and reports of wool conditions in general throughout the world. The releases are made at Boston on Tuesday of each week. A similar report, in brief form, is issued from the branch offices of the Bureau in Chicago, Kansas City, Omaha, East St. Louis, St. Paul, New York, Philadelphia, Denver, Fort Worth, and San Francisco on Wednesday of each week.

A monthly summary of cold storage holdings of frozen and cured meats shows the stocks of frozen and cured beef and pork, including lard, frozen lamb and mutton in storage on the first of each month in the United States and in 4 cities—Boston, New York, Philadelphia, and Chicago. It is released from the branch offices of the Bureau in Boston, New York, Philadelphia, Chicago, East St. Louis, Kansas City, Omaha, South St. Paul, Atlanta, Denver, and San Francisco about the 15th of the month following the date covered. It is primarily for the press and trade organizations, but will be sent regularly to anyone requesting it. The figures are included in the monthly report of cold storage holdings published in *Crops and Markets*.

A monthly summary of cold storage holdings of frozen and mild-cured fish shows the stocks of frozen and mild-cured fish in storage on the fifteenth of each month. It is released from the branch offices of the Livestock, Meats and Wool Division in Boston, New York, Philadelphia, Chicago, East St. Louis, Kansas City, Omaha, South St. Paul, Atlanta, Denver, and San Francisco about the end of each month following the date covered. It is primarily for the press and trade organizations, but will be sent regularly to anyone requesting it. It is also published in *Crops and Markets*.

A monthly report on animals slaughtered under Federal inspection is issued near the twenty-fifth of each month as a part of the daily report of livestock markets issued from the Atlanta, Boston, Chicago, Denver,

Fort Worth, Kansas City, East St. Louis, New York, Omaha, Philadelphia, Salt Lake City, and South St. Paul offices. It shows the total number of cattle, hogs, and sheep slaughtered under Federal inspection in the United States for the preceding month, with comparisons of the corresponding month of the previous year. Total amounts of lard inspected are also included. The complete table is also included in the monthly supplement of Crops and Markets, and sent to a small mailing list in mimeographed form from Washington.

A monthly report of the livestock and meat situation contains data compiled from returns received from packing houses and slaughtering establishments, covering live and dressed weight, live cost and the percentage of yields of various products of cattle, calves, swine, sheep and lambs. These figures are published in Crops and Markets.

A quarterly wool stock report showing the stocks of wool, tops, and noils held by dealers and manufacturers in the United States is issued quarterly and is based on surveys made of stocks held on March 31, June 30, September 30, and December 31 of each year. Stocks of raw wool are tabulated by grade. Holdings of dealers are summarized according to cities; holdings of manufacturers are summarized according to sections. The report is issued jointly by the Department of Agriculture, which collects and compiles the returns on dealers' stocks, and the Department of Commerce, which collects and compiles the returns on manufacturers' stocks. The releases are made at Washington about thirty days after the survey dates.

The weekly Marketgram is a general market news service of the Bureau, covering fruits, vegetables, livestock, meats, dairy products, grain, hay, feed, seed, and cotton. It is prepared in Washington on Mondays, Wednesdays, Thursdays, Fridays, and Saturdays of each week. Each issue covers the week ending on day of issue. It is sent over leased telegraph wires to certain branch offices of the bureau, from which it is mailed on request to farm papers, daily and weekly newspapers, farmers' organizations, banks, and others desiring it for publication or general distribution.

A special report known as the "Boston Review" is issued from the Boston office for the New England States. This report is prepared on Tuesdays and Fridays and gives a weekly review of the Boston market for fruits and vegetables, dairy products and dressed meat, and reviews the Boston livestock market.

A daily radio market news service is given by this bureau in coöperation with more than 86 radio broadcasting stations in the United States, including the High-Power Stations of the Navy Department at Arlington, Va., New Orleans, La., Great Lakes, Ill., and San Francisco, Calif. At all of these stations with the exception of the Navy stations, the reports are broadcast by radio telephone, making them immediately available to any individual who may have a suitable radio receiving set and is within the transmitting radius of one of the stations. This service is available to more than 40 States. In some instances, the broadcasting is done by the State University or by the College of Agriculture. In others, the stations are operated by private commercial organizations receiving their reports either directly from the Federal bureau or in coöperation with some State marketing agency.

A review of State and Federal marketing activities, issued every Wednesday, contains current information relating to the agricultural marketing



activities carried on by the State bureaus or divisions of markets, the state agricultural college, and the Federal Bureau of Agricultural Economics. Distribution is limited to persons directly interested or engaged in marketing work.

Monthly receipts of livestock and grain at principal markets from 1910 to 1920 are shown in Bulletin 982 of the Department of Agriculture, entitled "Market Statistics." This publication also gives monthly figures on car lot shipments of fruits and vegetables from each state from 1917 to 1920, monthly unloadings of car lots from 1916 to 1920 of apples, cabbage, cantaloupes, onions, peaches, white potatoes, strawberries, and tomatoes at New York, Chicago, Philadelphia, Pittsburgh, St. Louis, Cincinnati, St. Paul, Minneapolis, Kansas City, and Washington, D. C., and annual unloading of car lots of the same products at the markets mentioned, classified by the states from which the products were shipped.

From time to time printed bulletins have been issued dealing with the marketing and distribution of various crops. The following list shows the titles of the publications of this character that have been issued:

Department of Agriculture Bulletins.

- 234. Strawberry supply and distribution in 1914.
- 290. Rail shipments and distribution of fresh tomatoes, 1914.
- 298. Peach supply and distribution in 1914.
- 401. The marketing and distribution of western muskmelons in 1915.
- 477. Marketing and distribution of strawberries in 1915.
- 667. Car lot shipments of fruits and vegetables in the United States in 1916.
- 776. Cold storage reports, season 1917-18.
- 792. Report of storage of certain food products during 1918-19.
- 935. The distribution of northwestern boxed apples, 1919-20.

Circulars of the Office of the Secretary of Agriculture.

- 96. Sugar supply of the United States. Its extent and distribution on August 31, 1917.
- 97. The supply of lard in the United States. Its extent and distribution on August 31, 1917.
- 98. The supply of canned salmon in the United States. Its extent and distribution on August 31, 1917.
- 99. Commercial stocks of miscellaneous cereal and vegetable food-stuffs in the United States on August 31, 1917.
- 100. Commercial stocks of wheat and flour in the United States on August 31, 1917.
- 101. Commercial stocks of miscellaneous animal food products in the United States on August 31, 1917.
- 104. Commercial stocks of fertilizer and fertilizer materials in the United States as reported for October 1, 1917.

During a portion of the war period a large amount of data on stocks of food grains was published in the periodical entitled " Food Surveys " issued by the Bureau of Markets of the Department of Agriculture from April 29, 1918, to June 27, 1919. A general index to all the material in Food Surveys is contained in the issue for June 27, 1919.

From November, 1917, to October 11, 1919, the Bureau of Markets issued a periodical entitled " Seed Surveys," which contained statistics on stocks, production, requirements, prices, etc., of seed of various kinds.

Monthly data on the cold storage of various kinds of apples, butter, cheese, eggs, poultry, meats, lard, and fish are given in Statistical Bulletin 1, of the Department of Agriculture, entitled " Cold Storage Holdings." For most of the commodities, figures are given for each month from January 1916, to January, 1923, although for some the period is shorter.

The shipments of grain on the Great Lakes is discussed in Bulletin 81 of the Bureau of Statistics of the Department of Agriculture, entitled " Grain Movement in the Great Lakes Region," which shows shipments from principal ports and the ports to which consigned by five-year periods from 1871 to 1909 and annually from 1906 to 1909.

**Shipping Board.** Annually and quarterly the Shipping Board issues a statement showing the total weight of all commodities moving by water from each port on the Pacific to each port on the Atlantic Ocean and Gulf of Mexico. Annually it issues a statement showing weight of each principal commodity moving to and from all Pacific Coast ports without regard to business at individual ports. Passenger traffic between Atlantic and Pacific ports is also shown quarterly.

## CHAPTER XXVII

### WATER POWER AND ELECTRIC POWER

Water power and electric power are treated under one head because most of the later general reports on electric power deal with water power as well as with current developed from other sources.

Statistics on the amount of power used in manufactures have been collected at each Census of Manufactures beginning with 1870.<sup>1</sup> These statistics, however, are incidental to those relating to manufactures, and make no attempt to present power development as an independent subject. Special studies of water power have been made at various times, the first report on the entire country being the one made by the Census of 1880. The results of this study were published as Volumes XVI and XVII of the Tenth Census, entitled "Water Power of the United States," Parts I and II. This report contains little assembled material on the United States as a whole, but includes a mass of information on the developed and undeveloped powers in various regions, which are discussed in a series of monographs. It also contains material on the water supply systems of a large number of cities.

The earliest statistics on electric light and power were compiled by the Census of 1890, and were confined to the state of New York, the District of Columbia, and the city of St. Louis. The statistics relating to New York state were given in a chapter, entitled "Electrical Industries in the State of New York," in Volume XIII of the reports of the Eleventh Census, "Manufacturing Industries." Volume XI contains summary figures for New York state and for St. Louis and the District of Columbia combined; Volume XII and Part II of the Compendium contain separate summary figures for St. Louis. Summary figures for New York are also given in Part III of the Compendium. The Abstract of the Eleventh Census gives combined summary figures for the state of New York, the District of Columbia, and St. Louis.

<sup>1</sup> For list of reports see page 258.

No further statistics relating to electric light and power were collected until after the organization of the permanent Census Bureau in 1902. Statistics have been collected for 1902 and every fifth year thereafter and published in the following reports:

- Central electric light and power stations [1902.] Bulletin 5. [Preliminary report.]
- Central electric light and power stations, 1902. [Final report.]
- Electrical industries, 1902. [Portion on central electric light and power stations identical with separate report on that subject.]
- Central electric light and power stations, 1907.
- Central electric light and power stations and street and electric railways, 1912. Bulletin 124. [Preliminary report.]
- Central electric light and power stations and street and electric railways, 1912. [Final report.]
- Census of electrical industries, 1917. Central electric light and power stations with summary of electrical industries.

A report on central electric light and power stations in 1922 is reported to be in course of preparation.

Among the special features in the earlier reports that are worth special mention are an account of the development of electric lighting in the final report for 1902 and in the report for 1912, an account of the technical development of the industry from 1902 to 1907 in the report for 1907, and a table showing the number of municipal and private central stations in each state and territory for each year from 1881 to 1902 in the final report for 1902.

Statistics relating to central electric light and power stations, and the history of these utilities in Porto Rico are given in Bulletin 99 of the Bureau of the Census, entitled "Electrical Industries in Porto Rico: 1907."

The establishments for which statistics are given in the reports on central electric light and power stations comprise those which distribute current to public or private customers for light, power, heat, or traction uses. There are also included all municipal plants regardless of whether they sell to private consumers or merely furnish current for the municipality. Private plants operated in connection with industries or institutions are not included, even though some of these are larger than the public central plants. The line of demarcation is along the line of the public utility. There are not included plants operated by federal or state governments primarily for the purpose of supplying light or power to public buildings, military posts, etc., or the plants of the Reclama-

tion Service, even though these plants sell a large part of their current to private consumers.

The statistics in the report for 1917 include data on the topics listed below, separate figures being given for commercial and municipal plants, and in some cases for the two combined:

Balance sheet showing assets and liabilities under various headings.

Income and expenses under various headings.

Primary power (number and horsepower) from steam engines, steam turbines, water wheels and turbines, and internal combustion engines, classified by capacity of prime movers.

Generating equipment—number and kilowatt capacity of dynamos supplying direct current of constant voltage and constant amperage and of alternating current; separate figures for water power and other power.

Substation equipment of various classes—number and kilowatt capacity.

Output of stations.

Use of current—arc and incandescent street lamps, number and horsepower of stationary motors served, number of recording meters, number of customers.

Development of hydro-electric stations.

Number of salaries, employees and wage-earners—expenditures for salaries and wages.

The Fourteenth Annual Report of the Commissioner of Labor, for 1899, was devoted to statistics of water, gas, and electric light plants under private and municipal ownership. There are a few summary tables at the beginning of the report, practically all of the volume being devoted to statistics of individual plants, without any attempt to classify the material. While statistics are given for each plant, neither the names nor the locations of the plants are given and it is impossible to identify the plants or to group them by states or other geographic divisions. The only classification is by volume of output. For each plant there are given data on source of supply (waterworks only), distribution system, equipment, apparatus, source of funds for municipal plants, gross income, cost of production, profit and loss, and prices to consumer.

The publication entitled "Report of Commissioner of Corporations on Water Power Development in the United States," issued in 1912, was largely a discussion of the extent of concentration of the water power resources of the country. Many tables relating to the holdings of individual groups are scattered through the text, but the main statistics of general interest are those giving an estimate of potential water power by states, figures on developed water power by states, and statistics of individual power plants developing more than one thousand horsepower.

The data collected by the Bureau of the Census in 1902, 1907, and 1912 regarding electric power development at central plants were also republished in the report compiled by the Forest Service and transmitted to the Senate by the Secretary of Agriculture, on January 20, 1916, and published as Senate Document 316, 64th Congress, First Session, under the title "Electric Power Development in the United States." A portion of this material is computed directly from the census statistics, a portion is estimated on the basis of Census figures, and a portion is new material. All the statistics are presented by states and geographic divisions.

Among the data computed directly from the Census figures may be mentioned figures per one thousand of population on the development of power of various kinds and by various groups of plants, cost of plant, stock and bonds outstanding, funded debt, revenues, and expenses. There are also figures per horsepower for cost of construction, stock and bonds outstanding, funded debt, income, and expenses.

The figures estimated on the basis of Census statistics include the total primary power, water power, steam power, and gas power used by manufacturing plants in 1902, 1907, and 1912. These figures are derived from the Census of Manufactures statistics for 1899, 1904, and 1909 by assuming a uniform increase from 1899 to 1909, and from 1904 to 1909 and 1912. When this report was prepared the Census figures for horsepower used in manufactures in 1914 were not available, and consequently the estimate for 1912 was as good a one as could be made at that time. The figures of the Census of Manufactures for 1914 show that the amount of power used in manufacturing in the United States did not increase as much in the five years from 1909 to 1914 as in the five years from 1904 to 1909. Consequently, the estimate for power used in manufacturing in 1912 was too high. For instance, the estimate for total power used in Maine in 1912 is 490,494, while the Census figures show only 487,211 in 1914. Any estimate now made for 1912 should be based on the figures of the Census of Manufactures for 1909 and 1914.

Among the original material may be mentioned an estimate of the potential water power resources of the country, based largely on earlier reports made by the Geological Survey in 1908 and by the Commissioner of Corporations in 1912, but revised in accordance

with later information. The report also contains statistics for individual plants throughout the country, the information including data on the horsepower of water wheels, boilers, steam engines and gas engines, the rating of generators, and the prices charged for lighting or power.

An interesting feature which is not statistical is the compilation of data regarding the interrelations of the various power companies. This material includes the following :

- List of companies owning or operating water power having directors or officers in common.
- List of officers and directors of companies owning or controlling water power, showing the position occupied in each corporation of this character.
- An account of the organization of the holding companies for public utilities with diagrams showing the relationship to other holding companies.
- Diagrams showing relation between banks and holding companies of public utility securities.

In 1921 the Office of the Chief of Engineers of the Army issued a report entitled "Power Situation During the War," which dealt with the shortage of power in various districts and the method used to obtain relief. Appended to the main discussion were separate reports on electric power in the Pittsburgh district of Pennsylvania and Ohio, in New England, in New Jersey and Pennsylvania, in the Southern states, and on the Pacific Coast. This study contains statistical material on the amount of electric power developed at central plants in the Pittsburgh district from 1913 to 1918, in New England from 1915 to 1918, and in the Southern states for 1917 and 1918. Considerable information is given regarding the output of individual plants in each district, and important projects are discussed.

The latest contribution of the study of electric power development is contained in Geological Survey Professional Paper 123, entitled "A Superpower System for the Region between Boston and Washington." In this report is discussed a comprehensive plan for the unification of electric power in the area within approximately one hundred and fifty miles of the coast between the thirty-ninth and forty-fourth parallels of latitude. This area includes the states of Massachusetts, Rhode Island, Connecticut, New Jersey, and Delaware, the District of Columbia, and approximately the following portions of other states: The southern halves of New

Hampshire and Vermont, the portion of Maine south of a line drawn west from the mouth of the Kennebec River, the part of New York south of an east-west line passing through the central Adirondacks and east of a line running northeast-southwest through Owego, the portion of Pennsylvania east of a north-south line drawn west of Harrisburg, and the portion of Maryland north and east of an east-west and a north-south line passing through Washington.

While the purpose of this report is to present the possibilities of coördination of electric power, the starting point is the present development and utilization of electric energy, detailed statistics being given regarding the present power resources. Separate tabulations give figures for electric utilities and for the power used in manufacture. The tables for public utilities show for 1919, by districts, the maximum demand and the energy output of all plants, the capacity, character, and performance of steam-electric and hydroelectric plants, the fuel requirements, and annual operating expenses and fixed charges.

The detailed figures on the industrial use of power are derived from the statistics of the census of manufactures for 1919. Power supply equipment, electric motors, and fuel used are classified by character of power supply and size of plant for all industries, and for industrial groups. A separate tabulation shows power supply equipment and electric motors, classified by size of plant, in each county in the area.

In connection with the discussion of the electrification of railroads, statistics are given regarding the operation of railroads having operating revenues of more than one million dollars. The data on railroads include trackage, number of locomotives, traffic movement, coal used, cost of maintenance of electric and steam locomotives, and steam and electric locomotive mileage.

For several years the Geological Survey has been compiling monthly reports on the production of electric power and consumption of fuel by public utility power plants in the United States. These statements are issued in mimeograph form, and up to the present writing no summary has been printed. There are shown for each state the amount of power produced by fuel and by water power, and the amount of coal, fuel oil, and natural gas consumed in the production of power in steam plants.



## CHAPTER XXVIII

### PRICES

The discussion in this chapter is confined mostly to these publications dealing solely with price statistics. In addition considerable material on prices will be found in the special reports of the Federal Trade Commission, the Bureau of Corporations, and the Tariff Commission, discussed in Chapter XXII, in the annual volume entitled "Mineral Resources," and in the Tariff Information Surveys.

#### WHOLESALE PRICES

At present general statistics on wholesale prices are compiled by the Bureau of Labor Statistics, but some material is collected by other organizations, and there are earlier compilations that are worth mentioning. Considerable material on prices from 1835 to 1849 is given in the annual report of the Secretary of the Treasury on the state of the finances for 1849. The annual report of the Secretary of the Treasury for 1863 contains statistics on prices of staple articles in the New York market at the beginning of each month from 1825 to 1863.

**Aldrich Report of 1893.** On March 3, 1891, the Senate authorized the Finance Committee to prepare a report on wages and prices, the first part of which was published as Senate Report 986, 52d Congress, 1st Session, under the title "Retail Prices and Wages." This publication had one chapter giving statistics on wholesale prices of commodities in different cities by months from June, 1889, to September, 1891. The main report was published in 1893, in four volumes, as Senate Report 1394, 52d Congress, 2d Session, under the title "Wholesale Prices, Wages, and Transportation." While this is generally known as the "Aldrich Report," the general price statistics were collected by Roland B. Falkner under the direction of Carroll D. Wright, Commissioner of Labor; and the statistics on prices of agricultural products by J. R. Dodge,

Statistician of the Department of Agriculture. The report contains one of the most extensive collections of statistics relating to prices that has ever been made, and is the standard authority for general commodity prices from 1840 to 1891. Statistics are given on prices of staple agricultural products in New York, Cincinnati, and Chicago, and on several hundred other staple commodities from 1840 to 1891. For most of the commodities figures are given for the entire period, but there are some for which data were obtainable for only a part of the period. Money prices are generally given for quarterly intervals, but some are shown annually. Relative prices are given only for yearly periods.

In addition to the general tables there are tables showing the prices paid for various classes of supplies by several offices of the National government as follows :

General supplies purchased by the Navy Department, annually by stations for 1840 to 1892.<sup>1</sup>

Drugs and chemicals purchased by the Surgeon-General of the War Department, by months from 1840 to 1891.

Commissary supplies, mostly food-stuffs, purchased by Commissary Department of the Army at various posts, annually from 1840 to 1855, quarterly from 1855 to 1860, and monthly from 1866 to 1891.

General supplies, mostly clothing and equipment, purchased by the Quartermaster General of the War Department, annually from 1877 to 1892.

Miscellaneous commodities purchased by the Indian Service, annually from 1877 to 1892.

There is also in these volumes considerable material on prices in foreign countries which is not readily available in other publications. The most important of these are the following :

Wholesale prices of forty-seven commodities in England as quoted by the Economist, January and July, 1845 to 1893.

Economist index number, annually, 1845 to 1893.

Sauerbeck's wholesale prices, actual and relative, of 56 commodities in England, annually, 1846 to 1891.

Prices in Hamburg, of 100 commodities, annually from 1851 to 1891.

Export prices of 10 commodities in England, annually from 1851 to 1891.

Soetbeer's relative prices of 100 commodities in Hamburg, annually from 1851 to 1891.

Soetbeer's relative prices of 14 commodities in England, annually from 1851 to 1891.

Prices of 17 commodities in Prussia, annually from 1840 to 1891.

Prices of wheat, rye, barley, corn, oats, potatoes, beef, hay, and straw commodities in Vienna, Salzburg, Prague and Trieste, annually from 1840 to 1891.

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<sup>1</sup> Average prices paid by the Navy Department from 1900 to 1909 are given in Sen. Doc. 421, 61st Cong., 2d Sess.

French export prices for 38 commodities, annually from 1861 to 1891.

Prices in Italy for wheat, corn, rice, wine, olive oil, and beef, annually from 1862 to 1885.

Comparative relative prices of 22 commodities in the United States, England, Hamburg, and France, annually from 1860 to 1891.

Import prices of 180 commodities at Hamburg, annually from 1850 to 1891.

**Bureau of Labor Statistics.** The work of the Aldrich Committee on wholesale prices was taken up by the Department of Labor in 1900, and has been continued to the present time by the Department of Labor, the Bureau of Labor, and the Bureau of Labor Statistics. While all of the commodities for which data are given in the Aldrich Report are not represented in the later reports, these form essentially a continuation of the earlier publication. The first report (Bulletin 27) gave annual prices from 1890 to 1899; the second report (Bulletin 39) gave weekly, monthly, and annual prices from 1890 to 1901. Beginning with 1901 a report has been issued for each year with the exception of 1917 and 1918. Each report gives, for each year since 1890, annual prices for the current year, weekly prices for some commodities, mostly foodstuffs, and monthly prices for all commodities for which data are collected. The report for 1919 (Bulletin 269) contains weekly and monthly figures for 1917 and 1918, as no annual reports were issued for those years. The data given include both average and relative prices. These publications have been issued under the titles "Wholesale Prices" and "Course of Wholesale Prices." The Bulletin numbers of the publications in the series are as follows:

Department of Labor.

1890 to 1899<sup>2</sup>—Bulletin 27.

1890 to 1901<sup>2</sup>—Bulletin 39.

1902<sup>2</sup>—Bulletin 45.

Bureau of Labor.

1903<sup>2</sup>—Bulletin 51.

1904—Bulletin 57.

1905—Bulletin 63.

1906—Bulletin 69.

1907—Bulletin 75.

1908—Bulletin 81.

1909 and January to March 1910—Bulletin 87.

1910—Bulletin 93.

1911—Bulletin 99.

Bureau of Labor Statistics.

1912—Bulletin 114.

1913—Bulletin 149.

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<sup>2</sup> Some of the material for these years was published also in Bulletin 54.

**Bureau of Labor Statistics—Continued.**

- 1914—Bulletin 181.
- 1915—Bulletin 200.
- 1916—Bulletin 226.
- 1919—Bulletin 269.
- 1920—Bulletin 296.
- 1921—Bulletin 320.
- 1922—Bulletin 335.
- 1923—Bulletin 367.

A pamphlet report entitled " Wholesale Prices " has been issued by the Bureau of Labor each month beginning with April, 1922. Similar data are published four times a year in the following numbers of the Monthly Labor Review :

- May issue, prices for January to March.
- August issue, prices for April to June.
- November issue, prices for July to September.
- February issue, prices for October to December.

Bulletin 41 of the Department of Labor gives prices on beef and cattle on the first of January and June from 1890 and 1902.

A detailed discussion of the methods used in the United States and foreign countries for computing index numbers of wholesale prices is given in Bulletin 173 of the Bureau of Labor Statistics, issued in 1915. An earlier, but not so comprehensive report of the same character was contained in Bulletin 39 of the Department of Labor, published in 1902.

**Bureau of Foreign and Domestic Commerce.** Wholesale prices on a limited number of articles were published annually by the Bureau of Foreign and Domestic Commerce in the following publications :

- January, 1913 to October, 1914 (Monthly January to July, 1913; weekly July, 1913 to October, 1914). Miscellaneous Series 19.
- January, 1913 to December, 1915 (Monthly January, 1913 to July, 1915; weekly July to December, 1915). Miscellaneous Series 30.
- January, 1914 to July, 1916 (Monthly January, 1914 to July, 1916; weekly July to December, 1916). Miscellaneous Series 52.
- January, 1916 to December, 1917 (Monthly for 1916 and weekly for 1917). Miscellaneous Series 64.
- January, 1917 to December, 1918 (Monthly for 1917 and weekly for 1918). Miscellaneous Series 80.
- January, 1918 to December, 1919 (Monthly for 1918, weekly for 1919). Miscellaneous Series 104.
- January, 1919 to March, 1922 (Monthly for 1919, weekly for 1920, 1921 and 3 months of 1922). Miscellaneous Series 113.

The publications listed above continue the material previously published in the Monthly Summary of Commerce and Finance from September, 1893, to September, 1912. The articles on which prices are given are the following:

Silver.	Leather—3 grades.	Cottonseed oil.
Coffee.	Cattle—3 grades.	Copper.
Rubber.	Hides—15 grades.	Tin.
Pig iron (Bessemer and Southern No. 2).	Tea—3 grades.	Lead.
Iron bars.	Rice—3 grades.	Spelter (zinc).
Steel bars.	Manila.	Wheat.
Steel billets and bloom (Bessemer and open hearth).	Sisal.	Corn.
Steel rails.	Jute.	Oats.
Petroleum, crude and refined.	Jute butts.	Sugar.
Gasoline.	Wool—8 grades.	Lard.
	Mohair—2 grades.	Oleo-stearine.
	Raw silk—4 grades.	Tallow.
	Cotton, New York and New Orleans.	Pork.
		Beef.

Average import and export prices for principal commodities are published in the Monthly Summary of Foreign Commerce and in the Statistical Abstract. These figures are obtained by dividing the quantity of imports or exports into the value, and thus may easily be computed for articles not shown in the special tables. They are in error to the extent to which there may be overvaluation or undervaluation of imports and exports.<sup>a</sup>

**Industrial Commission.** Average yearly prices and annual index numbers for various commodities for the fiscal years 1879 to 1901 are given in Volume XIX of the report of the Industrial Commission of 1898. The commodities on which information is given are the following:

Cattle.	Hay.	Coke.
Sheep.	Flaxseed.	Brick.
Hogs.	Wool.	Lime.
Beef.	Cotton.	Cement.
Tallow.	Pig iron.	Petroleum (refined).
Pork.	Silver.	Rosin.
Lard.	Gold.	Turpentine.
Hides.	Copper.	White lead.
Glue.	Lead.	Glass.
Butter.	Zinc.	Sulphuric acid.
Cheese.	Quicksilver.	Muriatic acid.
Milk.	Tin.	Alum.

<sup>a</sup> See discussion of values in import and export statistics, p. 335.

Eggs.	Coal (anthracite).	Bicarbonate of soda.
Corn.	Spruce.	Print cloth.
Wheat.	Yellow pine.	Leather.
Oats.	Petroleum.	Cottonseed oil.
Rye.	Phosphate rock.	Linseed oil.
Barley.	Bar iron.	Cottonseed meal.
Rice.	Steel rails.	Sugar (granulated).
Potatoes.	Barbed wire.	Whisky.
Beans.	Steel billets.	Flour.
Sugar (raw).	Tin plate.	Coffee.

Volume XIII of the report of the Industrial Commission contains statistics showing the average annual cost and the monthly selling price of pig iron, and the monthly cost and selling price of steel billets and steel rails from 1890 to 1901. It also shows average monthly prices of coke at Connellsville and of scrap steel and coal at Chicago from 1890-1901.

The Industrial Commission also collected statistics of wholesale and retail prices of illuminating oil, sugar, salt, and Royal Baking Powder throughout the country in order to ascertain whether industrial combinations reduced prices in some sections in order to stifle competition. The information collected from over fifteen hundred towns in all parts of the country is given in Volume XIII of the report of the Commission, entitled "Trusts and Industrial Combinations."

**War Industries Board.** Prices from 1913 to 1918 are treated in a series of fifty-seven publications issued by the War Industries Board under the general title "History of Prices During the War" and the serial title "War Industries Board, Price Bulletins." Several of these bulletins were also published under the same titles, but without the serial numbers by other organizations, the text in the two editions being identical. The first three numbers in this series are general, but the remaining fifty-four relate to specific commodities or classes of commodities. The entire series contains prices on 1474 commodities.

Bulletin 1, entitled "History of Prices During the War," is a general summary of the facts brought out in the other bulletins, and contains a general discussion of the trend of prices.

A comparison of prices in the United States and foreign countries is given in Bulletin 2, entitled "International Price Comparisons." This bulletin gives actual and relative average annual, quarterly,

and monthly prices during the years 1913 to 1918, of articles that were of standard grade. The prices in each country are compared with those in the United States, there being no direct comparison between prices in several foreign countries. The commodities selected are likewise not identical for each foreign country, the choice being influenced by the importance of the commodity and the availability of price data. The countries and the number of commodities for which prices are given are as follows:

United Kingdom, 150.	India, 24.	Sweden, 12.
France, 44.	Australia, 66.	Norway, 18.
Italy, 36.	Germany, 30.	Argentina, 21.
Russia, 23.	Austria, 14.	
Japan, 36.	Denmark, 17.	

At the end of the report is a list of sources from which the data were derived, which will serve as a guide to anyone desiring to supplement the report by compiling later statistics.

Bulletin 3, entitled "Government Control Over Prices," contains a review and discussion of the price-fixing activities of the government during the war. There is considerable comparative material on controlled and uncontrolled prices and on prices of controlled raw material and of uncontrolled manufactured articles made from material on which prices were fixed.

Bulletins 4 to 7 relate to classes of commodities and give index numbers only for the following groups:

Bulletin 4. Foods.	Bulletin 6. Building material.
Bulletin 5. Clothing.	Bulletin 7. Chemicals.

Bulletins 8 to 57 give actual prices on specific commodities, for each year, quarter, and month from 1913 to 1918. These bulletins also contain some estimates on production during these years. The subjects treated in these bulletins are as follows:

- Bulletin 8. Feed and forage.
- Bulletin 9. Wheat and wheat products.
- Bulletin 10. Corn and corn products.
- Bulletin 11. Oats, rice, buckwheat, and their products.
- Bulletin 12. Barley, hops, rye, and their products.
- Bulletin 13. Sugar and related products.
- Bulletin 14. Vegetables and truck.
- Bulletin 15. Edible vegetable oils.
- Bulletin 16. Fruits, nuts, and wine.
- Bulletin 17. Spices and condiments.
- Bulletin 18. Tea, coffee, and cocoa.
- Bulletin 19. Tobacco and tobacco products.

- Bulletin 20. Livestock, meats, and fats.
- Bulletin 21. Poultry and dairy products.
- Bulletin 22. Fish and oysters.
- Bulletin 23. Cotton and cotton products.
- Bulletin 24. Wool and wool products.
- Bulletin 25. Silk and silk products.
- Bulletin 26. Hides and skins and their products.
- Bulletin 27. Hatters' fur and fur felt hats.
- Bulletin 28. Hair, bristles, and feathers.
- Bulletin 29. Buttons.
- Bulletin 30. Rubber and rubber products.
- Bulletin 31. Paper.
- Bulletin 32. Fibers and fiber products.
- Bulletin 33. Iron, steel, and their products.
- Bulletin 34. Ferroalloys, nonferrous and rare metals.
- Bulletin 35. Coal and coke.
- Bulletin 36. Petroleum and its products.
- Bulletin 37. Matches.
- Bulletin 38. Clay products.
- Bulletin 39. Sand and gravel.
- Bulletin 40. Quarry products.
- Bulletin 41. Cement.
- Bulletin 42. Glass.
- Bulletin 43. Lumber.
- Bulletin 44. Paints and varnishes.
- Bulletin 45. Mineral acids.
- Bulletin 46. Heavy chemicals.
- Bulletin 47. Miscellaneous inorganic chemicals.
- Bulletin 48. Fertilizers.
- Bulletin 49. Soaps and glycerin.
- Bulletin 50. Essential oils, flavoring and perfumery materials.
- Bulletin 51. Wood-distillation products, and naval stores.
- Bulletin 52. Natural dyestuffs and tanning chemicals.
- Bulletin 53. Coal-tar crudes, intermediates, and dyes.
- Bulletin 54. Drugs and pharmaceuticals.
- Bulletin 55. Proprietary preparations.
- Bulletin 56. Explosives.
- Bulletin 57. Miscellaneous organic chemicals.

**Department of Agriculture.** Prices on a wide range of agricultural products are published in the weekly issue of "Crops and Markets," in the monthly supplement to that publication, and in the Agriculture Yearbook.

Prices of farm implements and farm machinery in 1860, 1880, 1890, 1895, and 1900 are given in Bulletin 18 of the Division of Statistics of the Department of Agriculture, entitled "Course of Prices of Farm Implements and Machinery for Series of Years."

A mass of information on the prices of agricultural products, compiled from the reports of several bureaus of the Department



of Agriculture and from commercial journals, is given in Bulletin 982 of the Department of Agriculture, entitled "Market Statistics." The general classes for which prices are given are indicated below, but it should be understood that figures are given for specific products within each class. In general the tables of monthly prices give quotations for more grades for 1918 to 1920 than for the years prior to 1918. The periods generally used are listed below, but it should be understood that these vary somewhat for the specific commodities in each class.

**Livestock at principal markets:** Average monthly prices, 1910 to 1920; average weekly prices, 1918 to 1920; weekly range of prices, 1919 to 1920.

**Western dressed fresh meats at principal markets:** Monthly and weekly average wholesale prices, 1917 to 1920.

**Wool:** Monthly and yearly average prices, 1910 to 1920; quarterly average price on farms, 1910 to 1920.

**Butter and cheese:** Monthly average wholesale price, 1910 to 1920; weekly average wholesale price, 1918 to 1920.

**Fluid milk:** Average monthly retail prices, 1919 and 1920, in principal cities.

**Condensed milk:** Average monthly wholesale prices 1919 to 1920 in various sections of the country.

**Grain, hay, feed, and seeds:** Average monthly and average annual prices, 1910-11 to 1920-21.

**Fruits and vegetables:** Monthly range and average monthly prices at important markets, 1919 and 1920.

**Cotton, cottonseed, and cottonseed oil:** Monthly average prices, 1910-11 to 1920-21.

Farm and terminal market prices of wheat, corn, and oats at principal markets, by months, from July, 1920, to June, 1921, are given in Department of Agriculture Bulletin 1083, entitled "Farm and Terminal Market Prices: Wheat, Corn, and Oats."

General statistics on lumber prices in 1914, 1919, and 1920 and a discussion of conditions affecting prices during these years and earlier ones are given in the report of the Forest Service entitled "Timber Depletion, Lumber Prices, Lumber Exports, and Concentration of Lumber Ownership." As indicated by the title, this report is a general discussion of the problem of timber supply and the manufacture of lumber.

**Bureau of Corporations and Federal Trade Commission.** Monthly prices on lumber of various kinds over a series of years is given in the report of the Bureau of Corporations entitled "The Lumber Industry," issued in 1914. The period over which prices

are given varies, the shortest being from 1897 to 1910 and the longest from 1889 to 1911. The report also contains tables from the reports of the Bureau of the Census and the Forest Service on stand of timber, production, etc. There are also a number of tables giving information on the concentration of control of timber.

A discussion of wheat prices during 1920 is contained in the report of the Federal Trade Commission on "Wheat Prices for the 1920 Crop." This report also contains figures on the visible supply of wheat east of the Rocky Mountains, weekly from 1912 to 1920.

Highest, lowest, and mean prices of middling cotton, monthly, at New Orleans from 1827 to 1909 are contained in Part IV of the "Report of the Commissioner of Corporations on Cotton Exchanges," issued in 1909.

**Tariff Commission.** Prices on selected commodities in the United States, Germany, Great Britain, France, and Italy by months for 1914 to 1921 are given in the report of the Tariff Commission entitled "Depreciated Exchange and International Trade."

#### RETAIL PRICES AND COST OF LIVING

The first compilation of retail prices made by the government was contained in Volume XX of the Tenth Census (1880). This report gives average retail prices in representative towns and cities in sixteen states for food, dry goods, boots and shoes, coal, wood, kerosene, rent and board. The period covered varies considerably with the place and commodity, in some cases going as far back as 1851.

The next general compilation on retail prices was a report made by the Finance Committee of the Senate in 1892 and published as Senate Report 986, 52d Congress, 1st Session, under the title "Retail Prices and Wages." This volume gives retail prices of commodities in various cities by months from June, 1889, to September, 1891. It also contains monthly figures on retail prices in England and on prices of farm products in primary local markets for the same period.

No additional general report on retail prices was issued prior to the appearance of the Eighteenth Annual Report of the Commissioner of Labor Statistics, 1903, which gave average annual retail prices for each year from 1890 to 1903. This publication also

contained the result of a canvass of 25,000 families showing membership of the family, the occupation and earning of the head, the income and expenditure, and the quantity of food consumed.

After 1903 reports on retail prices were published annually or oftener, with the exception of 1908 to 1910, 1917 and 1918, by the Bureau of Labor and the Bureau of Labor Statistics, the data being given in the following bulletins:

Bureau of Labor.

- 1903 and 1904—Bulletin 59.
- 1904 and 1905—Bulletin 65.
- 1905 and 1906—Bulletin 71.
- 1906 and 1907—Bulletin 77.

Bureau of Labor Statistics.

- 1907 to 1911—Bulletin 105.<sup>4</sup>
- January to June, 1911 and 1912—Bulletin 106.
- July to August, 1911 and 1912—Bulletin 108.
- September and October, 1911 and 1912—Bulletin 110.
- November and December, 1911 and 1912—Bulletin 113.
- January and February, 1912 and 1913—Bulletin 115.
- March and April, 1912 and 1913—Bulletin 125.
- May and June, 1912 and 1913—Bulletin 132.
- July and August, 1912 and 1913—Bulletin 136.
- September and October, 1912 and 1913—Bulletin 138.
- November and December, 1912 and 1913—Bulletin 140.
- 1913 and 1914—Bulletin 156.
- January to June, 1914 and 1915—Bulletin 184.
- July to December, 1914 and 1915—Bulletin 197.
- 1915 and 1916—Bulletin 228.
- 1919—Bulletin 270.
- 1920—Bulletin 300.
- 1921—Bulletin 315.
- 1922—Bulletin 334.
- 1923—Bulletin 366.

The earlier bulletins were confined to foodstuffs. Bulletin 105, covering from 1907 to 1911, was the first report to give data on prices of gas and household fuel. Prices of ten selected articles of dry goods were first published in Bulletin 184, covering the first half of 1915. These items have been included in all subsequent reports.

Retail price statistics are published for about fifty cities, both average and relative figures being given.

It should be noted that Bulletin 105, covering the period from 1907 to 1911, gives prices on food for every second month from

<sup>4</sup> Every second month, 1907 to 1910; each month 1911.

1907 to 1910 and monthly for 1911; on domestic coal, quarterly, from 1907 to 1911; and on illuminating gas annually from 1907 to 1911. Bulletin 270, for the years 1913 to 1917, gives monthly prices for the entire period.

Several bulletins of the Bureau of Labor Statistics contain data on prices of specific commodities. Bulletin 121, entitled "Sugar Prices from Refinery to Consumer," gives monthly prices on sugar for 1901, 1905, and 1910 to 1912. Bulletin 130, entitled "Wheat and Flour Prices from Farmer to Consumer," presents wheat and flour prices for March and October, 1906, 1910, and 1911. Bulletin 164, entitled "Butter Prices from Producer to Consumer," gives prices on butter for June and December, 1904, 1910, and 1911.

Current monthly statistics on retail prices are published in the *Monthly Labor Review*, issued by the Bureau of Labor Statistics, which also contains, from time to time, material on retail prices in foreign countries.

Prices of a number of articles bought by farmers are published from time to time in the *Monthly Supplement to Crops and Markets* and annually in the *Agriculture Yearbook*.

## CHAPTER XXIX

### FINANCES OF THE NATIONAL GOVERNMENT

**General Material.** A general review of the finances of the government is contained in the annual report of the Secretary of the Treasury on the state of the finances, which has been issued annually since 1790.<sup>1</sup> Some of the material in this report is described under specific headings in this chapter.

**Receipts, Appropriations and Expenditures.**<sup>2</sup> Information concerning the financial affairs and operations of the National Government is contained in the document known as "The Budget," which, in pursuance of the budget and accounting act of 1921, is annually transmitted by the President to Congress upon its assembling in regular session in December of each year. This act (42 Stat. L., 20) provides as follows:

The President shall transmit to Congress, on the first day of each regular session, the Budget, which shall set forth in summary and in detail:

(a) Estimates of the expenditures and appropriations necessary in his judgment for the support of the Government for the ensuing fiscal year; except that the estimates for such year for the Legislative Branch of the Government and the Supreme Court of the United States shall be transmitted to the President on or before October 15th of each year, and shall be included by him in the Budget without revision;

<sup>1</sup> The reports from 1789 to 1828 appears in American State Papers, Finance, Vols. 1-5. A series of seven volumes, published between 1828 and 1851, under the general title "Reports of the Secretary of the Treasury" contains the reports from 1790 to 1849. The reports for each year beginning with 1817 have been published as documents of Congress; for many years the reports have been also issued as publications of the Treasury Department without congressional document number.

<sup>2</sup> Prepared by W. F. Willoughby.

(b) The estimates of the receipts of the Government during the ensuing fiscal year, under (1) laws existing at the time the Budget is transmitted and also (2) under the revenue proposals, if any, contained in the Budget;

(c) The expenditures and receipts of the Government during the last completed fiscal year;

(d) Estimates of the expenditures and receipts of the Government during the fiscal year in progress;

(e) The amount of annual, permanent or other appropriations, including balances of appropriations for prior fiscal years, available for expenditure during the fiscal year in progress, as of November 1 of each year;

(f) Balanced statements of (1) the condition of the Treasury at the end of the last completed fiscal year, (2) the estimated condition of the Treasury at the end of the fiscal year in progress, and (3) the estimated condition of the Treasury at the end of the ensuing fiscal year if the financial proposals contained in the Budget are adopted;

(g) All essential facts regarding the bonded and other indebtedness of the Government; and

(h) Such other financial statements and data as in his opinion are necessary or advisable in order to make known in all practicable detail the financial condition of the Government.

The Budget consists of two parts: (1) The President's budget message, and introductory general statistical tables and the interpretative and explanatory text, and (2) the detail estimates of appropriations for the coming fiscal year and the corresponding appropriations for the year in progress.<sup>3</sup> The first part, which is also published separately, thus contains all the data of general interest. Following is a description of the twenty-four statements contained in this part of the Budget for the fiscal year 1925.

Statement No. 1 Balanced statement of the condition of the Treasury at the end of the fiscal year 1923; the estimated condition of the Treasury at the end of the fiscal year in progress, 1924; and the estimated condition of the Treasury at the end of the ensuing

<sup>3</sup>The "estimates" or "estimates of appropriations" are the amounts which the President recommends be appropriated under each particular heading. The term "estimate" is sanctioned by long usage, and has its origin in the fact that it is the amount estimated to be necessary; a more nearly exact term would be "recommended appropriation." The term appropriation means the amount actually voted by Congress.

fiscal year, 1925, if the financial proposals of the Budget are adopted.

This statement, which is the basic statement of the Budget, shows the following for each of the years indicated:

- (a) Expenditures.
- (b) Revenues.
- (c) Excess of ordinary receipts over expenditures payable therefrom.
- (d) Balance in general fund at the beginning of the year.
- (e) The total of these last two items.
- (f) The amount paid from or estimated to be paid from the general fund in reduction of the public debt over and above reduction of debt through sinking fund and application of receipts which by law must be devoted to reduction of debt.
- (g) The balance in the general fund at the end of the year resulting from deducting item (f) from item (e).

The following subdivision is made of expenditures and revenues: Expenditures, actual or estimated, are classified; first, under four heads: ordinary, reduction in principal of public debt, investment of trust funds, and interest on public debt. Ordinary expenditures are subclassed under three heads: general expenditures, operations in special accounts, and capital outlays for rights and obligations. Further details are given under each of these heads, the most important being the itemization by departments and independent establishments.

Revenues, actual or estimated, are classified under the three heads: internal revenue receipts, customs, and miscellaneous receipts. Internal revenue receipts are itemized under the two heads of income and profits tax and miscellaneous internal revenue. Miscellaneous receipts are given under fourteen subheads.

Statement No. 2. Estimated expenditures, fiscal year 1925, compared with prior years.

This is a supporting statement to Statement No. 1, and gives in much greater detail, expenditures, actual and estimated, for each of the three years, as summarized in Statement No. 1. It thus shows expenditures not only by bureaus or other subdivisions of departments and independent establishments, but also by appropriations or groups of appropriations.

Statement No. 3. Estimated receipts, fiscal year 1925, compared with prior years.

This is likewise a supporting statement to Statement No. 1, and gives in greater detail receipts, actual and estimated, for each of the three years.

Statement No. 4. Post Office Department and Postal Service: Statement of estimated expenditures and receipts for the fiscal year 1925 compared with prior years.

This is a special statement showing the financial operations of the Post Office Department and the Postal Service, actual and estimated, for each of the three years. Though this statement purports to show the extent to which the Post Office Department and Postal Service produced, or is estimated to produce, a surplus or deficit as the result of the operations of the year, account should be taken of the fact that the expenditures side of the statement does not include certain expenditures which are properly chargeable to the cost of operating the service. The most important of these are those for the erection, maintenance, and operation of post office buildings.

Statement No. 5. Estimated expenditures of Post Office Department and Postal Service, fiscal year 1925, compared with prior years, detail statement by activities, etc.

This is a supporting statement to Statement No. 4, and gives the items of expenditures in greater detail.

Statement No. 6. Comparative statement of ordinary receipts and expenditures showing how the estimated financial condition will be reached at the close of the fiscal years 1924 and 1925 and the means by which the actual condition was reached at the end of the fiscal year 1923.

The purpose of this statement is to show the sources from which the receipts are derived and the purposes for which expenditures were or are to be directed. The significance of the statement lies chiefly in the fact that expenditures are classified by character, rather than by organization units. Thus, the distinction is made between expenditures for current operations, for non-administrative purposes, such as interest on the public debt, pensions, etc., for construction work, including national defense structures, and for other purposes.

Statement No. 7. Estimated receipts, exclusive of postal revenues, fiscal year 1925, compared with prior years.



This statement shows receipts classified primarily by collecting agencies and by sources under each agency in contrast with Statement No. 1, which shows receipts by sources regardless of the department or other agency through which received.

Statement No. 8. Summary of estimates, fiscal year 1925, compared with appropriations for fiscal year 1924, classified by governmental functions.

This statement, which appeared for the first time in the Budget for 1924, estimates and analyzes appropriations from the functional standpoint. The classification distinguishes between appropriations for (1) General functions, (2) military functions, (3) civil functions, and (4) nonfunctional appropriations. A further itemization is given under each of these heads. Thus, under "general functions," a distinction is made between appropriations for (1) Legislative (2) judicial, (3) executive, and (4) general administrative functions. "Military functions" are subdivided into (1) National defense, (2) special war agencies, and (3) military pensions, retirement pay, soldier and sailor allowances, etc. Under "civil functions" are nineteen items such as promotion of agriculture, promotion of education, promotion of public health, administration of the public domain, etc. Under "nonfunctional appropriations" a distinction is made between refunds, loans, etc., public debt charges, and trust funds. In the text is a description of the functional classification that is employed.

Statement No. 8A. Summary of estimates of appropriations by "character and objects of expenditures" for the fiscal year 1925, compared with appropriations for the fiscal year 1924.

By Bulletin No. 1, issued May 11, 1922, the General Accounting Office prescribed that all the services of the national government should keep their accounts in such a manner as to show their expenditures classified according to character and objects as set forth in the bulletin. Following this the Bureau of the Budget prescribed that the services in submitting their requests for appropriations should include statements showing their expenditures during the current year and proposed expenditure of the amount requested classified in the manner outlined by the General Accounting Office. Statement 8A is a recapitulation of estimates for the entire government according to the character and object of proposed expenditure, without regard to departments or other units. The

classification by character distinguishes between estimates for (1) current expenses, (2) fixed charges, (3) acquisition of property, (4) payment of debt, and (5) capital outlays for rights and obligations. The classification by objects distinguishes between personal services, supplies and materials, travel, etc., and thus indicates the proposed use of appropriations requested according to objects or things to be purchased. It should be borne in mind that this statement shows for the fiscal year 1924 the estimated expenditure, but for the fiscal year 1925 it indicates the expenditure proposed to be made if the amount of money requested is appropriated.

Statement No. 9. Summary of expenditures classified by government functions, fiscal year 1925, compared with prior years.

This statement is similar in general character to Statement No. 8, except that it relates to actual and estimated expenditures instead of appropriations and it gives the figures for each year during the period 1915 to 1925 inclusive. Furthermore, it includes columns giving for each year the per cent of total that each item of expenditures represents. The table thus affords a comparative and analytical statement of expenditures during a period of eleven years.

Statement No. 10. Comparison of appropriations recommended and appropriations made by Congress, fiscal year 1924 compared with fiscal year 1923, classified by organization units.

This statement shows for each of the years indicated and for each department, the legislative establishment, independent establishments, the District of Columbia, and the principal and interest on the public debt, the appropriation recommended in the Budget and in supplemental estimates and the amounts actually voted by Congress. It also shows the extent to which Congress increased or decreased the sum recommended in the Budget and supplemental estimates.

Statement No. 11. Statement of estimates of appropriations for 1925 and appropriations for 1924, showing percentages of the totals for current operation of the government by departments and offices.

This statement shows for each of the major units of the government the total for current operations estimated for 1925 and appropriated for 1924 and the per cent that the item for each unit is of the total for all the units.

Statement No. 12. Statement of balances of appropriations of June 30, 1923, and of appropriations for the fiscal year 1924 (including revised estimated permanent and indefinite appropriations) of November 1, 1923, reported by the Secretary of the Treasury.

This statement shows the total amount available for expenditure during the fiscal year, classified by major organization units of the government.

Statement No. 13. Consolidated current balance sheet at close of business June 30, 1923: General Fund and Public Debt (Loan) Funds.

This statement, which is prepared on the basis of the "Daily Statement of the U. S. Treasury," has for its purpose to show the condition of the Treasury at the close of the fiscal year. Though designated a current balance sheet, it includes only the cash resources of the government and those liabilities of the Treasury required by law to be set up as an encumbrance of the cash assets. No account is taken of the assets accrued and due or other liabilities incurred. The statement thus furnishes merely the best balanced statement of current assets and liabilities, reserves and surplus that can be prepared under the present system of government accounting and reporting.

Statement No. 14. Consolidated statement of operations, fiscal year ended June 30, 1923, General Fund and Public Debt (Loan) Funds.

This statement, which is prepared on the basis of the "Daily Statement of the U. S. Treasury," presents in the most summary form the total receipts and expenditures of the year, the balance at the beginning of the year, and the balance at the end of the year.

Statement No. 15. Current balance sheet at close of business June 30, 1923, General Fund. This statement, prepared on the basis of the "Daily Statement of the U. S. Treasury," is similar to Statement 13, but relates only to the General Fund.

Statement No. 16. Statement of operations, general fund, fiscal year ended June 30, 1923.

This statement, prepared on the basis of the "Daily Statement of the U. S. Treasury," gives in summary form the receipts and expenditures of the General Fund, the balance at the beginning of the year and the balance at the end of the year.

Statement No. 17. Statement of operations, public debt (Loan) funds, fiscal year ended June 30, 1923.

This statement, prepared on the basis of the "Daily Statement of the U.S. Treasury," shows the receipts and expenditures of the loan funds during the year, classified by the loan obligations retired by the expenditures and issued in return for the receipts.

Statement No. 18. Summary statement of outstanding debt at the close of business June 30, 1923, compared with June 30, 1922, and June 30, 1916.

This statement, prepared on the basis of revised figures reported in the monthly "Statement of the Public Debt of the United States," shows in a clearer form the amount of the public debt on the dates mentioned and the decrease in debt that has taken place in the periods covered.

Statement No. 19. Detail statement of outstanding debt at close of business June 30, 1923, compared with June 30, 1922, and June 30, 1916.

This statement sets forth in detail the amount of each issue of debt obligations outstanding on the dates mentioned.

Statements Nos. 20, 21, and 22. Cumulative sinking fund accounts, fiscal years 1923, 1924, and 1925.

These three statements show the operations of the sinking fund, actual for 1923 and estimated for 1924 and 1925.

Statement No. 23. Proposed public debt issues and redemptions and purchases fiscal year 1925 compared with 1924 and 1923.

This statement shows the proposed borrowings from the public for redemptions and purchases of public debt issues during the fiscal year 1925 compared with those expected to be made in 1924 and the actual borrowings and redemptions which were made during 1923, exclusive of those certificates of indebtedness which are issued and redeemed within the same fiscal year.

Statement No. 24. Statement summarizing and comparing the Budget estimates of appropriations for the fiscal year 1925, with the estimates of expenditures for 1924 for the personnel of the executive departments and establishments in the District of Columbia classified under the Act of March 4, 1923.

This statement shows by departments and establishments the estimated increase or decrease in 1925 over or under 1924 in the

expenditures for personal services in the District of Columbia. It also shows increase in estimates for salaries made necessary by the Reclassification Act of March 4, 1923.

At the end of the first part of the Budget is a "Recapitulation of estimates of appropriations for 1925 and of appropriations for 1924, by departments, etc." This shows the estimates of appropriations for 1925 compared with the actual appropriations for 1924 classified; first, by individual departments and establishments; secondly, by major units of organization of these departments and establishments; and thirdly, by groups of appropriation items under such major units. In a supplement to this table is a list of all permanent appropriations included in the summary.

In the second part of the Budget are the detailed estimates showing the appropriations recommended under each head and the corresponding appropriations for the current year. Under each item is a detailed statement for three years according to the classification outlined in Bulletin No. 1 of the General Accounting Office. This statement shows for each object of expenditure, the amount expended and obligated on account of the last completed fiscal year, the estimated expenditure of the appropriation for the current fiscal year, and the estimated expenditure of the appropriation requested.

From 1818 to 1921 the detail estimates of appropriation were contained in the publication which was generally known as the "Book of Estimates," but which bore the title "Letter from the Secretary of the Treasury transmitting Estimates of Appropriation." Prior to 1882 this publication was issued only as a Document of Congress; after 1882 it was issued both as a document and as a publication of the Treasury Department.

From almost the beginning of the government the Treasury Department has issued annually a volume having for its purpose to present information regarding the financial condition and operations of the government to supplement the brief and inadequate consideration of the national finances contained in the annual reports of the Secretary of the Treasury and the Treasurer of the United States.

The earliest of these publications was the "Annual Statement of Account of Receipts and Expenditures," issued from 1792 to 1890. Though the data contained in these volumes have value from

a historical standpoint, they were presented with so little regard to a proper classification of items or the requirements of a proper accounting and reporting system that they furnish very unsatisfactory material for other than a most secondary consideration of the national finances during the period covered.

From 1872 to 1911 the Treasury Department issued an annual report under the title, "Combined Statement of Receipts and Disbursements." Disbursements alone are shown in the "Statement of Balances, Appropriations, and Expenditures" issued from 1880 to 1907 and in the "Statement of Balances, Appropriations and Disbursements," issued from 1908 to 1912. The "Combined Statement of the Receipts and Disbursements, Balances, etc., has been issued annually, beginning with 1912.

In this publication receipts are classified by collecting agencies, and information is given regarding the total that was available for expenditure during the year under each appropriation head and by each department and establishment and each major subdivision under the department or establishment. There is thus shown for each department and establishment, each major subdivision of a department or establishment, and each appropriation head, the balances of appropriations for prior years, the appropriation for the year, the total of disbursements during the year, the amount carried to the surplus fund, and the balance at the end of the year available for expenditure in the subsequent year.

For most appropriations this is the only publication from which may be ascertained the total expenditure from a given appropriation. Almost all financial statements in bureau reports are on a cash basis, that is, they show the amount expended up to the end of the fiscal year. But an appropriation is available for expenditure during the two succeeding fiscal years, provided the obligation is incurred during the year for which the appropriation was made. Thus, the final disbursement for an appropriation for the fiscal year 1919 may not be made until the fiscal year 1921. The Combined Statement does not show directly the total expenditure from the appropriation, but this amount may be computed by subtracting the sum carried to the surplus from the amount appropriated. Even this does not always give the final figure, for money in the hands of a disbursing officer may be repaid into the Treasury in a

later year and carried to the surplus, thereby reducing the amount actually expended.

The Combined Statement shows disbursements by the specific year for which the appropriation was made, but the term "disbursements" as used in this publication means simply advances to disbursing officers, who make practically all government payments. On the requisition of a disbursing officer, money is placed to his credit by the Treasurer of the United States, and the disbursing officer draws checks against the Treasurer. When this credit is made the money is still in the Treasury. The disbursing officer may not spend the money during the fiscal year, yet the sum appears in the Combined Statement as an expenditure, notwithstanding the fact that the money has not left the Treasury. The following example illustrates how this procedure works out:

For the fiscal year 1916 an appropriation of \$2,098,858.00 was made to the Quartermaster Corps for "Barracks and Quarters." During the fiscal year 1916 the disbursements (advances to disbursing officers) were \$1,677,506.43; during the fiscal year 1917 they were \$330,015.44, making a total of \$2,007,521.87. If these sums were actual disbursements, there should be a balance of only \$91,336.13. The report for 1918, however, shows that there was carried to the surplus the sum of \$135,518.01, the disbursing officers in that year repaying to the appropriation \$44,181.88, in excess of the advances made to them. This sum cannot be distributed over the previous years, as there is no information regarding the amount actually spent by each disbursing officer each year.

Beginning in January, 1872, there was issued by the Bookkeeping and Warrants Division of the Treasury Department, a monthly "Comparative Statement of Receipts and Disbursements of the United States." This was a folio sheet, each issue showing a summary for the preceding month, total to that date for the current year, and in parallel columns, similar statement for the preceding fiscal year. This publication was discontinued with the number for June 9, 1909, since similar information was given in certain numbers of the "Daily Statement of the United States Treasury Department," the issue of which had been begun on January 2, 1895.

The daily statement, which consists of a single sheet, is issued every day in the year except Sundays, Holidays, and July 1. Its form has been repeatedly revised, but at present (November, 1924), it contains the following statements relating to the national finances.

The statement of current assets and liabilities shows assets and liabilities on account of gold, silver dollars, and the general fund. The gold statement and the silver dollar statement show the gold coin, gold bullion, and silver dollars in the Treasury and liabilities against the metal in the way of certificates and other obligations. In the general fund statement the assets listed consist of the cash of various classes of currency in the Treasury, and of the deposits to the credit of the government in each of the several kinds of depositories of public funds. The liabilities consist of Treasurer's checks outstanding, deposits of government officers for whom the Treasury acts as a bank of deposits, deposits for the redemption or retirement of specified classes of bank notes, and a miscellaneous item, entitled "Unallotted Items, Exchanges, etc." The chief purpose of this statement is to show the net "balance of the general fund at the close of business for each day."

A statement of receipts and expenditures for the day is given in the following form:

**Receipts.**

Customs receipts.  
 Internal revenue receipts.  
   Income and profits tax.  
   Miscellaneous internal revenue.  
 Miscellaneous receipts.  
   Total ordinary receipts.  
 Public debt receipts.  
 Balance previous day.  
 Total.

**Expenditures.**

General expenditures.  
 Interest on public debt.  
 Operations in special accounts.  
 Loans to railroads.  
 Investment of trust funds.  
 Other ordinary.  
   Total ordinary expenditures.  
 Public debt expenditures charge-  
   able against ordinary receipts.  
 Other public debt expenditures.  
 Balance today.  
 Total.

The table entitled "Comparative Analysis of Receipts and Expenditures," shows receipts and expenditures for the current month, the corresponding period of the preceding year, the current fiscal year to date, and the corresponding period of the preceding year, classified under the following heads:



Receipts.

- Ordinary.
  - Customs.
  - Internal revenue.
    - Income and profits tax.
    - Miscellaneous internal revenue.
  - Miscellaneous receipts.
    - Proceeds Government-owned securities.
    - Foreign obligations.
      - Principal.
      - Interest.
    - Railroad securities.
    - All others.
  - Trust fund receipts (reappropriated for investment).
  - Proceeds sale of surplus property.
  - Panama Canal tolls, etc.
  - Receipts from miscellaneous sources credited direct to appropriations.
  - Other miscellaneous.
    - Total ordinary.
- Excess of ordinary receipts over total expenditures chargeable against ordinary receipts.
- Excess of total expenditures chargeable against ordinary receipts over ordinary receipts.

Expenditures.

- Ordinary.
  - General expenditures.
  - Interest on public debt.
  - Refunds of receipts.
    - Customs.
    - Internal revenue.
  - Postal deficiency.
  - Panama Canal.
  - Operations in special accounts.
    - Railroads.
    - War Finance Corporation.
    - Shipping Board.
    - Alien property funds.
    - Sugar Equalization Board.
  - Loans to railroads.
  - Investment of trust funds.
    - Government life insurance fund.
    - Civil service retirement fund.
    - District of Columbia teachers' retirement fund.
      - Total ordinary.
  - Public debt retirements chargeable against ordinary receipts.
  - Sinking fund.
    - Purchases from foreign repayments.
    - Received from foreign governments under debt settlements.
    - Received for estate taxes.
    - Purchases from franchise tax receipts (Federal reserve banks).
  - Forfeitures, gifts, etc.
    - Total.
    - Total expenditures chargeable against ordinary receipts.

A table entitled "Comparative Analysis of Public Debt Receipts and Expenditures" shows the expenditures during the current month, the corresponding month of the preceding year, the current fiscal year to date, and the corresponding period of the preceding fiscal year, classified by the character of obligations issued in return for the receipts and redeemed through the expenditures.

Two other statements relate to federal reserve notes, federal reserve bank notes and national bank notes outstanding, in circulation, etc., and transactions affecting the circulation of these notes.

In addition to the foregoing statements, which are given in each issue of the Daily statement, the issue appearing on the first day of the month contains a statement entitled "Securities held in trust by the Treasurer of the United States for the federal reserve and national banks." The issue appearing on the fifteenth of the month contains a comprehensive statement showing expenditures for each month of the current fiscal year, total expenditures for the period, for the corresponding period of the preceding fiscal year, and for the entire preceding fiscal year, classified as follows:

**Ordinary.**

**General expenditures:**

- Legislative establishment.
- Executive proper.
- State Department.
- Treasury Department.
- War Department.
- Department of Justice.
- Post Office Department.
- Navy Department.
- Interior Department.
- Department of Agriculture.
- Department of Commerce.
- Department of Labor.
- United States Veterans' Bureau.
- Other independent offices and commissions.
- District of Columbia.

Total.

Deduct unclassified items.

Total.

Interest on public debt.

Refunds of receipts.

Customs.

Internal revenue.

Postal deficiency.

Panama Canal.

Operations in Special accounts.

Railroads.

War Finance Corporation.

Shipping Board.

Alien Property funds.

Sugar Equalization Board.

Loans to railroads.

Investment of trust funds.

Government life insurance fund.

Civil service retirement fund.

District of Columbia teachers' retirement fund.

Total ordinary.

**Ordinary—Continued.**

- Public debt retirements chargeable against ordinary receipts:
  - Sinking fund.
  - Purchases from foreign repayments.
  - Received from foreign governments under debt settlements.
  - Received for estate taxes.
  - Purchases from franchise tax receipts (Federal reserve banks).
  - Forfeitures, gifts, etc.
  - Total.
- Total expenditures chargeable against ordinary receipts.

**Public Debt.**

- Public debt retirements chargeable against ordinary receipts (see above).
- Other public debt expenditures.
  - Total public debt.
- Recapitulation, public debt.
  - Certificates of indebtedness.
  - Treasury notes.
  - Treasury bonds.
  - War savings securities.
  - Treasury savings securities.
  - First Liberty bonds.
  - Second Liberty bonds.
  - Third Liberty bonds.
  - Fourth Liberty bonds.
  - Victory notes.
  - Other debt items.
  - National-bank notes and Federal reserve bank notes.
  - Total public debt.

The issue appearing on the last day of the month contains two statements regarding the public debt, the titles of which are: "Preliminary Statement of the Public Debt," and "Comparative Public Debt Statement." The Preliminary Statement lists in detail the obligations of the government outstanding on the date of the issue of the Daily Statement.

The Comparative Statement gives the gross debt, the net balance in the general fund, and the gross debt, less net balance in the general fund on August 31, 1919, when the war debt was at its peak, on a day one year earlier, at the end of the preceding month of the current fiscal year, and on the date of the issue of the Daily statement.

The annual report of the Secretary of the Treasury contains figures on receipts and expenditures, the following data in the report for 1923 being typical of those for earlier years.

Cash expenditures of the government for the fiscal years 1917 to 1923, inclusive, as published in daily Treasury statements, classified according to departments and establishments.

Ordinary receipts and expenditures chargeable against ordinary receipts, monthly, from April 6, 1917, to October 31, 1923, on the basis of daily Treasury statements unrevised.

Condition of the United States Treasury at the close of the fiscal years 1921, 1922, 1923 (revised figures).

Total appropriations for each fiscal year from 1914 to 1924, including estimated permanent and indefinite appropriations and deficiencies for prior years, classified by major units of organization; that is, the legislative, executive offices, independent establishments, individual departments, etc.

Appropriations, expenditures, amounts carried to surplus fund, and unexpended balances, for each fiscal year from 1885 to 1923; only totals are given, there being no itemization by organization units or appropriation heads.

Receipts and expenditures for each fiscal year from 1791 to 1923, classified under the following heads.

Ordinary receipts.

Customs.

Internal revenue.

Income and profits tax.

Miscellaneous.

Sales of public lands.

Surplus postal receipts covered into the Treasury.

Miscellaneous receipts.

Total ordinary receipts.

Expenditures chargeable against ordinary receipts.

Civil and miscellaneous.

War Department, including rivers and harbors and Panama Canal.

Navy Department.

Indians.

Pensions.

Postal deficiencies.

Interest on the public debt.

Total ordinary expenditures.

Public debt retirements chargeable against ordinary receipts.

Total expenditures chargeable against ordinary receipts.

Surplus or deficit of ordinary receipts compared with expenditures chargeable against ordinary receipts.

Public debt expenditures chargeable against public debt receipts and surplus revenue.

Public debt retirements exclusive of retirements chargeable against ordinary receipts.

Redemption of national bank and federal reserve notes.

Total public debt retirements chargeable against public debt receipts and surplus revenue.

Public debt receipts.

Proceeds of bonds and other securities.

Deposits to retire national bank and federal reserve notes.

Total public debt receipts.

Surplus or deficit of public debt receipts compared with public debt expenditures (exclusive of expenditures chargeable against ordinary receipts).

Recapitulation of total receipts and expenditures.

Total ordinary and public debt receipts.

Total ordinary and public debt expenditures.

Surplus or deficit of all receipts.

Postal receipts and expenditures are given for each fiscal year from 1791 to 1923.

For each year from 1890 to 1922 there are shown, for each schedule in the tariff, the value of imports, the duties, and the average *ad valorem* rates. For each year from 1867 to 1922 there are shown the following data for all imports regardless of schedule in the tariff:

Value of imports.	Average <i>ad valorem</i> rate of duty on
Free.	Dutiable.
Dutiable.	Free and dutiable.
Total.	
Per cent free.	
Amount of duties.	
Ordinary.	
Additional.	
Total.	

The business of each customs district for the year is shown under the following heads:

Value of imports.	Payments.
Value of exports.	Excess deposits refunded.
Receipts.	Drawback paid.
Duties.	Expenses.
Tonnage tax.	Cost to collect one dollar.
Head tax.	Vessels cleared.
All other.	Foreign for foreign ports.
Total.	Domestic for foreign ports.
	Domestic for domestic ports.

It should be borne in mind that customs receipts in the reports of the Treasury do not mean duties, but include the tonnage tax and other taxes (see page 342). Likewise the term "Duties collected" in some tables indicates duties assessed while in others it means actual collections; it is not always easy to differentiate between the two. The figures in the Budget, the Combined Statement, and the table in the report of the Secretary showing customs receipts over a period of years in each customs district, show actual gross receipts. In the tables showing values of imported merchandise and

the duties collected thereon, the figures by classes of merchandise and the total duties are computed from the original entries and take no account of reclassification or reappraisal (see page 342 for discussion of this feature of customs administration).

The total of appropriations carried in each general act for each fiscal year beginning with 1873 is given in the volume entitled "Digest of Appropriations . . ." issued annually by the Treasury Department. The greater part of this volume is devoted to a compilation showing the exact wording and amount of each appropriation, so that it is a guide to specific appropriations for a given year, but occasionally a supplemental or a deficiency appropriation is passed at a subsequent session of Congress after the volume for the year has been issued. For instance, the Department of Agriculture appropriation act of May 11, 1922, carried an appropriation of \$547,840 for the fiscal year 1923 for suppressing spread of pink boll worm of cotton, this item being reported in the Digest of Appropriations for 1923. At the next session of Congress, the deficiency act of January 22, 1923, appropriated the additional sum of \$75,000 for the same purpose and the same fiscal year, this additional appropriation being reported in the Digest for 1924. Thus, it is necessary to look in two volumes in order to determine definitely the amount appropriated for a specific purpose during any one year. During recent years there have been fewer deficiency or supplemental appropriations, and not so many items appear in two reports.

Receipts and disbursements by main heads for calendar years from 1867 to 1909 are given in the report of the National Monetary Commission entitled "Statistics of the United States, 1857 to 1909." This is the only general table which gives this information by calendar years, all the Treasury reports giving figures by fiscal years.

This publication also contains a series of tables showing for each month from July, 1864 to 1909, the net balance in the Treasury, the amount of public money in depositary banks at the end of the month, the number of depositary banks, and the maximum amount in depositaries. It also gives figures for each month from 1878 to 1909 on the amount of gold in the Treasury at the end of each month and the maximum and minimum holdings during each month.

A report compiled by the Director of the Census entitled "Expenditures of Government, 1791-1907, General Revenue, Postal Revenue, Per Capita Expenditure," and published as Senate Document 528, 60th Congress, 1st Session, shows for each year from 1791 to 1907, the total expenditure of the government under each of the following heads:

- Paid from general revenues.
  - War Department.
  - Navy Department.
  - Pensions.
  - Indian Service.
  - Interest on debt.
  - Post Office.
  - Miscellaneous.
  - Total paid from general revenues.
- Paid from postal revenues.
- Total expenditures of National Government.
- Total Expenditures for Post Office.
- National Surplus.

Totals for each four-year period and per capita expenditures under each head for the same period are also given.

The following publications contain information regarding appropriations and expenditures for the particular purposes and periods indicated by the titles:

- Statement of appropriations and expenditures of the Department of Agriculture, 1839-77.
- Statement of appropriations and expenditures of the Navy Department from March 4, 1789, to June 30, 1876: Sen. Ex. Doc. No. 3, 45th Cong., 1st sess.
- Statement of appropriations and expenditures from the National Treasury for public and private purposes in the District of Columbia from July 16, 1790, to June 30, 1876: Sen. Ex. Doc. No. 84, 45th Cong., 2d sess.
- Statement of appropriations and expenditures for public buildings, rivers and harbors, forts, arsenals, armories and other public works [lighthouses, canals, and roads] from March 4, 1789, to June 30, 1882: Sen. Ex. Doc. 196, 47th Cong., 1st sess.

Detailed statistics regarding receipts from internal taxes are given in the annual report of the Commissioner of Internal Revenue, which has been published annually since 1863. Figures are given by states, by collection districts, and by specific sources of taxation.

It should be noted that the figures contained in this report will not agree with those given in the Budget or the accounting reports of the Treasury Department, since they are based on collections as reported by the collectors of internal revenue and not on moneys covered into the Treasury. Though the figures given in the report of the Commissioner of Internal Revenue cannot be used for details for the general classes given in the financial statements, they do show in an approximately accurate manner the distribution of the total of internal revenues among the detailed items of revenue included under that head. The figures in the report of the Commissioner of Internal Revenue are gross figures, and take no account of refunds of taxes of various kinds.

The report for 1900 gives figures by specific sources for a series of years, but there is a table in the annual report of the Secretary of the Treasury which gives figures for each year beginning with 1863 for the following general sources—under the following heads: <sup>4</sup>

Spirits.	Transportation of oil by pipe lines.
Fermented liquors.	Telegraph and telephones.
Tobacco.	Insurance.
Income and profits.	Beverages (non-alcoholic), soft drinks, etc.
Legacies, successions, and inheritances.	Oleomargarine.
Estates.	Opium and narcotics.
Manufactures and products.	Corporation capital stock.
Banks and bankers.	Occupational (special taxes).
Gross receipts.	Admissions.
Sales (consumers or dealers).	Dues.
Stamps.	Receipts under national prohibition act.
Playing cards.	Penalties, etc.
Freight transportation.	Miscellaneous.
Express transportation.	Total.
Passenger transportation.	

Two publications of the Bureau of Foreign and Domestic Commerce, the "Monthly Summary of Foreign Commerce" and the annual volume entitled "Foreign Commerce and Navigation," give figures on duties. The character of these figures is discussed on page 342.

<sup>4</sup> The totals do not conform to the total given in the accounting statement, as they represent reports of collections and not money covered into the Treasury.



Monthly statistics on government finances were published in the Monthly Summary of Commerce and Finance and the Monthly Summary of Foreign Commerce from about 1893 to 1918; but after 1913 these statistics were much less extensive. These reports afford a convenient source for monthly data during the years mentioned.

**Public Debt** It has been pointed out that the issue of the Daily Statement for the last day of each month contains a preliminary statement of the public debt as of that date. For the last day of each month the Treasury Department issues a sheet entitled "Statement of the Public Debt of the United States," which gives a detailed list of obligations of the United States, showing for each obligation the amount issued, the amount retired, and the date of the authorizing act, rate of interest, date of issue, date redeemable, and date on which interest is due and the amount outstanding. Included in this statement are figures on warrants and checks outstanding and balance in the general fund. The statement thus shows the total interest bearing debt, total debt on which interest has ceased, total debt bearing no interest, total gross debt, and total net debt. No attempt is made to offset against the gross debt the securities representing obligations due to the United States on account of loans to foreign governments, loans to railroad companies, investments in subsidiary corporations, etc. A list of these assets, with their book value, is given in a separate table of the statement.

The annual report of the Secretary of the Treasury on the state of the finances contains a statement showing the outstanding debt of each issue on June 30. It also contains more detailed statements and accounts of transactions during the year. Recent reports contain much detailed information regarding the issues of Liberty bonds, such as the amount in each denomination, conversions, allotments to states, etc. Other tables include the following: Statement of the outstanding principal of each issue, with data on length of loan, rate of interest, price at which sold, and amount issued and outstanding;<sup>5</sup> statement of the total outstanding principal of

<sup>5</sup>The annual report for 1876 contains similar detailed information regarding the earlier debt.

the public debt on July 1 of each year beginning with 1856;<sup>6</sup> and analysis of the principal of the debt according to rate of interest for each year beginning with 1856. The annual report of the Secretary of the Treasury is the primary source of information for all statistics relating to the public debt of the United States. Other detailed statistics on the debt are given in the report of the Treasurer of the United States and the Register of the Treasury.

Statistics of the total amount of the public debt on July 1 of every tenth year from 1800 to 1850 and for every year from 1850 to 1909 are given in the report of the National Monetary Commission entitled "Statistics of the United States, 1867 to 1909." This publication also contains tables showing United States bonds outstanding and amount deposited to secure national bank note circulation at the end of each fiscal year from 1879 to 1909, classified by rate of interest.

Statistics on the debt on June 30 of each year from 1894 to 1913 are shown in the report entitled "Wealth, Debt and Taxation," issued by the Bureau of the Census in 1915. This statement shows the amount of each issue of bonds or other evidence of indebtedness. Figures on the total debt and the interest bearing debt are given in the Statistical Abstract for every tenth year from 1800 to 1860 and for every year thereafter.

Volume VII of the Reports of the Tenth Census (1880), entitled "Valuation, Taxation, and Public Indebtedness," contains statistics on the national debt outstanding as well as a brief history of each issue. A portion of this report was reprinted by the Treasury Department under the title "National Loans of the United States from July 4, 1776, to June 30, 1880," by Rafael A. Bayley. The second part of this report shows for each loan the amount issued and the amount redeemed during each quarter of every year. A later publication issued by the Register of the Treasury, containing the same information in somewhat different form is entitled "Statement of Receipts and Expenditures of the Government, July 1, 1855, to June 30, 1885, and Statement of Principal of the Public Debt from 1791 to 1836 by Issues and Redemptions and from January 1, 1836, to June 30, 1885, by Warrants." The differences

<sup>6</sup> A similar statement for each year since 1896 is given in the Statistical Abstract.

between the statistical portions of the reports of 1880 and 1885 are largely in arrangement. In the report for 1880 the statistics are arranged primarily by loans, all data regarding each loan being in one table; in the report for 1885 the arrangement is primarily by years, the figures for all debt issues outstanding being shown under each year.

A brief history of each loan and statistics on appropriations for and payments of interest on each series are given in the volume entitled "History of Currency of Country and Loans of United States from Earliest Period to June 30, 1900," by W. F. DeKnight.<sup>7</sup> In this report the figures for the period from 1789 to 1834 are lumped in one item, but separate figures are given for 1835 and each year thereafter.

<sup>7</sup> An earlier edition contained data only to June 30, 1896.

## CHAPTER XXX

### PUBLIC FINANCES OTHER THAN NATIONAL

**States.** Statistics on the finances of the states were compiled at each decennial census from 1850 to 1890, the volumes in which this information was published being as follows:

**Seventh Census: 1850.**

Statistical view of the United States—Compendium of the Seventh Census.

Abstract of the Seventh Census.

**Eighth Census: 1860.**

Statistics of the United States in 1860.

**Ninth Census: 1870.**

Statistics of the wealth and industry of the United States.

Compendium of the Ninth Census.

Statistical atlas of the United States.

**Tenth Census: 1880.**

Volume VII. Valuation, taxation, and public indebtedness.

Compendium of the Tenth Census.

**Eleventh Census: 1890.**

Wealth, debt, and taxation, Parts I and II.

Compendium of the Eleventh Census, Parts II and III.

Abstract of the Eleventh Census.

Statistical atlas of the United States.

**Intercensal publications.**

Wealth, debt, and taxation. [Issued in 1907; contains figures for 1902 and earlier years.]

Wealth, debt, and taxation, 1913.

Financial statistics of states [separate volumes for 1915 and later years].

Wealth, public debt, and taxation, 1922—Public debt.

Wealth, public debt, and taxation, 1922—Taxes collected.

Wealth, public debt, and taxation, 1922—Assessed valuation and tax levies.

The data in the report for 1850 consisted merely of summary figures on each state showing the assessed value of real and personal property, the revenues, expenditures, and debt. In 1860 the value of real and personal property was shown by counties and the proceeds from taxation, by states. The statistics collected in 1870 included figures on the valuation of real and personal property, taxes, and public debt, the data being classified by states, counties,

and minor civil divisions. The reports of the decennial census of 1880 and 1890 and the reports on wealth, debt and taxation for 1902 and 1912 give figures on assessed valuation, receipts and expenditures by classes, and analysis of the outstanding debt, showing purposes for which it was incurred and the amount at various rates of interest. These reports also give information for counties and other minor civil divisions as well as historical matter relating to the debts of the states and constitutional and legislative provisions governing the incurring of debt and the levying of taxes.

The report for 1922 was issued in parts under the general title "Wealth, Public Debt, and Taxation: 1922," the three parts containing statistics on the finances of states having the subtitles "Public Debt," "Taxes Collected," and "Assessed Valuation and Tax Levies." These reports are not in as great detail as the earlier ones. For each state are given the totals for the state as a political organization and state totals for various subdivisions such as counties, etc. The laws are in another part with the same main title and the subtitle "Digest of State Laws Relating to Taxation and Revenue."

The publication of the Bureau of the Census entitled "Financial Statistics of States" issued for each year beginning with 1915, except for 1920, shows in comparable form the financial transactions of each of the forty-eight states.

The information given in the report for 1922 is indicated by the following summary:

Year of admission, date of middle of fiscal year, area, and estimated population.

Summary of revenue and non-revenue receipts, governmental cost and non-governmental cost payments, cash balances at beginning and end of year.

Revenue receipts:

Taxes.

Special assessments and special charges for outlays.

Fines, forfeits and escheats.

Subventions and grants by the U. S. Government.

Donations and pension assessments.

Earnings of general departments.

Highway privileges.

Rent of investment properties and interest.

Earnings of public service enterprises.

Nonrevenue receipts; subdivided into issue of debt obligations; other civil divisions; private trusts; sale of investments; sale of supplies; refunds; offsets to outlays; general transfer.

**Governmental cost payments :**

Expenses of general departments, subdivided into general government; protection to persons and property; development and conservation of national resources; health and sanitation; highways; charities, hospitals, and corrections; schools; libraries; recreation and miscellaneous.

**Interest.**

Expenses of public service enterprises.

Outlays for permanent properties subdivided into public service enterprises and the items given above for general departments.

**Nongovernmental cost payments** subdivided into cancellation of debt obligations; other civil divisions; private trusts; purchase of investment; purchase of supplies; refunds; outlays offset by receipts; general transfers.

**Value of assets at close of year**, separate figures for cash and investment.

Assets in sinking funds.

Assets in public trust funds.

Assets in investment funds and miscellaneous investments.

Assets in private trust funds.

Cash in general administrative funds.

**Gross and net debt at end of year.**

**Assessed valuation of real and personal property**, ratio of assessment to true value, per capita assessment, rate of levy, amount of levy.

The text includes a detailed description of the various items included in each classification, and should be read in order to aid in the interpretation of the tables. In the reports for earlier years there are some additional tables and some of the items listed above are further subdivided.

Statistics on receipts of states for one year are given in the reports of the Bureau of Corporations on "Taxation of Corporations." The figures are for the latest year available, which varies, as work was done over a series of years. The reports and the years in which they were issued are as follows :

Part I. New England, 1909.

Part II. Middle Atlantic States, 1910.

Part III. Eastern Central States, 1911.

Part IV. Western Central States, 1912.

Part V. Mountain and Pacific States, 1914.

Part VI. Southern and Southwestern States, 1915.

**Finances of Cities.** The reports of the decennial censuses of 1880 and 1890 contain statistics for municipalities on receipts and expenditures by various classes, assessed valuation, levies of *ad valorem* taxes, indebtedness, value of public properties, and assets of investment and public trust funds. The decennial and special reports are the only ones that contain statistics for the smaller

cities. The scope of the inquiries varied considerably, being in general more detailed in the later years. The titles of these reports are as follows:

Tenth Census: 1880.

Volume VII. Valuation, taxation and public indebtedness.  
Compendium of the Tenth Census—Part II.

Eleventh Census: 1890.

Wealth, debt and taxation.  
Compendium of the Eleventh Census, Parts II and III.  
Abstract of the Eleventh Census.

The reports entitled "Wealth, Debt and Taxation," published in 1907 and 1915, also contain chapters on the taxation and revenue systems of municipalities in 1902 and 1912.

In 1898 the Department of Labor, then an independent establishment, was authorized by Congress to publish annually statistics of cities having a population of 30,000 or over. These reports were printed in the Bulletin of the Department of Labor, the first one appearing in the issue for September, 1899; the statistics were for a fiscal year ending in 1898 and 1899 or for the calendar year 1898. The later reports appeared in the Bulletin for September, 1900, 1901, and 1902.

When the Department of Commerce and Labor was organized in 1902, the work of collecting statistics of cities was transferred to the Bureau of the Census, which has issued a report for each year beginning with 1902, with the exception of 1914 and 1920.

The statistics for 1902 and 1903 are given in Bulletin 20, which is entitled "Statistics of Cities Having a Population of over 25,000: 1902 and 1903." For 1903 there was also published Bulletin 45, entitled "Statistics of cities having a population of from 8000 to 25,000." For 1904 to 1908 these reports were published under the title "Statistics of Cities Having a Population of over 30,000." The report for 1904 was published as Bulletin 50. The report for 1907 was published in two forms, an abstract and a final report, the abstract appearing as Bulletin 105. The reports of the Department of Labor and those of the Census for 1902, 1903, 1905, and 1907 include both general statistics relating to the physical property of cities and financial statistics. After 1908, the financial information was published under the title "Financial Statistics of Cities Having a Population of over 30,000," the physical statistics being published under the title "General Statistics of Cities."

The financial statistics for 1912 were published in two forms, a preliminary and final report, both having the same title, the preliminary report being Bulletin 118, while the final report contained no serial number. The financial statistics for 1913 were published as Bulletin 126. There was also a preliminary and a final report in 1915, the preliminary report being issued as Bulletin 132 under the title "Abstract of Financial Statistics of Cities Having a Population of over 30,000." There was no report for 1920.

In the reports giving financial statistics the transactions of each city have been analyzed in order to show for the entire city and for its important departments, the net revenue collected, the net cost of conducting municipal business, and the indebtedness incurred for meeting this cost. The tables in the report for 1922 include the following main classes of data :

Year of incorporation.

Land area.

Estimated population.

Revenue receipts.

From taxes, divided into general property tax ; special taxes ; poll taxes ; business taxes ; nonbusiness license taxes.

From special assessments and special charges for outlays.

From subventions and grants.

From donations, gifts and pension assessments.

From earnings of the general departments of the municipality.

From highway privileges.

From rent of investment properties and interest.

From earnings of public service enterprises.

Nonrevenue receipts subdivided into issue of debt obligations ; other civil divisions ; private trusts ; sale of investments ; sale of supplies ; refunds ; offsets to outlays ; general transfers.

Governmental cost payments.

For expenses of the general departments subdivided into general government ; protection to person and property ; health and sanitation ; highways ; charities, hospitals, and corrections ; schools ; libraries ; recreation ; and miscellaneous.

For expenses of public service enterprises.

Outlays, subdivided as for expenses of general departments.

Nongovernmental cost payments subdivided into cancellation of debt obligations ; other civil divisions ; private trusts ; purchase of investments ; purchase of supplies ; refunds ; outlays offset by receipts ; general transfer.

Specified assets at close of year ; separate figures for cash and investments for the following :

Sinking funds.

Public trust funds.

Investment funds and miscellaneous investments.

Private trust funds.



## PUBLIC FINANCES OTHER THAN NATIONAL 481

### Debt.

Classified by government unit—city corporation; school district; other governmental units of city.

Classified by character of obligation—funded or fixed; floating; special assessment bonds and certificates; current, divided into revenue bonds and notes, warrants, and obligations on trust account.

Assessed valuation of real and personal property, rate of levy, and total taxes levied.

In this series of reports are brought together the essential facts regarding the financial operations of American cities. The general tables at the end of the reports give a broad classification of the data, but in the text are many tables giving more detailed information than is shown in the general tables. Many of the tables give per capita as well as basic figures. When comparing the statistics of different cities the student must exercise caution in order to determine whether the data are comparable, because for some topics, such as estimated value of property, different methods are used in various cities. The text describing the general tables gives information regarding the comparability of the figures and should always be consulted before making use of the statistics.

Statistics for 1922 for all incorporated places are given in the reports of the Bureau of the Census entitled "Wealth, Public Debt, and Taxation: 1922—Taxes Collected" and "Wealth, Public Debt, and Taxation: 1922—Public Debt." In these reports separate figures are given for each incorporated place having a population over 2500; all places in each state with a population of less than 2500 being shown in one item.

The Bureau of the Census has also issued a special report entitled "Comparative Financial Statistics of Cities under Council and Commission Government, 1913 and 1915." This publication contains, for the fiscal years 1913 and 1915, per capita financial statistics for eight cities under mayor and council government in each year, eight cities under commission form of government in each year, and eight cities under mayor and council form in 1913 and commission form in 1915. The cities for which figures were given are as follows:

#### Mayor and council form—1913 and 1915.

Indianapolis, Ind.  
Hartford, Conn.  
Youngstown, Ohio.  
Troy, N. Y.

Peoria, Ill.  
Little Rock, Ark.  
Davenport, Iowa.  
Charlotte, N. C.

## Commission form in 1913 and 1915.

Birmingham, Ala.  
 Lowell, Mass.  
 Salt Lake City, Utah.  
 Des Moines, Iowa.

Pueblo, Colo.  
 Topeka, Kans.  
 Montgomery, Ala.  
 Austin, Texas.

## Mayor and council form in 1913 and commission form in 1915.

Dayton, Ohio.  
 Reading, Pa.  
 Wilkesbarre, Pa.  
 Allentown, Pa.

Covington, Ky.  
 Saginaw, Mich.  
 Springfield, Ohio.  
 Joplin, Mo.

For 1917 the Bureau of the Census issued a report entitled "Specified Sources of Municipal Revenue, including Special Assessments, Business Taxes other than on the Liquor Traffic, General License Taxes, and License Taxes on Dogs, in Cities having a Population of over 30,000: 1917." This report was prepared because the loss in revenue resulting from prohibition of the liquor traffic had resulted in a marked decrease in the receipts of many municipalities, and many cities were looking for other sources of funds in order to offset this loss. The receipts from taxes on the liquor traffic and the receipts from other business license taxes are given for each city for every other year from 1903 to 1917. For 1917 there are shown, for each city, the total revenue receipts and the receipts from special assessments, business taxes other than on the liquor traffic, general licenses, and dog licenses. There is shown, also for 1917, the percentage distribution of revenue receipts between general property taxes, poll taxes, special business and non-business license taxes, special assessments, fines, subventions, earnings of city departments, highway privileges, and earnings of public service enterprises. For each city there is a complete list showing the rate of every kind of business and license tax other than on the liquor traffic force in 1917.

In order to promote uniformity in municipal accounting the Bureau of the Census has issued several publications dealing with accounting methods. In 1903 and 1906, conferences with municipal officers were held in Washington and the proceedings were published under the title "Uniform Municipal Accounting," one volume being devoted to each conference. Other publications are: "Suggested Standard Forms for Uniform Reports of the Financial Transactions and Physical Statistics of Parks: 1911"; "Uniform Accounts for Systems of Water Supply, 1911," arranged by repre-

sentatives of the Bureau of the Census, American Waterworks Association, New England Waterworks Association, American Association of Public Accountants, Ohio Bureau of Uniform Accounting and others; "Standard Form for Reporting the Financial Statistics of Public Schools, 1911"; and "Uniform Accounts as a Basis for Standard Forms for Reporting Financial and other Statistics of Health Departments, 1912."

**Finances of Minor Civil Divisions.** The assessed valuation, the average rate of taxation, the receipts from taxes, and the gross and net debt of counties in 1922 are given in the three reports of the Bureau of the Census having the main title "Wealth, Public Debt, and Taxation, 1922," and the subtitles "Assessed Valuation and Tax Levies," "Taxes Collected," and "Public Debt." Similar data were published in the general reports for 1902 and 1912 entitled "Wealth, Debt, and Taxation," and in the reports of the censuses between 1850 and 1890 listed on page 476.

In the report entitled "Wealth, Public Debt, and Taxation: 1922—Public Debt" the figures on debt for each county are subdivided into two groups: (1) The debt of the county as a political unit; and (2) the total debt of all other civil divisions within the county. The civil divisions within the county include such units as cities, villages, towns, school districts, drainage districts, etc. These figures and those for state and national indebtedness give for the first time a complete picture of all public indebtedness in the United States.

## CHAPTER XXXI

### GENERAL STATISTICS OF CITIES

In this chapter are discussed statistics relating to physical property of cities and its operation and all other data relating to corporate activities of cities except finances, discussed in Chapter XXX, and municipal electric light and power plants, treated in Chapter XXVII. The city is used as a geographic unit in connection with many specific classes of statistics, among which may be mentioned the following:

- Population, Chapter II.
- Occupations, Chapter VII.
- Births, Chapter VIII.
- Deaths, Chapter IX.
- Education, Chapter XI.
- Wages and hours of labor, Chapter XII.
- Women and children, Chapter XIII.
- Production of manufactured articles, Chapter XVII.
- Prices, Chapter XXVII.

The first attempt to collect general statistics of cities was made at the Census of 1880, the results being published as Volumes XVIII and XIX of the Tenth Census, entitled "Social Statistics of Cities, Part I, New England and the Middle States; Part II, Southern and Western States." These reports contain monographs on 221 leading cities, giving general information regarding the operations carried on by these municipalities. They include statistics on manufactures taken from the reports of the Census of Manufactures and on commerce from the reports of the Bureau of Statistics. The statistics for each city are given separately, and no attempt was made to tabulate them so that the figures might be readily compared. The reports are of more interest to the historian than to the economist or statistician, as they contain interesting notes on the history of each place, plans showing the street system at various dates, and other information of a general nature.

At the Census of 1890 the general statistics of cities were published in the volume entitled "Social Statistics of Cities." This report contained comprehensive statistics on streets, street lighting, waterworks, sewers, parks, cemeteries, public buildings, amusements, saloons, public vehicles, licensed dogs, fire departments, police departments, and railroad traffic.

In 1898, the Department of Labor, then an independent establishment, was authorized to publish annual statistics of cities having a population of 30,000 or over. Reports by that organization were published in Bulletins 24, 30, 36 and 42 of the Department of Labor for September 1899, 1900, 1901, and 1902.

In 1902 this work was transferred to the Bureau of the Census, and reports were issued under the following titles:

- Statistics of cities having a population of over 25,000: 1902 and 1903. Bulletin 20.
- Statistics of cities having a population of 8000 to 25,000: 1903. Bulletin 45.
- Statistics of cities having a population of over 30,000: 1905.
- Statistics of cities having a population of over 30,000: 1907.
- Abstract of annual report statistics of cities having a population of over 30,000: 1907. Bulletin 105.
- General statistics of cities: 1909.
- General statistics of cities: 1915.
- General statistics of cities: 1916.
- Statistics of fire departments of cities having a population of over 30,000: 1917.
- Municipal markets in cities having a population of over 30,000: 1918.

The reports of the Department of Labor and those of the Census Office for 1902, 1903, 1905, and 1907 include both general statistics relating to the physical property of cities and financial statistics.

These reports are not uniform as regards subject-matter treated, statistics on various topics being given in the several reports for the years indicated below:

- Almshouses.*—Municipal almshouses and municipal hospitals (1902-1903, 1905 and 1907).
- Baths.*—Bathhouses and bathing beaches (1905 and 1907).
- Building.*—Building permits issued (1902-1903, 1905 and 1907).
- Cleaning.*—Street cleaning (1902-1903, 1905 and 1907).
- Electric plants.*—Municipal electric-light plants (1902-1903 and 1905). Municipal electric-light and power plants (1907).
- Fire departments.*—Firemen, fire equipment, fire alarms, fires and property loss from fires (1902-1903, 1905 and 1907).
- Gas.*—Municipal gas works (1902-1903, 1905, and 1907).

- Highways.*—Area and length of streets, length of street railways (1902-1903, 1905, and 1907); care of streets (1902-1903, 1905, and 1907).
- Juvenile courts* and disposition of juvenile offenders (1905 and 1907).
- Libraries.*—Municipal public libraries (1902, 1905, and 1907); school and institutional libraries (1907).
- Lighting.*—Street lights (1902-1903, 1905, and 1907); average number of specified kinds of street lights to 100 miles of streets (1907).
- Liquor traffic.*—Retail liquor saloons and license fees (1902-1903, 1905, and 1907).
- Parks.*—Area of public parks (1902-1903, 1905, and 1907); zoological parks and collections (1905 and 1907).
- Playgrounds.*—Playgrounds (1905 and 1907).
- Police departments.*—Patrolmen and officers of the police department (1902-1903, 1905, and 1907); other employees of the police department (1902-1903, 1905, and 1907); system of patrol relief (1905 and 1907); number of employees of police department (1907); equipment of police department (1905 and 1907); number of police in proportion to population, land area, and length of improved streets, together with pay of officers and patrolmen (1907); arrests classified by offense, together with the per cent distribution of arrests by offenses (1907); arrests of children classified by offense (1905 and 1907); arrests for specified offenses per 10,000 inhabitants and per policemen (1907); arrests of females, classified by offense (1907).
- Public health.*—Food and sanitary inspection (1902-1903, 1905, and 1907); milk and dairy inspection (1907).
- Refuse disposal.*—Disposal of ashes, garbage, and other refuse (1902-1903, 1905, and 1907).
- Schools.*—Public school buildings, school rooms, and school teachers (1902-1903 and 1907); pupils registered and average attendance in public schools (1902-1903).<sup>1</sup>
- Sewage disposal.*—Miles of sewers (1902-1903, 1905, and 1907).
- Sprinkling.*—Street sprinkling (1905 and 1907).
- Water supply.*—Waterworks (1902-1903).

For 1909, 1915, and 1916, statistics of this character have been published in the reports entitled "General Statistics of Cities," which give data for all cities having a population of over 30,000. While the main titles of these reports are identical, they do not present statistics on the same topics, and therefore, it is impossible to make comparisons between the figures of various years. As they are the only government reports on this subject it seems worth while to indicate separately the contents of each volume.

The report for 1909 is devoted to sewers, refuse disposal, street cleaning, dust prevention, highways, and salaries and wages, and contains data on the following subjects:

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<sup>1</sup> Statistics on school attendance, buildings, rooms, and employees are given also in the reports on financial statistics of cities for 1910, 1911, and 1912.

**Sewers and sewer systems:** Mileage (classified by character and by construction material) manholes, replacement cost, expenses, extensions during year, number of employees, house connections, flushing and cleaning, discharge, pumping, purification.

**Refuse disposal:** Quantity collected (by classes), employees, expenses.

**Street cleaning:** Area cleaned, quantity of sweepings removed, expenses, frequency, employees, snow and ice removal.

**Dust prevention:** Employees, equipment used, length and area sprinkled, frequency, expenses, use of dust preventatives other than water (kind, area, cost).

**Highways:**

**Streets:** Mileage area of various classes of pavement, area laid by contractors and by city employees, area of various kinds of pavements laid prior to 1900 and each year, 1900 to 1909.

**Alleys:** Mileage of various classes of pavement.

**Sidewalks:** Mileage of various kinds of surface.

**Bridges:** Number, length, area, character of construction, cost of construction.

**Street lighting:** Expenses, number and unit of cost of various kinds of lights, schedule of hours.

The report for 1915 was devoted to governmental organization, police departments, liquor traffic, and municipally owned water supply systems. The main topics for which figures are given are as follows:

**Governmental organization:** City officials (number, term, salary).

**Police departments:** Number of employees (by grades, and character of duty) organization of patrol system, equipment, salaries, requirements for appointment, retirement and pension systems, leave-privileges, civil service status, method of appointing Chief of Police, number of precincts, and rank of officer in command, number of station houses.

**Liquor traffic:** Limitations on number and location of saloons, official issuing licenses, hours of opening and closing, number of licenses of various classes and rate.

**Municipally owned water supply systems:** Year built or purchased, estimated value, source of supply, number and capacity of reservoirs, and standpipes; number, depth and diameter of wells, number and capacity of various kinds of prime movers and pumps; year of installation, number and capacity of various types of purification plants; miles of mains; number of fire hydrants and water meters; water supplied; per capita consumption; water-rates.

The report for 1916 was devoted to parks, playgrounds, and recreation facilities, and included statistics on the following topics:

**Population, area, year of incorporation, date of middle of fiscal year.**

**Parks and public grounds:** Method of control, number, area, length of driveways and connecting parkways, method and cost of lighting, number and salary of park policemen, revenue receipts for recreation by classes of governmental cost payments for recreation by classes, assets of special park funds, value of park properties.

**Playgrounds and athletic fields:** Number, area, number and salary of workers, revenue receipts, governmental cost payments, tennis courts, baseball diamonds, football gridirons, golf courses, and polo fields.

**Zoological parks:** Number of mammals, birds and reptiles, revenue receipts, governmental cost payments, value of buildings and collections.

**Swimming pools and bathing beaches:** Number, season, attendance, revenue receipts, governmental cost payments.

**Music, entertainment and recreation:** Public concerts, dance halls, revenue receipts, governmental cost payments.

**Museums and art galleries maintained by the city:** Attendance, revenue receipts, governmental cost payments, assets of special funds, value of land and buildings and collections.

In 1917 the general statistics on cities were limited to fire departments, and the report was issued under the title "Statistics of Fire Departments of Cities having a Population of over 30,000: 1917." The principal statistics are the following:

**Administrative control, district organization, number of stations, paid and volunteer companies.**

**Employees, number grades, salaries, requirements for appointment, leave privileges, civil service status, establishment of two-platoon system, retirement system.**

**Equipment; horse drawn and motor propelled apparatus, hose, other equipment of various kinds.**

**Fire alarm boxes and number of alarms.**

**Property loss from fire.**

**Expenses, value of lands, buildings and equipment, receipts of trust funds for pensions, payments for pensions.**

The investigation for 1918 was entitled, "Municipal Markets in Cities Having a Population of over 30,000: 1918." The topics on which figures are given are the following:

**Market administration.**

**Number of various types, number of employees, area, number of stands, size, rental, market days and hours, employees and salaries.**

**Receipts, payments, value of property, debt on account of markets.**

**License rates for hucksters, peddlers, or venders of farm products.**



## CHAPTER XXXII

### MONEY AND BANKING

**Treasury Department.** The annual report of the Secretary of the Treasury shows the amount of coin and currency in the Treasury and in circulation, the circulation per capita, and the value of the various denominations of paper currency, issued, outstanding and redeemed.

The annual reports of the Secretary of the Treasury for many years prior to 1864 contain summary statistics on state banks, From 1833 to 1863 the Treasury department made reports on state banks in compliance with a resolution of the House of Representatives of July 10, 1832. The Treasury had no authority to require the state banks to report or to examine their books, and the statements are accordingly unverified. All these reports were published as documents of Congress as follows:

- 1833—House Doc. 105, 22d Congress, 2d session.
- 1834—House Doc. 190, 23d Congress, 2d session.
- 1835—House Doc. 42, 24th Congress, 1st session.
- 1836—House Doc. 65, 24th Congress, 2d session.
- 1837—Senate Doc. 420, 25th Congress, 2d session.<sup>1</sup>
- 1837—Senate Doc. 471, 25th Congress, 2d session.<sup>2</sup>
- 1837—House Doc. 79, 25th Congress, 2d session.
- 1838—House Doc. 227, 25th Congress, 3d session.
- 1839—House Doc. 172, 26th Congress, 1st session.
- 1840—House Doc. 111, 26th Congress, 2d session.
- 1841 to 1846—House Doc. 226, 29th Congress, 1st session.
- 1846—House Doc. 120, 29th Congress, 2d session.
- 1847 and 1848—House Ex. Doc. 77, 30th Congress, 1st session.
- 1848 and 1849—House Ex. Doc. 68, 31st Congress, 1st session.
- 1849 and 1850—House Ex. Doc. 122, 32d Congress, 1st session.
- 1852—House Ex. Doc. 66, 32d Congress, 2d session.
- 1853—House Ex. Doc. 102, 33d Congress, 1st session.
- 1854—House Ex. Doc. 82, 33d Congress, 2d session.
- 1855—House Ex. Doc. 102, 34th Congress, 1st session.
- 1856—House Ex. Doc. 87, 34th Congress, 3d session.
- 1857—House Ex. Doc. 107, 35th Congress, 1st session.

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<sup>1</sup> Condensed report.

<sup>2</sup> Complete report.

- 1858—House Ex. Doc. 112, 35th Congress, 2d session.  
 1859—House Ex. Doc. 49, 36th Congress, 1st session.  
 1860—House Ex. Doc. 77, 36th Congress, 2d session.  
 1862—House Ex. Doc. 25, 37th Congress, 3d session.  
 1863— { Senate Ex. Doc. 50, 38th Congress, 1st session.  
       { House Ex. Doc. 20, 28th Congress, 1st session.

Consolidated statements showing assets and liabilities of all banks in each state from 1830 to 1863 was published in Senate Executive Document 38, 52d Congress, 2d session.

The Daily Statement of the United States Treasury contains information regarding federal reserve notes, federal reserve bank notes, and national bank notes. The data given are as follows :

**Daily statements.**

Total amount outstanding.

Amount in Treasury in process of redemption.

Amount in circulation.

Amount in Treasury, cash.

Amount in circulation, outside the Treasury.

Cumulative statements for current month, current fiscal year, and corresponding periods of previous year.

Issued.

Received for redemption.

Retired.

The annual report of the Director of the Mint gives statistics of coinage. It contains also statistics of foreign countries, including coinage, production of gold and silver, bank note circulation, metallic reserves, statements of central banks of issue, and monetary stocks. In addition to the purely statistical matter, the report also contains abstracts of principal laws of foreign countries relating to currency and coinage and notes on topics relating to the production and use of gold and silver.

The report of the Director of the Mint has been published each year beginning with 1819, but the early reports deal solely with mint operations, and take no account of trade in precious metals or coinage in foreign countries. The statistics in the annual reports and other publications of the Bureau of the Mint dealing with the production of gold and silver and other precious metals are discussed on page 240.

The annual report of the Comptroller of the Currency, which has been issued continuously beginning with 1863, is the primary source for statistics on banking, paper currency, and monetary conditions for the years 1863 to 1914. Since 1914 the annual re-

ports and the monthly bulletins of the Federal Reserve Board have contained general statistics on banking which supplement those in the reports of the Comptroller.

The authority of the Comptroller of the Currency extends only to national banks and to trust companies, banks, and building associations in the District of Columbia. The statistics relating to the institutions mentioned are based on official reports required by law, and may be considered primary material. The report of the Comptroller also contains, however, summary statistics on trust companies and savings, state, and private banks received from the state banking departments, on building associations received from the United States League of Local Building and Loan Associations, and on the Postal Savings System, Federal Farm Loan System, and the Federal Reserve System, taken from the official reports of these organizations. While the statistics that are not based on reports required by law are, in a sense, secondary material, the reports of the Comptroller of the Currency form an authoritative source of information; in fact the summaries for all classes of banking institutions are not compiled by any other office.

The reports of the Comptroller of the Currency cover every phase of the operation of national banks, and likewise contain much material on other classes of banks. Some of the tables are for the current year only, but many give data for every year since the system was organized. The more important tables are listed below:

Authorized capital stock of all national banks, first of each month for a series of years.

Profit on national bank note circulation monthly, during current year.

National bank notes issued, redeemed and outstanding, by denominations, annually beginning with 1864.

Federal reserve notes issued and outstanding.

Coin and paper circulation, annually beginning with 1860.

Insolvent national banks, figures for individual banks since organization of system.

Number of banks, total capital, circulation, and assets, at date of each call since organization of system.

Classification of loans, deposits, and securities owned, during current year.

Money and certificates held by all national banks at date of each call, beginning with 1880.

Reserves during current year.

Total resources and liabilities of all national banks, by principal items, four times a year, since 1863.

- Total resources and liabilities of national banks in each state, by principal items, annually, beginning with 1863, and at each of six call-dates during current year.
- Summary of resources and liabilities of each national bank at last call-date of year of report, arranged by states and cities. This statement gives also names of president and cashier.
- Resources and liabilities of savings banks, state banks, trust companies, and building associations in the District of Columbia at last call-date at year of report.
- Total resources and liabilities, by principal items of all state banks, mutual savings banks, stock savings banks, trust companies, and private banks, by states on June 30 of year of report.
- Resources and liabilities of the First Bank of the United States in 1809 and 1811, and Second Bank of the United States for each year from 1817 to 1824.
- Number of colonial and state banks, and resources and liabilities, annually 1774 to 1872.
- Total resources and liabilities of the chartered banks of Canada, by principal items, at last statement date of current year.
- Transactions at New York Clearing House, annually beginning with 1854; compiled by New York Clearing House.
- Transactions at each clearing house in the United States, during two latest years; compiled by New York Clearing House.
- Failure of all state and private banks, liabilities and dividends paid, annually, beginning with 1864; also number of failures by states since 1893.
- Gold, silver and currency stocks of principal foreign countries.
- Number of depositors and amount of deposits in savings banks in principal foreign countries.

Four or five times during the year the Comptroller of the Currency calls on each national bank for a statement of its resources and liabilities. The returns from the banks are compiled and published in a summary statement entitled "Abstract of the Condition of National Banks," which includes the following data:

- Consolidated statement of all banks for six latest calls.
- Abstract of member national banks in each Federal Reserve District.
- Abstract, by central reserve city, other reserve cities, country banks, last call.
- Resources and liabilities for states and reserve cities—latest call.
- Circulation and classification of deposits, central reserve cities, reserve cities, county banks by states.

The Comptroller also publishes a "Monthly statement of capital stock of national banks, national bank notes, and federal reserve bank notes outstanding, bonds on deposit, etc."

**Federal Reserve Board.** The annual report of the Federal Reserve Board first issued in 1914, contains statistics pertaining

to each of the federal reserve banks and to the total for all member banks in the Federal Reserve System. While the report of the Comptroller of the Currency contains some material on the Federal Reserve System, the reports of the Federal Reserve Board give detailed data on the workings of the system as a whole. The report of the Comptroller is devoted primarily to national banks, other data being given as incidental to the general banking situation. All national banks, as well as some state banks and trust companies, are members of the Federal Reserve System. The reports of the Federal Reserve Board contain detailed statements regarding the operations of each of the federal reserve banks, but no statistics relating to the individual banks which are members of the system. As the principal function of the Federal Reserve System is the issuance of currency based on commercial paper rediscounted for member banks, the greater part of the report is devoted to statistics pertaining to operations of this character. During the war the various government loans were floated through the federal reserve banks, and the reports of the Board during that period contain much detailed information regarding the war loans and government financing. Among the important material in the annual reports of the Board may be mentioned the following :

- High and low discount rates in force at each Federal Reserve Bank, each year since the organization of the system.
- Federal Reserve notes outstanding, held by banks and in actual circulation ; gold and commercial paper pledged, monthly figures for the year for each Federal Reserve Bank, weekly figures for the year for all Federal Reserve banks.
- Federal Reserve notes of each Federal Reserve bank of various denominations, printed, shipped, on hand, issued, retired, and outstanding.
- Movement of Federal Reserve notes between districts.
- Federal Reserve bank notes of each Federal Reserve Bank of various denominations, printed, issued, on hand, redeemed and outstanding.
- Resources and liabilities of all Federal Reserve Banks weekly throughout the year.
- Resources and liabilities of each Federal Reserve Bank at end of year.
- Holdings of discounted and purchased bills and United States securities by each Federal Reserve Bank.
- Discount and open market operations.
- Clearing operations of Federal Reserve System.
- Earnings and expenses of each Federal Reserve Bank.

As regards currency the reports of the Comptroller are concerned mostly with national bank notes, although general statistics are given relating to federal reserve notes and federal reserve bank

notes. The reports of the Board do not give detailed statistics on national bank note circulation, as this form of currency is not controlled by the Board. In any study of paper currency the difference between these three kinds must be clearly kept in mind. National bank notes are issued by national banks on the authority of the Comptroller of the Currency after a deposit of certain classes of United States bonds. Federal reserve bank notes are issued by federal reserve banks under the authority of the Secretary of the Treasury after depositing United States bonds bearing the circulation privilege, certificates of indebtedness, or one-year gold notes with the Treasurer of the United States. Federal reserve notes are issued by the federal reserve banks, under the authority of the Federal Reserve Board, after the deposit of gold or commercial paper with the Federal Reserve Agent. The federal reserve bank notes are essentially of the same character as national bank notes, but it will be seen that the federal reserve notes are on a different basis.

The Federal Reserve Bulletin, issued monthly by the Federal Reserve Board, beginning with 1914, is the most convenient source of information on the banking and financial situation.<sup>8</sup> The data given include the following :

Discount and open market operations of each Federal Reserve Bank.  
 Assets of each Federal Reserve Bank, by classes.  
 Resources and liabilities of each Federal Reserve Bank, by classes.  
 Notes of each Federal Reserve Bank, outstanding, weekly.  
 Total resources and liabilities of member banks in leading cities, weekly.  
 Debits to individual accounts at clearing house banks weekly for each reporting center.  
 Operation of federal reserve clearing system.  
 Gold and silver imports and exports, by countries, for 10-day periods.  
 Money held outside the Treasury and the Federal Reserve System.  
 Federal Reserve Banks discount rates.  
 Discount and interest rates in principal cities.  
 Gross earnings, expenses, and dividends, state banks and trust companies, which are members of the Federal Reserve System, totals for each Federal Reserve District.  
 Foreign exchange rates of principal countries.

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<sup>8</sup> In addition to statistics on finance and banking the Federal Reserve Bulletin contains other general statistics dealing with economic conditions. (See Chapter I.)

Considerable material on money and banking was published in the Monthly Summary of Commerce and Finance between 1893 and 1910.<sup>4</sup>

**Joint Commission of Agricultural Inquiry.** The credit situation in 1919 and 1920 is discussed in Part 2 of the Report of the Joint Commission of Agricultural Inquiry, published as House Report 408, 67th Congress, 1st Session. While the greater part of this report is text discussion, there are numerous tables dealing with the operations of the Federal Reserve System and with bank loans.

**National Monetary Commission.** The National Monetary Commission issued from 1909 to 1912 a series of reports dealing with the history of banking and currency in the United States and foreign countries. There is given below a complete list of the publications of this commission, although some of them do not contain statistical material:

Vol. I.<sup>5</sup> Report of the National Monetary Commission.

Interviews on banking in Europe.

Interviews on the banking and currency systems of England, Scotland, France, Germany, Switzerland, and Italy, under the direction of Hon. Nelson W. Aldrich, Chairman. (Senate Doc. 405, 61st Cong., 2d sess.)

Vol. II. Financial laws of the United States, 1778-1909.

Laws of the United States concerning money, banking, and loans, 1778-1909. Compiled by A. T. Huntington and Robert J. Mawhinney. 1910. (Senate Doc. 580, 61st Cong., 2d sess.)

Vol. III. Digest of State banking laws.

Digest of state banking statutes, compiled by Samuel A. Welldon. 1910. (Senate Doc. 353, 61st Cong., 2d sess.)

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<sup>4</sup> For variations in title of this publication and names of publishing bureaus see p. 354.

<sup>5</sup> The publications of the National Monetary Commission were originally issued separately as Senate Documents, and will probably be found in this form in most libraries. A limited number was bound for the use of the Commission and for sale by the Superintendent of Documents. The set bound for sale by the Superintendent of Documents and the one bound for the use of the Commission differ in that the papers in Volume 24 of the Superintendent of Document's edition are included in Volume 1 of the Commission's edition. In the above list the Superintendent of Document's edition is followed. The title of the volume is given first, followed by the titles of the individual reports and the document numbers.

- Vol. IV. Banking in United States before the Civil War.**  
 The first and second banks of the United States by J. T. Holdsworth and Davis R. Dewey, 1910. (Senate Doc. 571, 61st Cong., 2d sess.)  
 State banking before the Civil War, by Davis R. Dewey, and The Safety Fund Banking System in New York, 1820-1866, by Robert E. Chaddock. 1910. (Senate Doc. 581, 61st Cong., 2d sess.)
- Vol. V. The National banking system.**  
 The origin of the national banking system, by Andrew McFarland Davis [with supplement] 1910-11. (Senate Doc. 582, 61st Cong., 2d sess.)  
 History of the national bank currency, by Alexander Dana Noyes. 1910. (Senate Doc. 572, 61st Cong., 2d sess.)  
 History of crises under the national banking system, by O. M. W. Sprague. 1910. (Senate Doc. 538, 61st Cong., 2d sess.)
- Vol. VI. Clearing houses and credit instruments.**  
 Clearing houses, by James Graham Cannon. 1910. (Senate Doc. 491, 61st Cong., 2d sess.)  
 The use of credit instruments in payments in the United States; report comp. by David Kinley. 1910. (Senate Doc. 399, 61st Cong., 2d sess.)
- Vol. VII. State banks, trust companies, and independent treasury system.**  
 The independent treasury of the United States and its relations to the banks of the country, by David Kinley. 1910. (Senate Doc. 587, 61st Cong., 2d sess.)  
 State banks and trust companies since the passage of the National Bank Act, by George E. Barnett. 1911. (Senate Doc. 659, 61st Cong., 2d sess.)
- Vol. VIII. The English banking system.**  
 The English banking system, by Hartley Withers, Sir R. H. Inglis Palgrave, and other writers. 1910. (Senate Doc. 492, 61st Cong., 2d sess.)  
 History of the Bank of England and its financial services to the state. 2d ed., rev., by Eugen von Philippovich. Tr. by Christabel Meredith, with an introduction by H. S. Foxwell. 1911. (Senate Doc. 591, 61st Cong., 2d sess.)
- Vol. IX. Banking in Canada.**  
 The history of banking in Canada, by Roeliff Morton Breckenridge. 1910. (Senate Doc. 332, 61st Cong., 2d sess.)  
 The Canadian banking system, by Joseph French Johnson. 1910. (Senate Doc. 583, 61st Cong., 2d sess.)  
 Interviews on the banking and currency systems of Canada, by a subcommittee of the National Monetary Commission [Edward B. Vreeland, chairman]. 1910. (Senate Doc. 584, 61st Cong., 2d sess.)
- Vol. X. The Reichsbank and renewal of its charter.**  
 The Reichsbank, 1876-1900. 1910. (Senate Doc. 408, 61st Cong., 2d sess.)  
 Renewal of Reichsbank charter. 1910. (Senate Doc. 507, 61st Cong., 2d sess.)
- Vol. XI. Articles on German banking and German banking laws.**  
 Miscellaneous articles on German banking: The statistical history of the German banking system, 1888-1907, by Robert Franz; The organization of credit and banking arrangements in Germany, by Geh. Oberfinanzrat Waldemar Mueller; The method of payment by



means of bank account transfers and the use of checks in Germany, by Max Wittner and Siegfried Wolff; Director's fees in Germany, by Dr. Carl Melchior; The land mortgage associations (Landschaften) by Dr. J. Hermes; Agricultural improvement banks (Landeskulturrentenbanken) by Dr. J. Hermes; The German savings banks, by Dr. Seidel; The history of savings banks in Germany, by B. Breslauer; The state and communal savings bank legislation of recent times, by Dr. Robert Schachner; The Preussische-Central-Genossenschafts-Kasse, or Prussian Central Bank for Coöperative Societies, by C. Heiligenstadt; Coöperative credit societies (Raiffeisensche Darlehnskassenvereine), by Hans Cruger; Special loan banks, (Darlehnskassen), by W. Lotz. (Senate Doc. 508, 61st Cong., 2d sess.)

German imperial banking laws, ed. by Dr. R. Koch, former President of the Reichsbank; together with the German stock exchange regulations. 1910. (Senate Doc. 574, 61st Cong., 2d sess.)

Vol. XII-XIII. The German bank inquiry of 1908.

German bank inquiry of 1908. Stenographic reports. Proceedings of the entire commission [Vol. I] on points I-V of the question sheet; Vol. II on point VI of the question sheet (The deposit system) 1910-II. (Senate Doc. 407, part 1-2, 61st Cong., 2d sess.)

Vol. XIV. The great German banks.

The German great banks and their concentration in connection with the economic development of Germany, by Dr. J. Riesser. 3d ed., completely revised and enlarged. 1911. (Senate Doc. 593, 61st Cong., 2d sess.)

Vol. XV. Banking in France and the French Bourse.

Evolution of credit and banks in France from the founding of the Bank of France to the present time, by Andre Liesse. 1909. (Senate Doc. 522, 61st Cong., 2d sess.)

The Bank of France in its relation to national and international credit, by Maurice Patron, and an article upon French savings, by Alfred Neymarck. 1910. (Senate Doc. 494, 61st Cong., 2d sess.)

The history and methods of the Paris Bourse, by E. Vidal. 1910. (Senate Doc. 573, 61st Cong., 2d sess.)

Vol. XVI. Banking in Belgium and Mexico.

The National bank of Belgium, by Charles A. Conant. 1910. (Senate Doc. 400, 61st Cong., 2d sess.)

The banking system of Mexico, by Charles A. Conant. 1910. (Senate Doc. 493, 61st Cong., 2d sess.)

Vol. XVII. Banking in Sweden and Switzerland.

The Swedish banking system, by A. W. Flux. 1910. (Senate Doc. 576, 61st Cong., 2d sess.)

The Swiss banking law, study and criticism of the Swiss legislation respecting banks of issue, and especially of the federal act of October 6, 1905, concerning the Swiss national bank, by Dr. Julius Landmann. 1910. (Senate Doc. 401, 61st Cong., 2d sess.)

Vol. XVIII. Banking in Italy, Russia, Austro-Hungary, and Japan.

The banks of issue in Italy, by Tito Canovai, with an article by Carlo F. Ferraris, and the text of the Italian banking law. 1911. (Senate Doc. 575, 61st Cong., 2d sess.)

Banking in Russia, Austro-Hungary, the Netherlands, and Japan. 1911. (Senate Doc. 586, 61st Cong., 2d sess.)

- Vol. XIX. Administrative features of national banking laws and European fiscal and postal savings systems.  
 Report to the National Monetary Commission on the fiscal systems of the United States, England, France, and Germany, [by J. O. Manson, chief of division in office of Treasurer of the United States]. 1910. (Senate Doc. 403, 61st Cong., 2d sess.)  
 Suggested changes in the administrative features of the national banking laws. Replies to circular letter of inquiry of September 26, 1908, and Hearings, December 2 and 3, 1908. 1910. (Senate Doc. 404, 61st Cong., 2d sess.)  
 Notes on the postal savings bank systems of the leading countries. 1910. (Senate Doc. 658, 61st Cong., 2d sess.)
- Vol. XX. Miscellaneous articles.  
 The discount system in Europe, by Paul M. Warburg. 1910. (Senate Doc. 402, 61st Cong., 2d sess.)  
 An address by Senator Nelson W. Aldrich before the Economic Club of New York, November 29, 1909, on the work of the National Monetary Commission. 1910. (Senate Doc. 406, 61st Cong., 2d sess.)  
 Bank acceptances, by Lawrence Merton Jacobs. 1910. (Senate Doc. 569, 61st Cong., 2d sess.)  
 The credit of nations, by Francis W. Hirst, and the trade balance of the United States, by George Paish. 1910. (Senate Doc. 579, 61st Cong., 2d sess.)  
 Bank loans and stock exchange speculation, by Jacob H. Hollander. 1911. (Senate Doc. 589, 61st Cong., 2d sess.)
- Vol. XXI. Statistics for United States, Great Britain, Germany, and France.  
 Statistics for the United States, 1867-1909, comp. by A. Piatt Andrew. 1910. (Senate Doc. 570, 61st Cong., 2d sess.)  
 Special report from the banks of the United States, April 28, 1909. (Senate Doc. 225, 61st Cong., 2d sess.)  
 Statistics for Great Britain, Germany, and France, 1867-1909. 1910. (Senate Doc. 578, 61st Cong., 2d sess.)
- Vol. XXII. Seasonal variations in demands for currency and capital.  
 Seasonal variations in the relative demand for money and capital in the United States, a statistical study, by Edwin Walter Kemmerer. 1910. (Senate Doc. 588, 61st Cong., 2d sess.)
- Vol. XXIII. Financial diagrams and European bank summaries, prepared by A. Piatt Andrew.  
 Financial diagrams, comp. by A. Piatt Andrew. 1910. (Senate Doc. 509, 61st Cong., 2d sess.)  
 Tabular summary of the laws, practices and statistics of the principal banks of the leading countries, prepared for the National Monetary Commission by A. Piatt Andrew. January 1912. 2 fold. sheets, in pocket.
- Vol. XXIV. Recommendations of the National Monetary Commission.  
 Suggested plan for monetary legislation, submitted to the National Commission, by Hon. Nelson W. Aldrich (Senate Doc. 784, 61st Cong., 3d sess.)  
 Letter from Secretary of the National Monetary Commission transmitting, pursuant to law, the report of the Commission (Senate Doc. 243, 62d Cong., 2d sess.)

Many of these reports are descriptive and contain scattered statistical material as an adjunct to the text discussion. There are mentioned below only those reports dealing specifically with money and banking in the United States which contain some detailed statistics. The publications dealing with foreign countries and with general business conditions in the United States not directly connected with currency and banking are treated under appropriate heads.

The most comprehensive statistical report relating to money and banking in the United States is the one contained in Volume XXI, entitled "Statistics for the United States, 1867-1909." Other subjects are treated in the volume such as sales on the New York stock exchange, interest rates, etc. Some of the material in this publication is also shown graphically in the report in Volume XXIII, entitled "Financial Diagrams." The principal material relating to banking in this report is as follows:

- Clearing house transactions, annually, in New York, Philadelphia, Boston, Chicago, and total for all reporting cities, 1867 to 1909.
- Number and capital of national banks, state banks, trust companies, and private banks, annually at end of each fiscal year from 1867 to 1909.
- Number and average capital of national, state, and private banks, and trust companies, annually, 1867 to 1909.
- Number and average capital of national and state banks in each state, in 1880, 1890, 1900, and 1909.
- Number of commercial banks and banks of all kinds in each state in 1880, 1890, 1900, and 1909.
- National banks, state banks, trust companies, private banks, and savings banks.
  - Individual deposits in each class, annually, 1867 to 1909.
  - Individual deposits, by states for total of the five classes 1900 and 1909.
  - Cash holdings of each class, annually, 1867 to 1909.
  - Total deposits, including individual, bank and government deposits, for each class, 1867 to 1909.
- Number of national banks in each state, classified by amount of capital, 1880, 1890, 1900, and 1909.
- Failures of national banks, 1865 to 1909.
- Circulation of national banks, annually, 1864 to 1909.
- National bank notes outstanding, in the Treasury, and in circulation, end of each month, 1864 to 1909.
- Retirement of national bank notes, by months, 1882 to 1909.
- Circulation of national banks of each central reserve city, other reserve cities, and non-reserve cities, at date of each report, 1879 to 1909.
- Dividends of national banks, annually, 1867 to 1909.
- Principal items among resources and liabilities of national banks, at date of each report, 1863 to 1909.

- Consolidated statements of national banks in New York City, other reserve cities, and county banks, at quinquennial periods from 1875 to 1909.
- Loans, lawful money reserve, individual deposits, other deposits, and total deposits, of national banks in New York City and of all national banks, annually, 1867 to 1909.
- Weekly statement of condition of all clearing house banks in New York City; 1867 to 1909.
- Weekly statement of conditions of all clearing house banks of Chicago, 1899 to 1908.
- Classification of individual deposits in banks of various classes, 1896, 1899, 1906, and 1909; separate figures for the United States and for reserve city banks.
- Net interior movement of money into and out of banks of New York City, weekly, 1899 to 1909.
- Receipts and shipments of cash by New York City and Chicago clearing house banks from and to other states, monthly, 1905 to 1908.
- Total stock of money and its distribution between Treasury, banks, and circulation, annually, 1867 to 1909.
- Amount of each kind of money in the United States, annually, 1864 to 1909.
- Amount of each kind of money in circulation, annually, 1867 to 1909 and on first day of each month, 1880 to 1910.
- Transfer of currency by the Treasury of the United States from New York to other cities, monthly, 1899 to 1909.

The report in Volume VI, entitled "Clearing Houses" gives a history of the development of clearing houses and an account of their operation. The important tables of general interest in this report are the following:

- Daily average and total annual clearings at New York, annually, 1854 to 1908.
- Balances paid in cash at New York Clearing House, daily average and total for year, annually, 1854 to 1908.

In 1909 the National Monetary Commission sent an inquiry to all banks in the United States for detail information regarding their resources, liabilities, deposits, number of depositors, and rates of interest paid on deposits. Replies were received from 22,491 banks out of about 25,000 in the country, the omissions being confined chiefly to concerns whose business was brokerage and exchange. All kinds of banks were included in this inquiry, separate tables being prepared for national, state, savings, and private banks, and loan and trust companies. Under each class of banks separate figures are shown for each state and for the reserve cities.

This report, published as a part of Volume XXI under the title "Special Report from the Banks of the United States, April 28,

1909," is of importance for several reasons. For the first time it was possible to present information of a uniform character and for the same date for banks of all classes. While the Comptroller of the Currency received uniform periodic reports from national banks, the information received and published by him for banks outside the national banking system was for varying dates and of great diversity in form and detail. This was unavoidable owing to the differences in the state laws under which the institutions outside of the national banking system operated.

The resources are shown under thirty-four heads and the liabilities under eighteen heads. Of particular interest is the portion of the statement of resources showing the various kinds of securities held by each class of institution, separate figures being given for the following classes:

**Domestic securities.**

United States bonds.

State, county, and municipal bonds.

Railroad bonds.

Bonds of other public service corporations, including street and inter-urban railway bonds.

Other bonds.

Stocks.

**Foreign securities.**

Government bonds.

Other securities.

The supplement also includes statistics by states for each class of banks for individual deposits, total deposits, cash holdings, and non-interest-bearing deposits, and a classification of banks according to the amount of capital.

One of the reports in Volume VII, entitled "State Banks and Trust Companies since the Passage of the National Bank Act," contains a detailed discussion of the position and function of these institutions in the banking system of the United States. The following tables in this report are of general interest:

Number of state and private banks and trust companies, by states, 1877 to 1909.

Number of failures of state banks and trust companies, 1900 to 1909.

Classification of state and private banks and trust companies, by states, according to amount of capital, 1909.

One of the early investigations of the National Monetary Commission was one to determine the extent to which checks and other

credit instruments were used instead of currency in the transaction of business. An inquiry was sent to all banks and trust companies, asking them to report the amount of deposits made on March 16, 1909, in gold coin, silver coin, paper currency, and checks by retail dealers, wholesale dealers, and all other depositors. While replies were received from approximately only 50 per cent of the banks in the country, the statistics are of value as showing the relative use made of checks in the various states. The statistics do not, of course, show the relation of check payments to the total volume of trade, as there is no way of determining the turnover of currency that is not deposited in the banks. The results of this investigation are shown in Volume VI in the report entitled "The Use of Credit Instruments in Payments in the United States." The statistical material in this report is as follows :

Deposits on March 16, 1909 by retail dealers, wholesale dealers and other depositors, by states and classes of banks, by states for all banks, by classes of banks, by geographical divisions, by representative reserve cities.

Wage payrolls paid by cash and by check for one week, classified by states and classes of banks.

Individual deposits on March 16, 1909, other deposits, and number of accounts with balance of less than \$500, of \$500 to \$2500, and of over \$2500.

Volume XXII contains a statistical study of the seasonal variations in the relative demand for money and capital in the United States. It contains a large amount of statistical material compiled from authoritative sources bearing on interest rates, movements of cash and currency, and domestic exchange rates. In addition to the tabular presentation most of the statistics are shown graphically. The more important material is as follows :

Interest rates on loans of various kinds, New York, weekly, 1890 to 1908.  
Loans, deposits, bank note circulation and reserves of New York City clearing house banks, weekly, 1890 to 1908; Chicago, St. Louis, and New Orleans, 1899 to 1908; San Francisco, 1907 and 1908.

Shipments and receipts of cash from and to each state and principal cities, monthly 1905 to 1908, showing state or division which was source or destination of shipment.

Net movement of cash into and out of banks in New York City from and to interior points, weekly, 1899 to 1908.

Transfer of cash from subtreasury at New York City to subtreasuries in other cities, monthly, 1899 to 1909.

Money of various kinds in circulation, monthly, 1890 to 1908.

Clearings in entire United States and at New York, Chicago, St. Louis, New Orleans, and San Francisco, weekly, 1890 to 1908.

Fluctuations in prices of each of 27 railroad bonds, weekly, for periods varying from 1890 to 1908 to 1899 to 1908. The specific securities and the period covered are shown on p. 541.

**Exchange Rates.** Prior to the beginning of the publication of the Federal Reserve Bulletin in 1914 there was no regular publication of exchange rates by any government agency. Before the derangement of the currency of the world caused by the war, there was little fluctuation in exchange rates at important centers, the rate being controlled almost entirely by the cost of shipping gold. However, the National Monetary Commission published compiled material on exchange rates over a series of years in connection with its studies of the currency problem. The volume entitled "Statistics of the United States, 1867 to 1909" contains the following:

High and low weekly rates for sight exchange on London, Paris and Berlin, 1899 to 1909.

Daily rates of exchange on London for bankers' bills, 1889 to 1909.

High and low weekly exchange rates on New York for Chicago, St. Louis, and New Orleans, 1899 to 1909.

High and low weekly exchange rates on New York from San Francisco, 1901 to 1909.

The report of the Commission entitled "The Use of Credit Instruments in Payments in the United States" contains domestic and foreign exchange rates as follows:

Weekly exchange rates on New York City in Chicago, St. Louis, and New Orleans, 1899 to 1908; San Francisco, 1901 to 1908.

Weekly exchange rates in New York on London 1890 to 1908; on Paris and Berlin, 1899 to 1908.

The publication of the Senate Commission of Gold and Silver Inquiry entitled "Foreign Currency and Exchange Investigation; Foreign Exchange Quotations and Curves" (Serial 8 of the publications of the Commission) contains daily noon buying rates for cable transfers in New York City from November 1, 1918, to August 1, 1924, for the following cities:

London.	Buenos Aires.	Stockholm.
Paris.	Calcutta.	Montreal.
Milan.	Berlin.	Rio de Janeiro.
Christiania.	Brussels.	Valparaiso.
Copenhagen.	Amsterdam.	Shanghai.
Madrid.	Zurich.	Yokohama.

**Interest Rates.** Statistics on the loan and discount rates in the New York stock exchange for each week from 1890 to 1909 are

given in the publication of the National Monetary Commission entitled "Statistics of the United States, 1867-1909." Similar data were given in the Monthly Summary of Commerce and Finance prior to about 1910.

**Building and Loan Associations.** Detailed statistics on building and loan associations for 1893 are given in the Ninth Annual Report of the Commissioner of Labor, 1893. This publication contains statistics relating to individual associations as well as assembled statistics by states; it includes also descriptions of various plans of operation and a compilation of the laws of the several states on this subject. Bulletin 10 of the Bureau of Labor contains summary statistics resulting from the same investigation.

Bulletin 55 of the Bureau of Labor gives the figures by states for each year from 1893 to 1903 on the number of building associations, their total assets, and assets per capita. These figures were compiled from the reports of the state bureaus having supervision over building associations, and estimates were made for the states in which such supervision was not exercised. The greater part of this report is devoted to a description of the methods of operation and a digest of the laws of the several states.

Abstracts of state reports on building and loan associations have been published from time to time in the Bulletin of the Department of Labor, the Bulletin of the Bureau of Labor Statistics and the Monthly Labor Review. At present no statistics on building and loan associations are collected by the government, but figures collected by the United States League of Building and Loan Associations are published each year in the annual report of the Comptroller of the Currency and in the Statistical Abstract of the United States.



## CHAPTER XXXIII

### INCOME AND NATIONAL WEALTH

**Income.** Statistics showing the amount of revenue received during the current year from the income taxes are given in the annual report of the Commissioner of Internal Revenue, beginning in 1914 but detailed analyses of the income tax returns for 1916 and later years are contained in the publication of the Bureau of Internal Revenue entitled "Statistics of Income." The first issue in this series contained analysis of the returns for 1916; but for years prior to 1916 the annual reports contained all the statistics available.

For the personal returns there are shown for each state the number of returns, net income, exemptions, normal tax, surtax, and total tax, arranged by income classes, there being a separate class for each \$1000 of income up to \$15,000, for each \$5000 from \$15,000 to \$30,000, for each \$10,000 from \$30,000 to \$100,000, for each \$50,000 from \$100,000 to \$300,000, for each \$100,000 from \$300,000 to \$500,000, for each \$250,000 from \$500,000 to \$1,000,000, for each \$500,000 from \$1,000,000 to \$2,000,000 to \$5,000,000, and for income of \$5,000,000 and over. The number of returns alone is also shown by these classes for each state for the three latest years. The general tables also show the cumulative distribution for each class, that is, the number of returns, incomes, etc., over the next lower classes and under the next higher class. The sex and family status of tax payers and the distribution of sources of income are shown by states and by income classes, but not by the two combined.

The corporation returns are classified by states, industrial groups and income classes, the steps for income classes being as follows: Up to \$2000, \$5000, \$10,000, \$50,000, \$100,000, \$250,000, \$500,000, \$1,000,000, \$5,000,000 and over \$5,000,000. The distribution by income classes and net income shows the number reporting net income, the net income, the amount of income tax,

of war profits and excess profits tax, the total tax, the average amount of tax, and the per cent of total tax to net income.

The distribution by states, by industrial groups, and by states and industrial groups shows in addition the number of corporations reporting no net income and the amount of the deficit. The distribution by states also shows the gross income and the amount of deductions for both corporations reporting net income and those reporting no net income.

The corporation returns for 1917 and 1918 are not comparable by reason of certain changes in the law and regulations affecting returns of parent and subsidiary companies of personal service corporations, and of corporations receiving dividends from other corporations. These changes are described on Page 12 of Statistics of Income for 1918.

The classification by states in the income tax returns does not indicate the relative economic development of the several states, as both individual and corporate returns are filed in the state of residence or principal place of business. They do indicate, however, the relative extent of the direction of income-bearing property from each state. For instance, in 1918, transportation public utility corporations making returns in New York showed a total net income of \$316,894,122. The same class of corporations for the entire United States showed a net income of \$778,277,842. This does not mean that approximately 40 per cent of the business of these corporations was done in New York; the figures simply indicate that corporations whose head offices or places of business were in New York received 40 per cent of the net income of all such corporation. The stock ownership of these corporations, however, may be scattered over a number of states.

A special compilation made by the Bureau of Internal Revenue in 1918, in compliance with a resolution of the Senate, gives statistics regarding the income of individual concerns, classified by industrial and commercial groups. This report, entitled "Corporate Earnings and Government Revenues," was published as Senate Document 259, 65th Congress, 2d Session. It is no longer available for distribution, but probably can be consulted in the principal libraries. While this report gives figures for individual corporations the names are not published, although it is possible in some

cases to identify some of the larger corporations by the amount of share capital or earnings. Figures are given for 31,500 out of 55,000 corporations which in 1917 earned 15 per cent or more on their share capital. The data given are as follows:

Capital stock, 1917.

Invested capital, 1917.

Net income, 1917.

Tax, 1917.

Income tax.

Excess profits tax.

Total tax.

Percent of total tax to net income, 1917.

Net income after deducting tax, 1917.

Per cent of net income to capital stock, 1917.

Per cent of net income to invested capital, 1917.

Per cent of net income, after deducting tax, to capital stock, 1917.

Per cent of net income, after deducting tax, to invested capital, 1917.

Capital stock, 1916.

Net income, 1916.

Per cent of net income to capital stock, 1916.

Excess of the per cent of net income to capital stock for 1917 above the percentage for 1916.

There are no summary tables or recapitulation by states or classes.

Profits of corporations in 1922 are shown in a publication entitled "Distributed and Undistributed Earnings of Corporations," issued as Senate Document 85, 68th Congress, 1st Session. The returns as entered on the tables are segregated into two main divisions, as follows:

- A. Returns having schedules completely filled out.
- B. Returns having schedules incompletely filled out—data fragmentary excepting the item of net income.

The returns in division A (having schedules completely filled out) are again segregated into four minor divisions:

1. Corporations reporting net taxable income, also net book profit for the year and paying cash dividends, distributed by groups according to the percentage of cash dividends to net book profits for the year.
2. Corporations reporting net taxable income, also net book profit but not paying cash dividends.
3. Corporations reporting net taxable income but book loss, although paying cash dividends.
4. Corporations reporting net taxable income but book loss and not paying cash dividends.

Under each of the segregations the following information is shown :

Number of returns.

Net taxable income (gross income less deductions as defined in the revenue act).

Net book profit for the year before any adjustments are made therein.

Cash dividends paid during the year.

Stock dividends distributed during the year.

Surplus and undivided profits at the close of the year.

Capital impairment—deficit at the close of the year.

**National Wealth.** Estimates of the total amount of national wealth have been made in connection with the decennial censuses from 1850 to 1900, and for 1904, 1912, and 1922 the results have been published in the following volumes :

**Seventh Census: 1850.**

Statistical view of the United States—Compendium of the Seventh Census.

Abstract of the Seventh Census.

**Eighth Census: 1860.**

Preliminary report on the Eighth Census.

Statistics of the United States in 1860.

**Ninth Census: 1870.**

Statistics of the wealth and industry of the United States.

Compendium of the Ninth Census.

Statistical atlas of the United States.

**Tenth Census: 1880.**

Volume VII. Valuation, taxation, and public indebtedness.

Compendium of the Tenth Census—Part II.

**Eleventh Census: 1890.**

Wealth, debt and taxation—Part II. Valuation and taxation.

Compendium of the Eleventh Census—Parts II and III.

Abstract of the Eleventh Census.

Statistical atlas of the United States: 1890.

**Intercensal publications.**

Wealth, debt and taxation (1900 and 1904).

Wealth, debt and taxation, 1913.

Wealth, public debt and taxation: 1922. Estimated national wealth.

The estimates on national wealth are designed to show the value of all tangible property, but they are not strictly comparable, as they were made on different bases and by different methods. From 1850 to 1870 the estimates are based on the assessed valuation as returned by the enumerators, with such additions as each enumerator thought necessary to bring the valuation to the actual valuation. In later years the valuation has been worked out directly by the Bureau of the Census. The value of real property and improve-

ments taxed has been taken from state returns, while the value of the property of public service corporations and of personal property has been computed from independent sources.

The statistics of national wealth for 1922 are given for the United States and the several states according to the following classes of property:

- Real property and improvements taxed.
- Real property and improvements exempt.
- Livestock.
- Farm implements and machinery.
- Manufacturing machinery, tools and implements.
- Gold and silver coin and bullion.
- Railroads and their equipment.
- Motor vehicles.
- Street railways.
- Telegraph systems.
- Telephone systems.
- Pullman and other cars not owned by railroads.
- Pipe lines.
- Privately owned waterworks.
- Privately owned central electric light and power stations.
- Shipping and canals, including vessels owned by the United States.
- All other.
  - Agricultural products.
  - Manufactured products.
  - Imported merchandise.
  - Mining products.
  - Clothing, personal adornments, furniture, horse-drawn vehicles and kindred property.

The report entitled "Wealth, Debt, and Taxation," issued in 1907, contains statistics for 1900 by counties for the assessed valuation of taxed real property and improvements, the estimated true value of taxed, exempt, and total real property and improvements, and the reported value of farm lands and improvements.

The figures on national wealth form only a rough guide to the comparative resources of the country at different periods. The main difficulty is that wealth must be expressed in dollars, which vary in purchasing power, and which do not reflect the changes in material resources. For instance, if the total material resources in 1920 were the same as in 1912, the value would be much greater in 1920 owing to the increased prices. Furthermore the figures of national wealth represent only developed resources in process of exploitation. A mineral deposit which might be almost valueless at one period might later become of great value owing to the shut-

ting off of other sources of supply. The material available may be the same in both years, but the valuation has been increased by economic conditions.

The figures by states apply to the property located in the state and not to property owned by residents of the state. The per capita figures are, therefore, meaningless as an indication of either property owned by citizens or economic development. For instance, for 1922 the per capita wealth of New York is given as \$3436 and of Nevada \$6998. It is impossible to compile any figures showing average wealth of residents of each state, as there is no practicable method of determining how much of the property located in one state is owned by residents of another state.

## CHAPTER XXXIV

### NONCONTIGUOUS TERRITORY

Statistical material on some of the noncontiguous territories is contained in the general reports of various government organizations dealing with the United States as a whole, but there is some material which is available only in special reports. The general material is referred to only briefly, in order to bring together references to all the sources for these areas. The special reports are described in more detail.

**Alaska.** Statistics on population and agriculture are presented in the reports of recent decennial censuses on these subjects giving statistics by states. Occupation statistics are given in the volume devoted to that subject. Of considerable historical interest are the reports of the Tenth (1880) and Eleventh (1890) censuses dealing with Alaska. These reports give not only the statistics for population, but also a large amount of statistical and other material on the resources, physical features, and ethnology and social condition of natives. The report of the Tenth Census contains an extensive discussion of the seal islands. It was issued as Volume VIII of the reports and entitled "The Newspaper and Periodical Press; Alaska; Seal Islands, Shipbuilding." A preliminary report was published as House Executive Document 40, 46th Congress, 3d Session. The report for 1890 was issued under the title "Population and Resources of Alaska: 1890." A special report issued by the Bureau of the Census, entitled "Indian Population in the United States and Alaska: 1910," contains more detailed information regarding the native population than is given in the general volumes on population.

The passenger movement is shown in a quarterly statement issued by the Shipping Board.

Data on manufactures are given in the reports of the Census of Manufactures for 1900, 1905, 1910, and 1920, but the censuses of manufactures of 1914 and 1921 did not include any statistics on non-contiguous possessions.

The Census reports for 1910 and 1920 on mines and quarries includes data on the production of minerals in the territory.

The annual mineral production is shown in the annual publication of the Geological Survey entitled "Mineral Resources of the United States." and also in the annual bulletin issued by that organization, entitled "Mineral Resources of Alaska."

Total shipments to and from the continental United States are shown in the "Monthly Summary of Foreign Commerce," published by the Bureau of Foreign and Domestic Commerce. Figures for principal commodities or classes of commodities are given in the June and December issues, which give statistics for the fiscal year and the calendar year respectively. Exports to and imports from foreign countries are shown in the tables of exports and imports by customs districts published in "Foreign Commerce and Navigation of the United States," issued by the Bureau of Foreign and Domestic Commerce.

Summary data on the trade of the territory are also given in the annual report of the Governor of Alaska to the Secretary of the Interior. This report shows in addition the value of merchandise shipped from the United States to various places in the territory and the number of vessels entered and cleared at the principal ports; these detailed data not being available in the other reports mentioned.

Information on the value of fishery products, including the fur seal industry is contained in the annual publication issued by the Bureau of Fisheries entitled "Alaska Fisheries and Fur Industries," which is an appendix to the annual report of the Commissioner. This is also issued separately. Data on the fisheries are given also in the report issued by the Bureau of the Census entitled "Fisheries of the United States: 1908."

The education of native children for years prior to 1919 is discussed in annual bulletins of the Bureau of Education entitled "The Work of the Bureau of Education for the Natives of Alaska"; since 1919 this information has been given in the annual reports of the Commissioner of Education.

Hawaii. The population and agriculture of Hawaii are discussed in the reports of the decennial censuses giving statistics by states. Occupation statistics are given in the census volume dealing



with occupations. Statistics of manufactures are given in the volumes on manufactures forming part of the reports of the censuses for 1900, 1910, and 1920, but this territory was not included in the work of the Census of Manufactures for 1905, 1914, and 1921.

Total shipments to and from the continental United States are given in the "Monthly Summary of Foreign Commerce," published by the Bureau of Foreign and Domestic Commerce, annual figures by commodities for the fiscal and calendar year are given in the June and December issues respectively. Exports to and imports from foreign countries are shown in "Foreign Commerce and Navigation of the United States," in the table giving statistics by customs districts. The passenger movement to and from the territory is shown in a quarterly statement issued by the Shipping Board. A brief economic and statistical review is given each year in the Commerce Yearbook, published by the Bureau of Foreign and Domestic Commerce, in which Hawaii is treated as a foreign country.

The annual report of the Governor of Hawaii to the Secretary of the Interior contains summary statistical tables dealing with the affairs of the territory. Among the material shown in the Governor's report may be mentioned the following: Registered voters, by races, receipts and disbursements of territorial and county governments, tax assessments, deposits in banks, exports and imports, population, immigration, area of public lands, education, births, deaths, and marriages.

The Act of April 30, 1900, establishing a territorial government for Hawaii, provided that the Commissioner of Labor should make an annual report on labor conditions in the territory. The Act of April 8, 1904, changed the period so that the report should be made every five years. Five reports have been made under these acts as follows:

- 1901—Report of the Commissioner of Labor on Hawaii, published as Senate Document 169, 57th Congress, 1st session.
- 1902—Report of the Commissioner of Labor on Hawaii, printed in Bulletin 47 of the Department of Labor and also as Senate Document 181, 57th Congress, 2d session.
- 1905—Third Report of the Commissioner of Labor on Hawaii, printed in Bulletin 66 of the Bureau of Labor and also as House Document 580, 59th Congress, 1st session.

1910—Fourth Report of the Commissioner of Labor on Hawaii, printed in Bulletin 94 of the Bureau of Labor and also as House Document 866, 61st Congress, 3d session.

1915—Labor conditions in Hawaii, printed as Senate Document 432, 64th Congress, 1st session.

These reports contain detailed statistics on occupations, rates of wages, hours of labor, nationality or race of employees, wholesale and retail prices of food, and other features of the social and economic life of labor in the territory.

**Porto Rico.** The volumes of the decennial census giving statistics for states on population and agriculture contain data on Porto Rico. Occupation statistics are given in the volume on occupations. Statistics on manufactures are given in the report on manufactures of the censuses of 1910 and 1920 only.

Total shipments to and from the continental United States are shown in the "Monthly Summary of Foreign Commerce," and figures on exports and imports to and from foreign countries are shown in the tables giving statistics by customs districts in "Foreign Commerce and Navigation," both of which are issued by the Bureau of Foreign and Domestic Commerce.

Monthly statistics on the imports and exports of Porto Rico were published by the Bureau of Insular Affairs of the War Department from July, 1899, to April, 1900, under the title "Monthly Summary of Commerce of Porto Rico." Annual statistics on the imports and exports from 1901 to 1906 were given in the publication of the Bureau of Statistics of the Department of Commerce and Labor entitled "Commercial Porto Rico in 1906." This report also contains some general statistics dealing with economic conditions. At present Porto Rico is a customs district of the United States, and statistics of trade are given in the publications of the Bureau of Foreign and Domestic Commerce. The movement of passengers to and from the territory is shown in a quarterly statement issued by the Shipping Board.

There is little additional information on Porto Rico in other current publications of the government except that contained in the annual report of the Governor to the Secretary of War. This report contains as appendices the reports of the Commissioner of Health, the Auditor, the Treasurer, the Commissioner of the

Interior, the Commissioner of Education, the Attorney-General, the Commissioner of Agriculture and Labor, and the Insular Board of Elections. Among the subjects on which current statistics are given may be mentioned, finances, banks, insurance companies, public works, education, and mortality.

Among census reports of both historical and statistical interest may be mentioned one on the mineral industries in the report entitled "Mines and Quarries, 1902;" Bulletin 99, entitled "Electrical Industries in Porto Rico, 1907," and Bulletin 24, entitled "Insular and Municipal Finances in Porto Rico for the fiscal year 1902-3."

**Philippine Islands.** The statistical activities of the national government have not been extended to the Philippine Islands, and data regarding them must be sought in the publications of the Insular government. The annual report of the Governor-General to the Secretary of War contains some summary statistics relating to the islands. For detailed information recourse must be had to the various reports of the insular government.

In 1903 the Philippine Commission took a census of the islands and the results were compiled and published by the Bureau of the Census in four volumes entitled "Census of the Philippine Islands, 1903," the separate volumes having the following titles:

Vol. I. Geography, history, and population.

Vol. II. Population.

Vol. III. Mortality, defective classes, education, families, and dwellings.

Vol. IV. Agriculture, social and industrial statistics.

The detailed statistics of population are in Volume II, the portion of Volume I relating to this subject being a general discussion of the history and ethnography of the inhabitants. Volume III includes statistics on agricultural products, newspapers and periodicals, property value and taxes, public libraries, hospitals, churches, pauperism, criminals and prisons, labor and wages, manufactures, fisheries, banking, insurance, commerce, shipping, steam railroads, street railways, telegraph and cable lines, telephones and express companies.

A census of the Philippine Islands was again taken by the Insular government in 1918, and the results published in a comprehensive report in four volumes, as follows:

Vol. I. Geography, history, and climatology.

Vol. II. Population and mortality.

Vol. III. Agriculture.

Vol. IV. Social conditions, judicial statistics, manufactures, household industries, and education.

Statistics of trade with the United States are given in the publications of the Bureau of Foreign and Domestic Commerce entitled "Foreign Commerce and Navigation," "Trade of the United States with the World," and "Monthly Summary of Foreign Commerce," in which the Philippine Islands are treated as a foreign country.

Periodical reports on the imports and exports of the Philippine Islands were published by the Bureau of Insular Affairs of the War Department from July, 1900, to June, 1913. From July, 1900, to December, 1905, these were issued monthly under the title "Monthly Summary of Commerce of Philippine Islands." From January, 1906, to June, 1911, they were published quarterly under the title "Quarterly Summary of Commerce of Philippine Islands." From July, 1911, to June, 1913, they were published semi-annually under the title "Foreign Commerce of the Philippine Islands." After June, 1913, this material was published by the Insular government.

In 1907 the Bureau of Statistics of the Department of Commerce and Labor published a comprehensive report on the Philippines, entitled "Commercial Philippines in 1906." This publication gives annual statistics on the following topics: Imports and exports of principal articles to and from important countries from 1885 to 1894, and from 1900 to 1905; the total trade by countries from 1855 to 1906; imports and exports of specific commodities for 1903 to 1906; and general statistics dealing with economic conditions.

**Panama Canal and Canal Zone.** Annual statistics on the operation of the Panama Canal and on the Canal Zone are contained in the annual report of the Governor of the Panama Canal to the Secretary of War. There are published with this volume as appendices the reports of subordinate officers, which contain data on mortality, morbidity, education, public works, etc. Current statistics on the number of vessels passing through the canal are given in the "Panama Canal Record," published weekly by the Government of the Canal.

Population statistics were collected by the Bureau of the Census for the first time at the Fourteenth Census (1920).

In the publications of the Bureau of Foreign and Domestic Commerce dealing with foreign trade exports to and imports from the Canal Zone are included with those to and from Panama.

**Virgin Islands.** In 1917 the Bureau of the Census made a special enumeration of the inhabitants and industries of the Virgin Islands, the results of which were published under the title "Census of the Virgin Islands of the United States." This volume gives population statistics according to the usual classes used in the population statistics of the census and also data on agriculture, manufactures, and fisheries.

Statistics of the trade between the Virgin Islands and the United States are given in the publications entitled "Foreign Commerce and Navigation" and "Trade of the United States with the World," as for customs and statistical purposes the Virgin Islands are treated as foreign territory.

The birth and death records of the islands were used for compiling the material on those subjects contained in the publication entitled "Birth and Mortality Statistics of the Virgin Islands of the United States, 1901-19," issued by the Bureau of Medicine and Surgery of the Navy Department.

**Guam.** Statistics on the population of Guam were collected by the Bureau of the Census for the first time at the Fourteenth Census (1920).

Statistics on total imports and exports are given in the Statistical Abstract; figures on total shipments to and from the United States are published in the "Monthly Summary of Foreign Commerce."

## CHAPTER XXXV

### FOREIGN COUNTRIES

A considerable amount of statistical material on foreign countries is compiled by the government of the United States from official foreign reports. A portion of this material is gathered for the use of American producers who market their output abroad or are dependent on foreign sources for their supplies of raw material. This class includes general industrial and financial statistics which reflect economic conditions in other countries. Another portion is collected in order to make available data which may be of value in the study of similar subjects in the United States. It is not unlikely that the volume of foreign statistics will increase, as a result of the fuller appreciation of the fact that economic conditions in the United States are affected to a large degree by the economic status of other countries. Some foreign material has been discussed in the preceding pages, if it was published in connection with reports on domestic conditions. In the following pages there will be described the statistics relating to foreign countries which are published elsewhere than in the reports which have already been described.

#### REPORTS OF EXISTING ORGANIZATIONS

**Bureau of Foreign and Domestic Commerce.** General statistics on area, population, crop production, total exports and imports, finances, and transportation are given in the Commerce Yearbook, the first issue being for 1922, which contains also figures on mining and manufacturing if they are available.

At the end of the Statistical Abstract of the United States will be found tables giving summary statistics relating to the principal foreign countries. The data in these tables as a rule do not relate to the same year, as they are compiled from the latest reports available. The tables likewise give figures for only one year, and it is necessary to consult several issues of the Statistical Abstract in

order to obtain comparative figures. The topics included are the following :

Population.

Area.

Mercantile marine.

Money and currency in circulation.

Imports and exports, totals only.

Imports from and exports to the United States, totals only.

Railway lines.

Telegraph lines.

Postal service.

Deposits in savings banks.

Commerce of principal ports.

The monthly supplement to Commerce Reports entitled " Survey of Current Business " contains monthly statistics on the total imports and exports and on exports of articles of prime importance in the industrial life of the principal commercial countries. The figures on total imports and exports, and in some cases those on exports of commodities are necessarily expressed in terms of value, and as different methods of valuation are in use, it is not always possible to compare the total trade of one country with the total trade of another.<sup>1</sup>

Statistics on imports and exports of commodities are published in almost every issue of Commerce Reports and in the Trade Information Bulletins of the Bureau of Foreign and Domestic Commerce. Both these publications contain also statistics on production and on other factors affecting economic conditions. It should be mentioned, however, that official figures on the output of manufactured articles are generally not available, as practically no foreign countries collect periodic statistics of manufactures as does the United States. Such figures as are available on manufactured products are generally derived from the reports of associations of producers. Japan is the only foreign country which has attempted to collect statistics annually for its most important manufactured products. In using Japanese statistics of production it is important to bear in mind the fact that the statistics represent the factory production. For articles made to a large extent in the homes, the statistics are necessarily incomplete.

<sup>1</sup> For a statement of the methods of valuation used in foreign countries, see Bureau of Foreign and Domestic Commerce, Miscellaneous Series 59, " Methods of Computing Values in Foreign Trade Statistics," by J. J. Kral.

The statistical material available in Commerce Reports covers so wide a field that it is impossible to characterize it except in general terms. At present Commerce Reports is issued weekly; prior to September 1921 it was issued daily.

In addition to the reports on commodities or special topics from consular officers and representatives of the Bureau of Foreign and Domestic Commerce annual reviews by consular officers giving statistics on the trade and industry of the countries in which they are stationed are published as supplements to Commerce Reports. These reports contain statistics on the total trade, on important commodities or classes of commodities, and in some cases on the trade by countries. Prior to 1912 these annual reviews were published in the volume, entitled "Commercial Relations," issued by the Foreign Commerce Bureau of the State Department from 1855 to 1902, by the Bureau of Statistics of the Department of Commerce and Labor for 1903, by the Bureau of Manufactures of the Department of Commerce and Labor for 1904 to 1910, and by the Bureau of Foreign and Domestic Commerce of the Department of Commerce for 1911 and 1912. The annual reports for 1913 and 1914 were published from time to time in the Daily Consular and Trade Reports; in 1915 the name of this publication was changed to Commerce Reports, and the reports for 1915 to 1920 were published in the series known as "Supplement to Commerce Reports." From January to September, 1921, they were again published in the regular issues of Commerce Reports; after that publication was changed to a weekly, these reports were again issued as supplements or "Trade Information Bulletins."

The summary chapters in Commercial Relations, showing the total exports and total imports of each country, were also published separately during a portion of this period. The publishing offices and the titles under which the separate summaries were printed are as follows:

Foreign Commerce Bureau, State Department.

Commerce of the world and share of the United States therein.

1879.

1880 and 1881.

Review of the world's commerce.

1894 and 1895.

1896.<sup>2</sup>

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<sup>2</sup> Title page reads 1895-96.



Foreign Commerce Bureau, State Department—*Continued.*Review of the world's commerce—*Continued.*1897.<sup>3</sup>

1898.

1899.

1900.

1901.

1902.

## Bureau of Statistics, Treasury Department.

Review of the world's commerce.

1903.

## Bureau of Manufactures, Department of Commerce and Labor.

Review of the world's commerce.

1904.

1905.

The monographs issued by the Bureau of Foreign and Domestic Commerce in the Trade Promotion Series, formerly known as "Special Agents Series," "Special Consular Reports," and "Miscellaneous Series," contain statistical material dealing with the trade and economic conditions of foreign countries. Many of these monographs deal with markets for specific commodities and the statistical material is incidental to the description of the class of articles sold, the market conditions, and methods of merchandising, etc. As a rule monographs on markets for specific commodities contain statistics for the latest two or three years available at the time the report was prepared.

**Federal Reserve Board.** "The Federal Reserve Bulletin," issued monthly by the Federal Reserve Board, contains current statistics on note circulation, metallic reserves, and deposits of the banks of issue and government finances in the more important foreign countries. From time to time the Bulletin contains detailed articles on the banking and financial situation in foreign countries, in which is given considerable statistical material that is not generally available. A guide to material of this character published from 1914 to 1920 is afforded by the "Index-Digest of the Federal Reserve Bulletin, Volumes I-VI, Inclusive."

The Federal Reserve Bulletin also contains summary statistics on the trade of the United Kingdom, France, Italy, Sweden, Japan, and Germany.

<sup>3</sup> Title page reads 1896-97.

**Department of Agriculture.** The Bureau of Agricultural Economics of the Department of Agriculture issues a weekly bulletin in mimeographed form, entitled "Foreign Crops and Markets," which contains current information on the condition, acreage, production, imports, and exports of crops, the amount of livestock, the production, imports, and consumption of meat and meat products, prices of agricultural products, and other data of value in a study of world conditions affecting agriculture. The statistics are not confined to those relating to crops grown in the United States, but include figures on such products as rubber and coffee. The scope of the bulletin varies from week to week according to the character of the material that is available. The information is compiled from the official publications of foreign countries, the reports of American consular officers, and from commercial journals.

Statistics on production and acreage in foreign countries, compiled from official reports, are published in the Agriculture Yearbook for the following crops: Corn, wheat, oats, barley, rye, flaxseed, flax fiber, rice, potatoes, cotton, tobacco, hops, beans, peas, peanuts, sugar, and silk. This report gives also summary statistics of imports and exports by principal foreign countries for the following: Corn, wheat, oats, barley, malt, rye, rice, potatoes, cotton, cottonseed oil, tobacco, hops, sugar, tea, coffee, oil cake, oil cake meal, rosin, turpentine, rubber, woodpulp, hides and skins, meat, meat products, butter, cheese, and wool: Statistics on apparent consumption are given for corn, wheat, oats, barley, rye, and rice. Other statistics on foreign countries in the Yearbook include data on persons engaged in agriculture, rural and agricultural population, area of agricultural land, and amount of livestock.

In 1921 the Department of Agriculture issued for the first time a compilation of statistics relating to agriculture in foreign countries under the title "Handbook of Foreign Agricultural Statistics," Department of Agriculture Bulletin 987. In this report there are assembled figures on production and acreage of crops, imports and exports of farm products, amount of livestock, etc. Statistics are given generally for ten years if they are available. The material in this bulletin is arranged primarily by countries, while that in the Yearbook is arranged by products. The field of the Handbook is

also somewhat wider than that of the Yearbook. No announcement has been made as to whether this publication will be issued annually.

Statistics on the annual production of the principal grains by foreign countries are given in Bulletin 982 of the Department of Agriculture, entitled "Market Statistics"; figures are given for each year from 1901 to 1920 for the more important grains and for each year from 1910 to 1920 for the minor crops. Export and import statistics are given for meats, grains, wool, butter, cheese, and cotton; most of these are for each year from 1910 to 1920, but some cover the period from 1901 to 1920.

Considerable statistical material of historical interest relating to products of agriculture is contained in the publications of the Bureau of Statistics and the Division of Foreign Markets of the Department of Agriculture. A complete list of these is given in Circular 150 of the Department of Agriculture, but the following deserve special mention by reason of the figures covering a series of years:

Report of the Division of Statistics of the Department of Agriculture No. 5.  
Production and distribution of principal agricultural products of the World.

Annual statistics of imports, exports and production of foreign countries from 1880 to 1890.

Bulletins of the Bureau of Statistics, Department of Agriculture.

30. International sugar situation, 1904.

World production annually, 1853-1904.  
Production, imports and exports.  
Germany, 1872-1904, annually.  
Austria-Hungary, 1883-1904, annually.  
Russia, 1883-1904, annually.  
France, 1882-1903, annually.

39. Meat in foreign markets, tariffs of fourteen importing nations, and countries of surplus.

Exports from principal countries annually 1890 to 1904, and from other producing countries 1895-1904, annually.

40. Meat animals and packing-house products imported into eleven principal countries, annually, 1895-1904.

United Kingdom.	Switzerland.
Germany.	Austria-Hungary.
Netherlands.	Cuba.
France.	Denmark.
Belgium.	Spain.

Italy.

50. Hops in principal countries: Their supply, foreign trade, and consumption, with statistics of beer-brewing.

Imports and exports and production of hops and beer annually, 1890 to 1905 with earlier figures for some countries.

55. Meat supply and surplus, with consideration of consumption and exports.

Total annual exports of principal countries, annually, from 1890 to 1907.

Bulletins of the Bureau of Statistics, Department of Agriculture—*Continued.*

66. Russia's wheat and wheat flour in European markets.

Wheat exports by Russia 1851-1905, annually.

Imports into United Kingdom, by countries, 1855-1905, annually.

Imports into other countries, by countries, 1885-1905, annually.

Monthly prices at Odessa, New York, and England, September, 1884, to August, 1906.

Wheat flour.

Exports from Russia, by countries, annually 1885 to 1905.

Imports, annually, by countries, into Finland, Egypt, and United Kingdom, 1885 to 1905, Germany 1897 to 1905.

68. Cereal production of Europe.

Production, acreage, and yield for cereal crops in European countries, annually, 1883 to 1906.

69. European grain trade.

Exports and imports of several grains by each European country, annually, 1883 to 1906.

72. Agricultural imports of the Netherlands.

Quantity and value, by countries, annually from 1904 to 1906; totals with percentages from United States, 1897-1906.

79. Coffee. Production, trade, and consumption, by countries.

Production, imports and exports of various countries, annually, 1906 to 1910.

Imports into the United States, by countries, annually from 1821.

84. Russian cereal crops.

Area and production by governments and provinces. Annually, 1906 to 1908.

103. International trade in farm and forest products, 1901-10.

Department of Agriculture Bulletin 66. Statistics of sugar in the United States and its insular possessions, 1881-1912.

Shows also production, imports, and exports in other countries from 1908 to 1912.

**Bureau of Labor Statistics.** The best sources for statistics on labor and prices in foreign countries are Bulletins 1 to 47 of the Department of Labor, issued from 1895 to 1903, Bulletins 48 to 100 of the Bureau of Labor, issued from 1903 to 1912, the "Monthly Review" of the Bureau of Labor Statistics, issued from July, 1915, to June, 1918, and the "Monthly Labor Review," issued since June, 1918. There is no periodical publication covering the period from 1912 to 1915. Practically every issue contains summary statistics compiled from foreign publications. This material does not appear in the Review at regular intervals, but is published when the foreign reports are available. In addition the Review contains a list of statistical and other publications relating to labor. It is not practicable to list all the topics covered, as they include every phase of investigations relating to labor and prices. The topics in a recent issue, which is typical, are prices, wages, hours of labor, employment, unemployment, building activities, woman and child labor, strikes, lockouts, and coöperation. A general index to the material in all the publications of the Bureau up to May 1, 1915, is contained in Bulletin 174. This index covers Bulletins 1 to 173, as well as all publications in other series. An index to the

Monthly Labor Review covering the issues from its beginning in July, 1915, to December, 1920, has been published under the title "Monthly Labor Review, Subject Index, Vols. I to XI, July, 1915, to December, 1920."

References have been made in previous pages to several reports giving information on wages and prices in both the United States and foreign countries.

**Public Health Service.** Statistics on the prevalence of communicable diseases and number of deaths from diseases in foreign countries are published weekly in "Public Health Reports," issued by the Public Health Service. These reports are received by mail and cable from officers of the Public Health Service and Consular officers stationed in foreign countries. Some material is also obtained from official publications of foreign governments. A summary of the cases reported during the year is given in the annual report of the Surgeon-General of the Public Health Service.

**Geological Survey.** Statistics on the production of minerals in foreign countries are given in the annual compilation entitled "Mineral Resources of the United States."

Bulletin 703 of the United States Geological Survey contains a discussion of the iron and associated industries of Lorraine, the Saare district, Luxemburg, and Belgium. In connection with the discussion of the development of these industries many tables are given which have been compiled from official reports and other publications and which will be found of value in any study of the iron industry in Europe. The most important of these are the following:

- Steel production of principal European countries, 1894 to 1913.
- Production and consumption of iron ore in the German Empire, 1904 to 1913.
- Production, imports, and consumption of coal and coke by France, 1904 to 1913.
- Prices of coal and furnace coke in coal field tributary to Lorraine iron district, 1909 to 1914.
- Production and distribution of iron ore, source of ore smelted, pig iron and steel production, coal and coke consumption, French Lorraine, 1904
- Iron-mining and iron and steel companies in French Lorraine, Lorraine Annexe, and Luxemburg, 1913; ownership, production, equipment, capitalization.
- Production, exports, distribution, consumption of iron ore in Lorraine Annexe, 1904 to 1913.
- Production of iron ore and steel in French Lorraine, 1904 to 1913.
- Production and distribution of iron ore in Luxemburg, 1904 to 1913.

Production, imports and consumption of iron ore, production of pig iron and steel, Luxemburg, 1904 to 1913.

Production of coal and coke, pig iron and steel, and consumption of coke in Saare district, 1904 to 1913.

Blast furnaces and steel plants in operation in Belgium, July 1, 1914: Location, capital stock, number of furnaces, daily production.

Imports and consumption of iron ore in Belgium, 1901 to 1913.

Production, imports, and consumption of coal and coke, Belgium, 1904 to 1913.

Production of pig iron and steel in Belgium, 1904 to 1913.

Coal mines in Belgium, 1913; name, location, and production.

**Tariff Commission.** A report issued by the Tariff Commission in 1921 entitled "Japanese Cotton Industry and Trade" is mainly a discussion of comparative costs and competition between Japan and the United States, but it contains considerable statistical material on imports and exports of cotton textile products by Japan, as well as data on the cost of production in the two countries. Most of the figures relate to 1913, 1918, and 1919, although there are some data on other years.

In 1919 the Tariff Commission published a report entitled "Japan: Trade during the War," which was expanded, brought to a later date, and reissued in 1922 under the title, "The Foreign Trade of Japan." This report is divided into four parts, dealing with the development of foreign trade prior to the war; the foreign trade since 1913, detailed statistics by commodities for each year from 1913 to 1920 and the first six months of 1921, and the trade with the United States from 1913 to 1920. In the commodity tables the countries of shipment and destination are shown for the more important items, but totals only are given for the goods that are not of great importance.

A brief report on the sheep and wool industry of Argentina, with special reference to the cost of production in 1918 and 1919, is contained in the publication of the Tariff Commission entitled "Sheep and Wool Production in Argentina." This report also contains data on the cost of transportation in 1921 of the more important agricultural products of Argentina, and wholesale prices of domestic wools in the Boston market by months for 1919, 1920, and 1921.

**Bureau of the Census.** In 1907 a Census of Cuba was taken by the provincial government under the supervision of the Chief of the Bureau of Statistics of the Department of Agriculture. The

results were compiled by the Bureau of the Census and published by that organization in a Spanish and an English edition under the titles "Censo de la Republica de Cuba, 1907" and "Cuba; Population, History, and Resources, 1907." In addition to giving figures on the population according to the usual census classification, these reports contain data on the products, industries, climate, immigration, public works, mail, telegraph, prisons, asylums, hospitals, public schools, and mortality. In the English edition the population statistics are in less detail than in the Spanish one.

#### REPORTS OF DISCONTINUED ORGANIZATIONS.

**Bureau of Statistics.** In 1909 the Bureau of Statistics of the Department of Commerce and Labor issued a "Statistical Abstract of Foreign Countries," which gives the total annual imports and exports of each foreign country over a long period of years and more detailed statistics for the period from 1896 to 1906. For the eleven-year period there are shown for each country the total imports and total exports from and to every other foreign country. There are also shown imports and exports of specific commodities or classes of commodities into or from each country. There are no tables showing the country of shipment of or the country of destination of specific articles.

Statistics on the commerce of Canada, Central America, South America, and the West Indies over a series of years are given in the publication of the Bureau of Statistics of the Department of Commerce and Labor entitled "Commercial America in 1907."<sup>4</sup> In this report are shown the total imports and exports of each country over a long series of years, the principal classes of imports annually from 1890 to 1906, and the commerce of the leading European countries with separate American countries during each year from 1900 to 1906. It also contains general statistics dealing with social and economic conditions in each country.

A publication similar to the one described above, issued by the same bureau under the title "Commercial Orient in 1905" contains material on the trade of Asiatic countries and colonies.

**Food Administration.** Summary statistics on the production, imports, and exports of principal food material in foreign coun-

<sup>4</sup> An earlier edition of this report was issued with the title, "Commercial America in 1905."

tries during pre-war and war years are given in the bulletin of the Food Administration entitled "Reference Handbook of Food Statistics in Relation to the War." This gives imports, exports, and production for a three-year pre-war average and annually, figures for 1914, 1915, and 1916; production figures alone are given for 1917 and 1918 as far as available.

**National Monetary Commission.** In connection with its studies of the banking and currency problem in the United States the National Monetary Commission compiled a considerable amount of general statistical material dealing with economic conditions in foreign countries, while its monographs on foreign currency systems contained statistics relating specifically to money and banking.

Volume XXI of the reports of the Commission included a publication entitled "Statistics for Great Britain, Germany, and France, 1867-1909," also issued as Senate Document 578, 61st Congress, 2d Session, which contained statistics compiled from the official reports dealing with general economic conditions, as well as with specific phases of banking and currency. The original reports on which this volume is based are not generally accessible in American libraries, and, therefore, the more important tables pertaining to each of the three countries are listed below:

**United Kingdom.**

Population, annually, 1867 to 1909.

Clearing house returns of London banks, annually, 1868 to 1908.

Imports and exports (value), total and per capita, annually, 1867 to 1908.

Registered tonnage of sailing and steam vessels, annually, 1867 to 1908.

Tonnage entered and cleared, annually, 1867 to 1908.

Railway mileage, receipts, and expenses, annually, 1867 to 1908.

Domestic consumption of tea and sugar, total and per capita, annually, 1867-1908.

Production and exports and imports of coal, iron, and steel, annually, 1867 to 1908.

Imperial and local revenues and imperial debt, total and per capita, annually, fiscal years 1868 to 1908.

Income tax returns, annually, fiscal years 1867 to 1908.

Commercial failures in England and Wales and in Scotland, annually, 1874 to 1908.

Bank capital and surplus, bank deposits, May and October of each year, 1877 to 1908.

Statement of Bank of England, annually, 1889 to 1908.

Consolidated statements of banks of various classes, annually, 1889 to 1908.



United Kingdom—*Continued.*

Statements of individual banks at various dates in 1907 and 1908.

Amount deposited, interest credited, amount paid out and amount due depositors, and amount paid out by postal and other savings banks, annually 1867 to 1908.

Discount and deposits rates, weekly, 1889 to 1908.

Exports and imports of gold, monthly, 1888 to 1908.

Imports and exports of gold bullion and specie, annually, 1857 to 1908.

Imports and exports of silver, annually, 1874 to 1908.

Average annual statistics of the issue and banking departments of the Bank of England, 1844 to 1909.

Dividends of Bank of England, April and October of each year, 1844 to 1909.

Weekly statistics of issue and banking departments of Bank of England, 1888 to 1909.

Note issue of private and joint stock banks, annual average, 1844 to 1909.

Notes in circulation of Bank of England and other issuing banks in England and Wales, Scotland, and Ireland, by four week intervals, 1888 to 1909.

Maximum, minimum, and average discount rate of Bank of England, annually, 1844 to 1909. The official discount rate from 1888 to 1908 is shown graphically in Financial Diagrams.

Average rate for discount on loans in London, other English cities, Scotland, and Ireland, annually, 1888 to 1907.

## Germany.

Maximum, minimum and average discount rate of the Reichsbank and its predecessors, annually, 1844 to 1909.

Population, annually, 1871 to 1908.

Transactions of clearing houses, annually, 1883 to 1908.

Imports and exports, total and per capita, annually, 1872 to 1908.

Exports and imports of gold, annually, 1880 to 1907.

Railway mileage, receipts from freight and passenger traffic, tons carried one kilometer, tons carried per kilometer of line, annually, fiscal years 1881 to 1908.

Iron industry in German Customs Union—production, furnaces, weeks in operation, workers, annually 1871 to 1907.

Coal, lignite, rock salt, crude potassium salts, lead ore, copper ore, gold and silver ore, zinc ore, and all minerals in German Customs Union—quantity produced, value, establishments, workers, annually, 1871 to 1907.

Number, tonnage and seamen of merchant marine, annually, 1871 to 1908.

Government revenues, by classes, annually, 1872 to 1908.

Incomes of population of Prussia, annually, 1893 to 1908.

Consumption of coffee, cocoa, rice, tropical fruits and tea in German Customs Union, total and per capita, yearly average for five-year periods 1871 to 1900, annually, 1901 to 1907.

Consumption of beer, tobacco, and sugar in Germany, total and per capita, annually 1871 to 1906.

Statements of the Reichsbank, annually, 1876 to 1907, weekly 1888 to 1907.

Germany—*Continued.*

- Dividends of Reichsbank, annually, 1876 to 1907.
- Note circulation of Reichsbank and other banks of issue, average annually 1876 to 1907, average weekly 1888 to 1907.
- Capital, surplus, and deposits of German joint stock banks, total and by classes according to capital, annually, 1876 to 1907.
- Consolidated statement of note issuing, credit, and mortgage banks, and land credit institutions, annually, 1888 to 1907.
- Statements of individual note-issuing, credit, and mortgage banks and land credit institutions at end of 1907.
- Deposits in savings banks, annually, 1875 to 1907.
- Savings banks in Prussia—Number of banks, accounts classified by size, total deposits, investments, annually 1870 to 1906; similar information for municipal savings banks, annually, 1875 to 1906.
- Credit and coöperative societies, annual statistics, 1870 to 1907.
- Gold coinage and supply of notes, annually, 1875 to 1907.
- Coinage of gold and silver, annually, 1872 to 1907.
- Imports and exports of gold, monthly, 1892 to 1907.

## France.

- Maximum, minimum, and average discount rate of Bank of France, annually, 1844 to 1909. The changes in the discount rate from 1878 to 1908 are shown graphically in Financial Diagrams.
- Population, 1871 to 1908.
- Imports and exports, 1871 to 1908.
- Number and tonnage of merchant marine, annually, 1872 to 1907.
- Tonnage of vessels entered and cleared, annually, 1871 to 1907.
- Railways—mileage, gross receipts, tons carried one kilometer, annually, 1871 to 1907.
- Consumption of coffee, sugar, and wine, annually, 1871 to 1907.
- Steam machinery employed in industry, annually, 1871 to 1906.
- Production of iron ore, coal, salt, pig iron and iron and steel, annually, 1871 to 1908; salt, lead and silver ore, zinc ore, iron pyrites, and peat, annually, 1887 to 1907.
- Total government receipts, and receipts from taxes, annually, 1871 to 1907.
- Transactions of Paris clearing house, annually, 1871 to 1907.
- Statements of Bank of France, annually, 1875 to 1908; weekly, 1889 to 1908.
- Discount rate in Paris, weekly, 1889 to 1908.
- Individual statements of principal banks of France, annually, 1888 to 1907.
- Statistics of Caisses d'épargne ordinaire (savings banks) annually, 1870 to 1908.
- Statistics of the Caisse nationale d'épargne (national savings bank), annually, 1882 to 1908.
- Money supply, 1878, 1885, 1891, 1897, and 1893.
- Exports and imports of gold, monthly, 1900 to 1908; annually 1890 to 1908.
- Exports and imports of silver, annually, 1890 to 1908.
- Coinage, annually, 1871 to 1908.
- Exports and imports of merchandise, classified by principal countries, annually, 1871 to 1908.

The reports of the National Monetary Commission, in which are described the banking and currency systems of foreign countries, contain statistics relating to these subjects. The most important statistical material is indicated below; in practically every monograph there are additional data scattered through the text.

The annual value of securities underwritten by each of the great banks in Germany is given in the publication in Volume XIV of the reports of the National Monetary Commission entitled "The Great German Banks and Their Concentration in Connection with the Economic Development of Germany," also issued as Senate Document 593, 61st Congress, 2d Session. Figures for the securities issued at the Berlin stock exchange are given for 1883 to 1908, while figures for the value of issues at all German stock exchanges are given for 1897 to 1908.

The report in Volume VIII entitled "The English Banking System," also issued as Senate Document 492, 61st Congress, 2d Session, includes the following statistics on English banking:

Transactions at London clearing house, monthly, 1899 to 1908.

Average daily clearings, at London, by years, 1868 to 1888.

Total clearing house transactions of Bankers Clearing House, annually, 1868 to 1908.

The average gold holdings of the Reichsbank, the Bank of England, and the Bank of France from 1878 to 1909 are given in the report in Volume XXI, entitled "Statistics of the United States, 1867 to 1909," also issued as Senate Document 570, 61st Congress, 2d Session. The same information is shown graphically in "Financial Diagrams," contained in Volume XXIII, and also issued as Senate Document 509, 61st Congress, 2d Session.

Annual statistics for Italy from 1871 to 1908 giving information regarding condition of banks of issue, imports, exports, exchange, prices of bonds, government expenditures, and bank notes in circulation are given in the report in Volume XVIII entitled "The Banks of Issue in Italy," also issued as Senate Document 575, 61st Congress, 2d Session.

In the report in Volume XVIII entitled "Banking in Russia, Austro-Hungary, the Netherlands, and Japan," also issued as Senate Document 586, 61st Congress, 2d Session, the more important statistics are as follows:

Imperial Bank of Russia, statements, annually, 1898 to 1908; joint stock banks, municipal banks, and credit associations in Russia for 1898, 1901, 1904, and 1907.

Bank of the Netherlands, statement at five-year intervals, 1864 to 1900; annually, 1901 to 1907.

Austro-Hungarian Bank.

Statements, five-year intervals, 1880 to 1905, 1906, and 1907.

Note reserve and excess circulation, annually, 1888 to 1907.

Discount rate, 1886 to 1907.

Average exchange rate on Berlin, Paris, and London, 1892 to 1907.

Japan.

Statement of Bank of Japan, annually, 1903, 1905, 1909.

Statement of banks other than Bank of Japan, annually, 1900 to 1909.

Monthly statistics on note issues of banks in Sweden from 1899 to 1909 are given in the report in Volume XVII, entitled "The Swedish Banking System," also issued as Senate Document 576, 61st Congress, 1st Session.

Miscellaneous statistics on banking in Switzerland are given in the report in Volume XVII entitled "The Swiss Banking Law," also issued as Senate Document 401, 61st Congress, 2d Session.

The report entitled "The Banking System of Mexico," which forms a part of Volume XVI, and which was also issued as Senate Document 493, 61st Congress 2d Session, contains a condensed statement of the conditions of banks of promotion, mortgage banks, and banks of issue, semi-annually from 1898 to 1909 and statements for individual establishments for June 30, 1909.

Volume XVI also contains a study entitled "The National Bank of Belgium," also published as Senate Document 400, 61st Congress, 2d Session, which included the annual balance sheet from 1851 to 1908, the annual gross earnings from 1869 to 1908, and the rate of discount and the amount of discount for each year from 1873 to 1908.

Volume IX comprised three publications on banking in Canada. In the report entitled "The Canadian Banking System," also issued as Senate Document 583, 61st Congress, 2d Session, are the following general statistics:

Condensed statement for all chartered banks, including notes in circulation, annually, 1868 to 1908.

Detailed statement of all chartered banks, including notes in circulation, annually, 1904 to 1908.

Principal assets and liabilities of each of the chartered banks, including notes in circulation, December 31, 1908.

Average monthly circulation of each class of Dominion notes, annually 1884 to 1908.

Business of Government savings banks and postal savings banks, annually, 1868 to 1908.

The report entitled "Interviews on the Banking and Currency Systems of Canada," issued as Senate Document 584, 61st Congress, 2d Session, includes a table showing the note circulation, loans, and deposits of all chartered banks by months, 1899 to 1909.

In the report entitled "History of Banking in Canada," published as Senate Document 332, 61st Congress, 2d Session, are the following general tables:

Assets and liabilities of all chartered banks, annually, 1867 to 1908.

Note circulation of all chartered banks, by months, 1868 to 1908.

Clearing house transactions in principal cities, annually, 1890 to 1908.

Statistics on the number of offices, number of depositors, and amount of deposits are given in the report in Volume XIX entitled "Notes on Postal Savings Bank Systems of the Leading Countries," published as Senate Document 658, 61st Congress, 2d Session. The countries for which statistics are given and the years are as follows:

United Kingdom, 1862 to 1908.

New Zealand, 1867 to 1909.

New South Wales, 1871 to 1909.

Western Australia, 1863 to 1910.

Tasmania, 1882 to 1909.

British India, 1882 to 1909.

Ceylon, 1885 to 1909.

Straits Settlement, 1881 to 1909.

Federated Malay States, 1903 to 1909.

Canada, 1868 to 1909.

British Guiana, 1889 to 1908.

Bahamas, 1886 to 1909.

Cape of Good Hope, 1884 to 1910.

Transvaal, 1893 to 1908.

Orange River Colony, 1898 to 1908.

Sierra Leone, 1882 to 1908.

Southern Rhodesia, 1905 to 1909.

Southern Nigeria, 1908.

Gold Coast, 1888 to 1909.

France, 1882 to 1908.

Tunis, 1886 to 1900.

Italy, 1876 to 1908.

Belgium, 1870 to 1908.

Russia, 1889 to 1907.

Finland, 1887 to 1908.

Netherlands, 1881 to 1910.

Dutch Guiana, 1904 to 1909.  
Dutch East Indies, 1898 to 1909.  
Curacao, 1905 to 1909.  
Japan, 1875 to 1909.  
Formosa, 1896 to 1909.  
Austria, 1883 to 1908.  
Hungary, 1886 to 1908.  
Sweden, 1884 to 1908.  
Bulgaria, 1896 to 1908.  
Egypt, 1901 to 1908.  
Philippine Islands, 1906 to 1910.  
Victoria, 1865 to 1897.  
Hawaii, 1887 to 1896.

More detailed statements are given regarding the operation of the postal savings banks in the United Kingdom, Canada, and Italy. The statistics in this report may be brought to a later date for some countries by the use of the table on savings banks in foreign countries contained in the Statistical Abstract and the annual report of the Comptroller of the Currency.

Exchange rates in London, Berlin, and Paris for a series of years prior to 1909 are given in the report in Volume XXI entitled "Statistics for Great Britain, Germany and France, 1867-1909," issued as Senate Document 578, 61st Congress, 2d Session. For each of the cities mentioned monthly rates are quoted from 1889 to 1898 and weekly rates from 1899 to 1908 on each of the two European financial centers and on New York.

Statistics on the average annual net price of government bonds of England, France, and Germany, from 1878 to 1909 are given in the report in Volume XXI entitled "Statistics of the United States 1867 to 1909," published as Senate Document 570, 61st Congress, 2d Session.

**Senate Commission of Gold and Silver Inquiry.** Data on factors affecting the financial situation in Great Britain, France, Italy, and Germany are given in the publication of the Senate Commission of Gold and Silver Inquiry entitled "European Currency and Finance . . . Foreign Currency and Exchange Investigation" (Serial 9, Vol. 1). Among the topics on which figures are given for periods ranging from five to fifteen years are note circulation, gold reserves, deposits, index numbers of wholesale prices, imports, exports, receipts, and expenditures.

The series extending over long periods are the following :

World production of gold, 1493 to 1924.

Index numbers of wholesale prices in Great Britain, 1779 to 1923.

Imports and exports of France, 1865 to 1923.

Imports and exports of Germany, 1870 to 1923.

The volume contains also papers on banking and currency in European countries by both American and European economists and bankers. There is also a text discussion by the economists of the commission on currency and financial conditions in Great Britain, France, Italy and Germany. A second volume will contain similar text on the other European countries.

**Miscellaneous.** Senate Document 477, 61st Congress, 2d session, entitled "Wages and Prices Abroad," contains reports from Consular officers throughout the world on prices of commodities in 1900 and 1910 and on salaries of government employees and school teachers.

Senate Document 409, 61st Congress, 2d Session, entitled "Cost of Living in Canada," is a report from the Consul-General at Ottawa, giving data on monthly wholesale prices of important products in Canada from 1890 to 1909 and retail prices at Ottawa in June, 1897, and 1907.

Senate Document 488, 61st Congress, 2d Session, contains data on the prices paid by the Navy Department for supplies purchased in foreign countries from 1900 to 1909.

## CHAPTER XXXVI

### MISCELLANEOUS

**Government Employees.** The annual reports of the Civil Service Commission contain statistical tables showing for each year since 1884 the approximate number of classified competitive positions, the number examined, number passed, per cent that passed, the number appointed, and the per cent appointed of those that passed. These data are given separately for: (1) Post Office Service; (2) Railway Mail Service; and (3) all other services. It should be noted that these statistics relate only to classified competitive positions.

The Thirty-fourth Report of the Civil Service Commission (1917) contains a table showing the positions in and outside of the District Columbia, by departments and independent establishments, classified according to method of appointment; that is "competitive classified positions," "excepted and noncompetitive positions," and "unclassified positions." Competitive classified positions are those for which an examination is required and for which the appointing officer must select from the three highest names; noncompetitive positions are those for which an examination is required, but to which any person passing the examination may be appointed; excepted positions are those which would ordinarily fall in the competitive or noncompetitive classes, but which have been specially excepted by Executive Order; unclassified positions are those for which an examination is not necessary.

In 1897 the Civil Service Commission prepared a compilation entitled "Tables Showing Number of Positions in Executive Civil Service, June 30, 1896, with their compensation by grades and classes and their status under civil service rules," by Theodore L. Deland, also published as House Document 202, 54th Congress, 2d Session. This reports contains detailed statistics regarding the number and character of employees on June 30, 1896. The general recapitulation table in the report gives the number of employees



on June 30, 1896, classified by departments and independent establishments ; and, for each department and establishment, the number in the classified service further classified by rates of compensation, and excepted places, and the number in the unclassified services further classified by certain minor factors.

In the annual report of the commission for the fiscal year 1919 is a table showing the number of employees in the District of Columbia employed in each department and independent establishment. In later annual reports figures are given for both the personnel in the District of Columbia and in the field. At intervals the commission issues mimeographed statements giving estimates.

In various issues of the Official Register of the United States, compiled for each odd-numbered year up to 1921, are compilations giving information regarding the number of employees. In the issues for 1907 and 1909 are tables showing the number of persons employed in the several bureaus classified by occupations and rate of compensation. From 1907 to 1921 the volumes contain a compilation showing the number and total compensation of employees in the several departments and independent establishments classified according to the state from which they were appointed. The registers from 1913 to 1921 include statements showing the number of employees of the several departments and independent establishments employed in the District of Columbia and in the field.<sup>1</sup>

In 1904 the Bureau of the Census published Bulletin 12, entitled "The Executive Civil Service of the United States," which contained a detailed statistical study of federal employees as of July 1, 1903. The data for this study were secured from the schedules employed in securing information for the preparation of the biennial Register. The total number of employees on July 1, 1903, is shown classified by organization units, character of appointment,

<sup>1</sup>The Official Register was issued by the State Department in 1816 and in every alternate year from 1817 to 1859, by the Department of the Interior in every alternate year from 1861 to 1905, and by the Bureau of the Census in every alternate year from 1907 to 1921. The Act of March 3, 1925 (43 Stat. L., 1105) provides for the publication annually, by the Bureau of the Census, of a "Complete list of all persons occupying administrative and supervisory positions." As the new publication will not require the compilation of information regarding all employees, there will be no data from which to compile a statistical summary.

status, sex, age, occupation groups, years of service, compensation, etc., and by combinations of these factors.

In 1908 a similar study of federal employees, though on a more elaborate scale, was made by the Bureau of the Census and published as Bulletin 94, under the title "Statistics of Employees, Executive Civil Service of the United States, 1907." This gave information regarding employees as of July 1, 1907, and, like the preceding publication was prepared from data secured in connection with the preparation of the biennial Register of that year. The figures relate to all employees in the executive civil service, with the exception of mechanics and laborers in navy yards and naval stations, clerks in post offices not having free delivery, occasional employees of the Weather Bureau, and employees of the Isthmian Canal Commission at work on the Isthmus. Statistics for postmasters are not given in the body of the report, but are tabulated separately. As the report relates to the executive civil service, no figures are given regarding officers and enlisted men of the Army, Navy, and Marine Corps. The term "civil service" embraces all civilian employees of the United States except those noted above, and includes those appointed without examination by the Civil Service Commission as well as those appointed after examination and certification.

The statistics in this volume are classified by sex, age, race and nativity, marital condition, character of appointment, character of work, period of service, compensation, department, bureau, or establishment in which employed, state or territory from which appointed, and war veterans, and by combinations of these classifications. The data on compensation are subclassified under many other heads, including sex, period of service, age, character of work, occupation, and department, bureau, or establishment. For most of the major classifications, figures are given for the entire service and for employees in the District of Columbia and elsewhere than in the District of Columbia.

**Election Returns.** Statistics of voting for federal officers have been published only as incidental to other general compilations, no attention being paid to elections to state and municipal offices. The "Statistical Abstract of the United States" gives figures on the popular vote for Presidential electors in each state at the preceding

election and the electoral vote for President for the six preceding elections. The electoral vote for President at each election since the organization of the government is shown in the volume entitled "Senate Manual containing the Standing Rules and Orders of the United States Senate."

Until recently there has been no compilation of votes for Senators and Representatives, but the Congressional Directory for the 2d Session of the Sixty-Seventh Congress (1922) for the first time contained a table showing the votes for Senators and Representatives in 1916, 1918, and 1920. Later issues give figures for subsequent years. Similar information may generally be compiled from the biographies of individual members printed in the earlier issues of the Directory, but the vote is not shown in every case.

**Industrial Combinations.** At the Census of 1890 a special attempt was made to secure information regarding industrial combinations, and there were published statistics not only for states and groups of industries, but also for individual corporations. The table on the individual corporations gives the date of organization, the number of plants controlled, the authorized issued of stock, the amount of bonds and stock outstanding, and the dividends paid during the census year. These figures will be found in the reports of the Twelfth Census, Volume VII, "Manufactures, Part I." Information on individual concerns was published also in Volume XIX of the report of the Industrial Commission of 1898.

**Commercial Failures and Depressions.** Statistics on commercial failures are not collected by the government, but those compiled by the commercial agencies are published each month in the "Survey of Current Business." For some years these figures have also been published annually in the "Statistical Abstract of the United States." From about 1893 to approximately 1910, monthly or quarterly figures from the same sources were published in the "Monthly Summary of Commerce and Finance."

Two publications of the National Monetary Commission contain compilations from the same sources. The report entitled "Statistics of the United States," in Volume XXI, gives annual statistics from 1867 to 1909, while the one entitled "Seasonal Variations in

Demands for Currency and Capital," in Volume XXII, gives weekly figures from 1890 to 1908.

The First Annual Report of the Commissioner of Labor, 1886, "Industrial Depressions," contains statistics on commercial failures in the United States for each year from 1857 to 1885, compiled from Dun's Review. The greater part of this report contains data on industrial depressions in the United States and Great Britain, France, Belgium, and Germany from 1837 to 1886, and summary statistics dealing with the trade and industry of these countries. Among the statistics which should be especially mentioned are the following:

**France.**

Production of coal, iron, and steel, annually, 1829 to 1883.

Deposits in savings banks, annually, 1835 to 1883.

**Belgium.**

Production of coal, iron, and steel, annually, 1829 to 1883.

**Prussia.**

Deposits in savings banks, annually, 1839 to 1881.

**Germany.**

Production of coal, annually, 1848 to 1882.

**Prices and Sales of Stocks and Bonds.** Data in graphic form on the prices and sales of certain industrial and railroad shares on the New York stock market for various periods are given in Volume XIII of the report of the Industrial Commission of 1898. Weekly sales and highest and lowest weekly prices are shown for both common and preferred stock; and a brief statement is given regarding the organization of each company. The companies for which this information is given and the period covered are listed below:

American Steel and Wire Co., February, 1899, to April, 1901.

American Tin Plate Co., February, 1899, to April, 1901.

Pressed Steel Car Co., April, 1899, to September, 1901.

National Steel Co., April, 1899, to April, 1901.

American Steel Hoop Co., May, 1899, to April, 1901.

National Tube Co., March, 1900, to April, 1901.

Federal Steel Co., October, 1899, to April, 1901.

Colorado Fuel and Iron Co., July, 1892, to October, 1901.

American Cotton Oil Trust, January, 1887, to October, 1901.

Continental Tobacco Co., March, 1899, to October, 1901.

American Tobacco Co., September, 1899, to October, 1901.

American Sugar Refinery Co., February, 1891, to October, 1901.

National Lead Co., January, 1892, to October, 1901.

United States Rubber Co., January, 1893, to October, 1901.

United States Leather Co., February, 1895, to October, 1901.

American Matting Co., March, 1898, to October, 1901.  
 American Linseed Oil Co., March, 1898, to October, 1901.  
 International Silver Co., February, 1899, to October, 1901.  
 Union Bag and Paper Co., March, 1899, to October, 1901.  
 Glucose Sugar Refining Co., December, 1898, to October, 1901.  
 International Paper Co., August, 1898, to October, 1901.  
 National Biscuit Co., August, 1898, to October, 1901.  
 Western Union Telegraph Co., January, 1891, to October, 1901.  
 New York Central and Hudson River Railroad, January, 1890, to October, 1901.  
 Lake Shore and Michigan Southern Railroad, January, 1890, to October, 1901.  
 Delaware, Lackawanna, and Western Railroad, January, 1891, to October, 1901.  
 Chicago and Northwestern Railroad, January, 1891, to October, 1901.  
 Baltimore and Ohio Railroad, March, 1892, to October, 1901.  
 Illinois Central Railroad, January, 1891, to October, 1901.  
 Pennsylvania Railroad, October, 1897, to October, 1901.  
 Union Pacific Railway, January, 1899, to October, 1901.  
 Northern Pacific Railroad, January, 1899, to October, 1901.  
 Atchison, Topeka and Santa Fe Railway, January, 1899, to October, 1901.  
 Chicago, Burlington, and Quincy Railroad, January, 1899, to October, 1901.

Average annual prices and index numbers of average annual prices of railroad and express company shares for the fiscal years 1879 to 1901 are given in Volume XIX of the report of the Industrial Commission. The following companies are considered: Adams Express, American Express, Canada Southern, Central Railroad of New Jersey, Chicago, Burlington and Quincy, Chicago, Milwaukee and St. Paul, Delaware, Lackawanna and Western, Erie, Illinois Central, Lake Shore, Louisville and Nashville, Michigan Central, New York Central, New York, New Haven and Hartford, Northern Pacific, Pennsylvania, Pullman, Reading, Union Pacific, United States Express, Wabash, Wells Fargo, and Western Union Telegraph.

Volume XXII of the report of the Monetary Commission, entitled "Seasonal Variations in Demands for Money and Capital," contains statistics on the weekly fluctuations of the following railroad bonds:

Atchison, Topeka, and Santa Fe adjustment gold fours of 1995: 1897 to 1908.  
 Atchison, Topeka, and Santa Fe general gold fours of 1995: 1897 to 1908.  
 Baltimore and Ohio gold fours of 1948: 1900 to 1908.  
 Central Pacific first refunding gold fours of 1949: 1900 to 1908.  
 Central Railroad of New Jersey general gold fives of 1987: 1890 to 1908.  
 Chesapeake and Ohio general gold four-and-a-halves of 1992: 1893 to 1908.

- Chicago, Burlington and Quincy (Nebraska extension) fours of 1927: 1890 to 1908.
- Chicago, Milwaukee, and St. Paul general gold fours of 1989: 1890 to 1908.
- Denver and Rio Grande first consolidated gold fours of 1936: 1890 to 1908.
- Erie first consolidated gold fours prior lien of 1906: 1898 to 1908.
- Hocking Valley first consolidated gold four-and-a-halves of 1999: 1900 to 1908.
- Iowa Central first gold fives of 1938: 1890 to 1908.
- Long Island unified gold fours of 1949: 1900 to 1908.
- Louisville and Nashville unified gold fours of 1940: 1898 to 1908.
- Missouri, Kansas, and Texas first gold fours of 1990: 1891 to 1908.
- Missouri Pacific first consolidated gold sixes of 1920: 1890 to 1908.
- Missouri Pacific, St. Louis, Iron Mountain and Southern general consolidated gold fives of 1931: 1894 to 1908.
- New York Central and Hudson River gold three-and-a-halves of 1997: 1899 to 1908.
- New York Central and Hudson River (West Shore) first fours guaranteed of 2361: 1890 to 1908.
- New York, Ontario, and Western refunding first gold fours of 1992: 1893 to 1908.
- Norfolk and Western first consolidated gold fours of 1996: 1897 to 1908.
- Northern Pacific prior lien gold fours of 1997: 1897 to 1908.
- St. Louis and San Francisco general gold fives of 1931: 1890 to 1908.
- St. Louis and Southwestern first gold fours of 1989: 1892 to 1908.
- Southern Railway first consolidated fives of 1994: 1895 to 1908.
- Union Pacific land grant fours of 1947: 1899 to 1908.
- Wabash first gold fives of 1939: 1890 to 1908.

Statistics on number and value of shares of stock sold on the New York stock exchange from 1875 to 1909 are given in the report of the National Monetary Commission entitled "Statistics for the United States, 1867-1909," the material being compiled from the Commercial and Financial Chronicle.

**Insurance.** No statistics relating to insurance are collected at present by any branch of the United States government. Statistics relating to all forms of insurance have been collected only twice, at the censuses of 1880 and 1890. The material collected at the Census of 1880 was published in Part II of the "Compendium of the Tenth Census." The statistics on life insurance give figures for individual companies, but the data on fire and marine insurance give state totals only for all companies operating in each state.

The material collected at the Census of 1890 was published in two volumes (parts) entitled "Insurance Business in the United States." Part I had the subtitle "Fire, Marine and Inland Insurance," Part II had the subtitle "Life Insurance." Statistics are given in great detail showing the business transacted by each

company. The general statistics showing the assets, income, and liabilities of each company are arranged by state in which the company has its home office, but there are also tables showing the business done by each company in each state over the ten-year period. The volume on life insurance also contains statistics on fraternal organizations and accident and casualty companies.

The "Statistical Abstract of the United States" contains summary tables on life, fire, accident, health, liability, casualty, and surety insurance supplied by non-governmental organizations.

Workmen's insurance and benefit funds in the United States are described in the Twenty-third Annual Report of the Commissioner of Labor for 1908. The statistical portion of the report is devoted to assessments, benefit payments, and other financial data for individual organizations.

A similar study of workmen's insurance and compensation funds in Europe is presented in the Twenty-fourth Annual Report of the Commissioner of Labor for 1909. The statistical matter in this report is not as extensive as in the report on the United States, being confined to material illustrating the operations of the various funds.

**Newspapers and Periodicals.** Statistics on the circulation, receipts from subscriptions and advertising, persons employed, and other features of various classes of newspapers and periodicals are given in the reports of the census of manufactures in connection with the report on printing and publishing. A detailed report on the newspaper and periodical press in Volume VIII of the Tenth Census (1880) contained, in addition to the statistical material, a directory of individual papers and historical notes on newspapers in each state.

**Forests.** No survey of the forest area or resources of the United States has ever been made, but estimates have been made from time to time. The first important comprehensive estimate appears in Volume IX of the Tenth Census (1880), while the latest is contained in the report of the Forest Service entitled "Timber Depletion, Lumber Prices, Lumber Exports, and Concentration of Ownership," published in 1920. The more important figures in the last-named report are also given in the Statistical Abstract

of the United States for 1922, and in the Agriculture Yearbook for 1923.

Figures on national, state, and municipal forests, on planting by governmental and other agencies, and on forest fires are given in the Agriculture Yearbook.

The woodland included in farms is given in connection with the decennial statistics of agriculture, statistics by states being given in Volume V of the Fourteenth Census (1920) and by counties in Volume VI. The quantity of woodland in farms is of little importance in the general consideration of the question of lumber supply, as the forested areas proper are not generally included in farms. In general from 1910 to 1920 the area of woodland in farms decreased in the Eastern states and older states of the Mississippi Valley and increased in the Pacific and Mountain states and several states in the Mississippi Valley. The increase is due to the fact that in 1920 there were included in farms many tracts of woodland which did not form parts of farms in 1910. The increase, therefore, is not due to an increase in the total forested area, but results from the increase in areas included in farms.

**Disasters to Vessels.** Casualties to American vessels in domestic and foreign waters and on the high seas are reported in the annual report of the Coast Guard. The Act of June 20, 1874 (17 Stat. L., 125), requires the master of any American vessel sustaining an accident involving loss of life or material loss of property, to make a report to the collector of customs of the district in which the vessel belongs or to the collector of customs in the district in which the accident happened. The Act of June 18, 1878 (20 Stat. L., 164) made it the duty of the Life Saving Service to publish these statistics, which will be found in the reports of that service from 1876 to 1914. In 1915 the Life Saving Service was merged with the Revenue Cutter Service to form the Coast Guard, which has published these statistics each year since that time.

Casualties are divided into foundering, strandings, collisions, and "other causes." Separate figures are given for (1) The Atlantic and Gulf Coasts, (2) the Pacific Coast, (3) the Great Lakes, (4) rivers, and (5) the high seas and foreign waters. For each class of casualties and each region, figures are given regarding



the number and tonnage of vessels involved, the number and tonnage of vessels totally lost, the value of vessels and cargoes involved, the amount of loss sustained by vessels and cargoes, the number of passengers and crews on board, and the number of passengers and crews lost.

It should be noted especially that the statistics apply to American vessels only, and give no information regarding casualties to foreign vessels on the American coast. The heading of the table is misleading, as it indicates that the figures for accidents in American waters apply to foreign as well as American vessels.

Other statistics on accidents to vessels are published in the annual reports of the head of the Steamboat Inspection Service, which have been issued each year since 1880. This service was a part of the Treasury Department from 1880 to 1903, of the Department of Commerce and Labor from 1903 to 1912, and of the Department of Commerce beginning with 1913. From 1853 to 1867, with the exception of 1861, the work of the service is discussed in the annual report of the Secretary of the Treasury on the state of the finances; these early reports do not contain any assembled statistics but do give some accounts of disasters during this period.

The statistics of the Coast Guard and of the Steamboat Inspection Service do not agree, as the bases for making the reports and the classifications are not the same.

**City Slums.** Statistics relating to the slums of Baltimore, Chicago, New York, and Philadelphia were presented in the Seventh Special Report of the Commissioner of Labor, issued in 1894. An enumeration was made of all the inhabitants of selected slum areas in these cities and statistics are given regarding their social and economic condition.

**Liquor Problem.** The economic aspect of the liquor problem was the subject of the Twelfth Annual Report of the Commissioner of Labor for 1897, which contained statistics on production of liquors and amount of material used from 1880 to 1896, the consumption from 1840 to 1896, the capital invested and persons engaged in the industry in 1896, and the license fees and special taxes collected by states, counties, and municipalities in 1896.



## INDEX

The names of states and cities are indexed only if the text contains a reference to a specific report on a particular state or city. Statistics by states are given in practically all general reports; statistics by cities are given in all census reports on population, births, and deaths, and in many publications on other subjects. Under the index entry "Cities" are given references to the more important topics on which statistics are available for a large number of cities. Likewise individual foreign countries are indexed only when specifically referred to in the text. Many reports contain data on several countries, and the specific countries are not listed in the text; for this reason the index item "Foreign countries" should be used in addition to the reference to a particular country.

Commodities and industries are indexed only if the text contains specific references to them. As practically every commodity is included in some classification of the statistics on production, imports and exports, and as data on many commodities are given in the statistics on prices, the following chapters should be consulted in order to locate data falling within their respective scopes: Production of crops (Chapter XVI, pages 197-220), livestock (Chapter XVII, pages 221-227), livestock products (Chapter XVII, pages 228-233), production of minerals (Chapter XIX, pages 234-250), products of the fisheries (Chapter XX, pages 251-256), production of manufactured articles (Chapter XXI, pages 257-269), imports and exports (Chapter XXIII, pages 326-372), and prices (Chapter XXVII, pages 441-452). Under the index entries "Production," "Prices," "Imports," and "Exports," are listed all the commodities on which references to these topics are made elsewhere than in the chapters relating to these subjects.

Separate figures on each industry engaged in mining and manufacturing are given in the statistics on these subjects discussed in Chapters XIX and XXI. Therefore these chapters should be consulted in order to determine the data on particular industries that are available.

- Abstract of the Census, general review of, 12.
- Abstract, Statistical, of the United States, general review of, 10.
- Academy of Sciences, National, report on psychological tests, 132.
- Accidents:
  - coal mines, 135.
  - coal mines in Europe, 151.
  - coke ovens, 137.
  - deaths from, 123.
  - metal mines, 136.
  - metal trades, 172.
  - metallurgical works, 137.
  - quarries, 136.
  - railroads, 132.
- Acids, data on, 316-317.
- Adams, H. C., report on railroads by, 374.
- Age, accidents classified by, 135;
  - births classified by age of parents, 116;
  - deaths classified by, 123.
- Age statistics:
  - all classes of population, classified by race, nativity and parentage, 34-38.
  - blind and deaf, 85.
  - Chinese and Japanese, 37, 77.
  - citizens departing, 92.
  - deaths, 122, 123, 126.
  - emigrants, 93.
  - farm operators, 188.
  - farm population, 23.
  - foreign born white population, classified as to citizenship, 64.
  - illiterates, 48-53, 74, 77.
  - immigrants, 92.

Age statistics—*Continued*

- Indians, 37, 74.
  - negroes, 37, 72, 73.
  - paupers, 79.
  - persons engaged in gainful occupations, 112-114.
  - persons unable to speak English, 54.
  - population attending school, 43-47, 74, 77.
  - population classified by marital condition, 40-41.
  - women and children in certain industries, 170-171.
- Agricultural conditions, reports on, 177-196.
- Agricultural crisis, report on, 177.
- Agricultural Economics Bureau publications: crop statistics, 202-217; foreign crops and markets, 522; market reports, 427-433; wages of farm labor, 166. *See also* Agriculture Department publications.
- Agricultural implement industry, general reports on, 181, 319, 509; immigrants in, 95, 97-99; production costs in, 325.
- Agricultural Inquiry, Joint Commission of, report of, 177, 393, 398, 415.
- Agricultural Outlook, data contained in, 203.
- Agricultural products. *See* Farm products.
- Agricultural staples, Tariff Commission report on, 299-301.
- Agriculture, annual and monthly statistics on, 8, 11, 202-214, 221-226; decennial statistics on, 177-195, 197-202, 221, 228-229; immigrants in, 99; negroes in, 73.
- Agriculture Department, appropriations and expenditures of, 471; discrepancy between crop production statistics of Census Bureau and, 214-217.
- Agriculture Department publications:
- Agriculture Yearbook, 12.
  - crop production, 202-217.
  - Crops and Markets, 8.
  - food animals and meat consumption, 232.

Agriculture Department publications—*Continued*

- foreign agricultural statistics, 522.
  - forestry, 372.
  - grain production, 214.
  - livestock, 226.
  - market conditions, 427-434.
  - meat production, 232.
  - production and conservation of fats and oils, 272.
  - seed statistics, 371.
  - sheep, lamb, wool, and mutton statistics, 227.
  - wages of farm labor, 166.
- Agriculture Yearbook, statistics in, 12, 203, 226, 232, 360, 390, 427, 448, 522.
- Alaska, reports on, 511-512; trade of, 334, 352.
- Aldrich report on wages and hours of labor, 146; on wholesale prices, 441.
- Alien laws, report on, 96.
- Aliens, statistics on, 64-66. *See also* Immigration.
- Almshouses, paupers in, 78-79; reports on municipal, 485.
- Ammonia, sulphate of, data on, 316.
- Amsterdam Canal, data on, 392.
- Animal fats and oils, reports on, 272.
- Antimony, data on, 287, 313.
- Appropriations, national, reports on, 453-473.
- Argentina, exports of beef from, 304; immigration into, 96, 363; sheep and wool production in, 526; wheat prices in, 294.
- Armour and Co., report on, 304.
- Army, morbidity and mortality in, 129.
- Art galleries, municipal, report on, 488.
- Ashes, disposal of, 486, 487.
- Asses and burros, number of, 222, 223, 224, 225.
- Atlanta, Ga., family budgets of cotton mill workers in, 173.
- Atlas of the Census, general review of, 12.
- Auditor of Railroad Accounts, reports of, 374.

- Australia, immigration situation in, 96; wheat prices in, 294.
- Austria, coal industry in, 151; coal mine accidents in, 136; industrial accidents in, 135; industrial census of, 259.
- Austria-Hungary, banking statistics of, 532; emigration conditions in, 97; gas mantle trade of, 318.
- Automobile industry, wages and hours of labor in, 148.
- Automobile tire industry, wages and hours of labor in, 148.
- Automobiles, accidents to, on railroads, 133; death from accidents to, 123; number licensed, 403; number on farms, 190; taxes collected on, 283; valuation of, 509.
- Baltimore, child labor and delinquency in, 172; passengers arriving at and departing from, 105; women and children in clothing industry in, 170, 171.
- Bank clearings, statistics on, 14, 499, 500, 502.
- Bank notes, reports on, 491, 493, 499.
- Banking, reports on, 8, 11, 489-504.
- Banks, immigrant, report on, 96.
- Barium chemical and barytes industry, report on, 316.
- Baths, municipal, reports on, 485.
- Bayley, R. A., report on national loans by, 474.
- Beef, reports on, 293, 304.
- Beef cattle, number of, 222, 223, 224.
- Beef industry, reports on, 304.
- Bees, data on, 222.
- Beeswax, marketing reports on, 429.
- Beet sugar industry, report on, 301.
- Belgium, banking statistics of, 532; coal industry in, 151; coal, iron, and steel production in, 540; coal mine accidents in, 136.
- Benevolent institutions, reports on, 79-82.
- Bernhardt, Joshua, report on sugar trade by, 301, 303.
- Beverages, production of, 283.
- Birth, country of, of foreign born population, 58-62; state of, of native population, 55-58.
- Births, general statistics on, 115-117; in Virgin Islands, 517; to immigrant women, 100.
- Blind, census reports on, 73, 84-85; homes for, 79-80.
- Block signals, statistics on, 394.
- Blodgett, Samuel, compilation by, 13.
- Bohemians in agriculture, report on, 99.
- Bonded warehouse, definition of, 327.
- Bonds, prices of domestic, 540-542; prices of foreign government, 534.
- Boot and shoe industry, cost of production in, 324; production of, 286, 271; wages and hours of labor in, 148.
- Boston, child labor and juvenile delinquency in, 172; fishery products landed at, 255; immigrants in, 100; working women in, 171-172.
- Botanical drugs, imports of, 370.
- Boxes, wood used in manufacture of, 279.
- Brazil, immigration into, 96, 363; exports of monazite sand from, 317.
- Broomcorn trade, data on, 423.
- Brush industry, report on, 320-321.
- Budget, National, discussion of, 453-461.
- Budgets, family, of cotton mill workers, 170, 173.
- Buffalo, immigrants in, 100.
- Building and loan associations, reports on, 504.
- Buildings, public, appropriations and expenditures for, 471.
- Bunkering stations, oil, data on, 312.
- Bureau. *See* first significant word of name.
- Burlington, N. C., family budgets of cotton mill workers, 173.
- Business conditions, monthly general statistics on, 8.
- Butter, marketing reports on, 427, 428; statistics of, 229, 230, 233, 293.
- Button industry, reports on, 254, 321.
- Cable systems, report on, 404.
- Canada, agricultural staples, production, exports and imports of, 299-300; banking statistics of, 532-533; coal mine accidents in, 136; foreign

- trade of 527; grain production and trade of, in, 292, 293; immigration situation in, 96; trade with, 363; wages in white pine lumber industry of, 150; wheat prices in, 294.
- Canal Zone, reports on, 516-517; shipments to and from, 335.
- Canals, domestic, reports on, 13, 424; valuation of, 509.
- Canals, foreign, data on, 392.
- Canals of New York, merchandise moved on, 363.
- Cancer, deaths from, 127. *See also* Deaths.
- Candy, taxes collected on, 284.
- Canned goods, reports on, 308-309.
- Capital investment of drainage enterprises, 195; of fishery industry, 252, 253; of irrigation projects, 191; of manufacturing industries, 268; of mineral industry, 249; of railroads, 380.
- Carpenter, Niles, monograph on immigrants and their children by, 17.
- Cattle, number of, 22, 223-224, 225, 226; slaughter of, 229.
- Cattle and beef, report of Tariff Commission on, 304.
- Cement, production, shipments, and stock of, 237, 239.
- Cement industry, immigrants in, 99.
- Census, dates of, 18; questions asked at Fourteenth, 18.
- Census Bureau, discrepancy between crop production statistics of Department of Agriculture and of, 214-217.
- Census enumerations, area covered by, 19.
- Census publications:
- abstracts and atlases, 12.
  - agricultural conditions, 178-196.
  - benevolent institutions, 79-82.
  - births, 115-117.
  - blind, 84-85.
  - census of war commodities, 286.
  - child labor, 168-169.
  - Chinese and Japanese, special reports, 76-77.
  - cities, finances, 478.
  - cities, general statistics, 484-485.
  - cotton production and trade, 217.
  - Census publications—*Continued*
  - crop production, 197-202, 217-220.
  - deaf, 84-85.
  - deaths, 118-128.
  - delinquents, 85-86.
  - dispensaries, 81-82.
  - drainage, 195-196.
  - dwellings, 67-68.
  - express companies, 397.
  - families, 67-68.
  - farm expenses, 190.
  - farm facilities, 190.
  - farm operators, 182-190.
  - farms, 181, 185-186, 189-190.
  - fish and fisheries, 251-253.
  - forest products, 275-279.
  - homes and home ownership, 68-70.
  - hospitals, 79-82.
  - imports, exports, and domestic manufactures, 366.
  - Indians, special reports, 73-76.
  - insane and feeble minded, 82-84.
  - insurance, 542.
  - irrigation, 191-195.
  - livestock, 221-226.
  - livestock products, 228-233.
  - manufactured articles and manufacturing industries, 258-279.
  - marriage and divorce, 138-139.
  - mines and quarries, 242-250.
  - mortgages on farms, 189-190.
  - mortgages on homes, 69-70.
  - national wealth, 508.
  - occupations, 106-114.
  - negroes, special reports, 71-73.
  - paupers, 78-79.
  - population in general, number and characteristics, 15-70.
  - population of Cuba, 526.
  - prices, retail, 450.
  - prisoners, 85-86.
  - railroad accidents, 134.
  - railroads, 373.
  - religious bodies, 140-142.
  - state finances, 476.
  - street railways, 399.
  - strikes and lockouts, 164.
  - telegraph systems, 403.
  - telephone systems, 405.
  - tobacco production and trade, 219.

- Census publications—*Continued*  
 wages, 152-155.  
 water and electric power, 435.  
 water transportation, 420-421.
- Center of population, 28.
- Charitable institutions, census reports on, 79-82; number of aliens in, 89.
- Checks, use of, 501-502. *See also* Bank clearings.
- Cheese, data on, 229, 230, 233, 293; marketing reports on, 427-428.
- Chemicals, imports of, 369.
- Chewing gum, taxes collected on, 284.
- Chicago, arrests in, 103; immigrants in, 100; Italian population of, 103; women and children in clothing industry in, 170, 171; working women in, 171-172.
- Chickens, data on, 222, 224, 229, 230.
- Chief of Engineers, reports by, on power situation during the war, 439; on water-borne commerce, 419.
- Child labor, reports on, 168-174. *See also* Children.
- Child labor legislation, report on, 170.
- Children, census statistics of, 176; delinquency of, 73, 86, 170, 172; occupations of, 106, 112-113; mortality of, 123, 176; special reports on women and, 168-176. *See also* Child labor.
- Children's Bureau, reports of, 176.
- Children's homes, census reports on, 79.
- Chile, nitrate exports from, 316.
- Chinese and Japanese, special reports on, 76-77.
- Chromite, data on, 313.
- Churches, reports on, 140-142.
- Cigar industry, immigrants in, 95, 97-99; wages and hours of labor in, 148.
- Cigarette industry, immigrants in, 99.
- Cities:  
 births in, 116.  
 Chinese and Japanese in, special reports on, 77.  
 deaths in, 120-123, 126.
- Cities—*Continued*  
 diseases in, 130.  
 domestic animals in, 225.  
 dwellings in, 68.  
 families in, 68.  
 finances of, 478-483.  
 freight rates on milk to, 392.  
 general statistics of, 484-488.  
 home ownership, mortgages, and interest rates on mortgages on homes in, 69.  
 hospitals in, 81.  
 immigrants—living conditions, economic status, assimilation, 100; as charity seekers, 102; children in schools, 100-101.  
 manufacturing in, 260.  
 negroes in, special reports on, 73.  
 occupations, 113, 114.  
 population—total, 27; age, 36-38; color, race, nativity and parentage, 30-31; citizenship of foreign born, 65; country of birth of foreign born, 59; country of origin of foreign white stock, 61; illiteracy, 48-53; inability to speak English, 54; marital condition, 40-41; mother tongue of foreign white stock, 64; school attendance, 43-47; sex, 33-34; state of birth of native population, 55; year of immigration of foreign born, 67.  
 religious bodies in, 141.  
 retail prices in, 451.  
 school systems of, 143.  
 union scale of wages and hours of labor in, 149.  
*See also* names of individual cities for special reports.
- Citizens, departure of, 92.
- Citizenship, decennial census statistics on, 64-66.
- Civil divisions, minor, population of, 27.
- Clark, V. S., report on employment conditions in railroad service, 163.
- Clearing houses, transactions of, 492, 493, 499-500, 502.
- Cleveland, immigrants in, 100; fecundity of immigrant women in, 100.

- Clothing industry, cost of production in, 325; immigrants in, 95, 97-99; wages and hours of labor in, 148; women and children employed in, 170, 171.
- Coal, consumption of, in manufacturing, 267; consumption of, in mining, 250; cost of production of, 324; reports on, 237, 239, 242, 247.
- Coal industry in Europe, report on, 151.
- Coal mining, accidents in, 135-136; immigrants in, 95, 97-99; methods of, 237; wages and hours of labor in, 146, 148, 152.
- Coal tar chemicals, production and imports of, 280-281.
- Coal trade, reports on, 312, 418.
- Coffee trade, report on, 524.
- Coinage, reports on, 240.
- Coke industry, immigrants in, 99.
- Coke ovens, accidents at, 137.
- Cold storage, fishery products held in, 256.
- Collar and shirt industries, cost of production in, 324; immigrants in, 95, 97-99.
- Colleges, data on, 143-145; immigrants in, 102.
- Color and race, population classified by, 28-31.
- Columbia, S. C., child labor and school attendance in, 172.
- Columbus, Ga., child labor and school attendance in, 172.
- Commerce and Finance, Monthly Summary of, statistics in, 354-355.
- Commerce and Navigation, statistics in, 343-349.
- Commerce Reports, data on foreign countries in, 519.
- Commerce Yearbook, general review of, 11.
- Commercial failures, reports on, 14, 539-540.
- Commission, Joint, of Agricultural Inquiry, report of, 177, 393, 398, 415.
- Commissioner. *See* first significant word of title.
- Condensed milk, data on, 230, 233, 309.
- Connecticut, manufactures in, early statistics on, 257.
- Construction, statistics on, 11.
- Consumption. *See* Tuberculosis.
- Contract labor, report on, 95.
- Convict labor, reports on, 167.
- Cooperative marketing and purchasing by farm operators, 190.
- Copper industry, cost of production in, 324; immigrants in, 95, 97-99; statistics of, 247.
- Corn, yield per acre and prices, 214. *See also* Grain.
- Cornstarch, production of, 309.
- Corporations, income tax returns of, 505-508; manufacturing establishments operated by, 264; state taxation of, 478.
- Corporations Bureau, work of, 288-290.
- Corporations Commissioner's reports:
- beef industry, 304.
  - cotton exchanges, 450.
  - International Harvester Co., 319.
  - lumber industry, 449-450.
  - petroleum industry, 310.
  - steel industry, 313.
  - taxation of corporations, 478.
  - tobacco industry, 307.
  - transportation by water, 426.
  - transportation of petroleum, 393.
  - water power development, 437.
- Cost, labor, report on, 149.
- Cost of production, reports on, 323-325.
- Cotton, reports on, 213, 217-219, 271, 427.
- Cotton, Egyptian and American long staple, report on, 310.
- Cotton goods industry, cost of production in, 324; employment of women and children in, 170-171; immigrants in, 95, 97-99; wages and hours of labor in, 148. *See also* Textile industry; Textiles.
- Cotton mill workers, hookworm among, 170; family budgets of, 170, 173.
- Cotton mills, data on, 422.
- Cotton spinning, report on, 271.
- Cotton spinning machinery, cost of production of, 324.



- Cotton trade, reports on, 418, 422.  
 Cotton venetians, cost of production of, 325.  
 Cotton yarn, report on, 370.  
 Counties, statistics classified by :  
   births, 116.  
   crop production, 202.  
   deaths, 122.  
   drainage, 195.  
   dwellings, 68.  
   families, 68.  
   farm expenses, 190.  
   farm mortgages, 190.  
   farm operators, 182-188.  
   farm tenure, 183, 184-185.  
   farms and farm property, 181.  
   finances of, 483.  
   home ownership, 69.  
   Indians, special report, 74.  
   irrigation, 191.  
   livestock, 224.  
   livestock products, 230.  
   manufactures, 260.  
   marriage and divorce, 139.  
   negroes, special reports, 72, 73.  
   population—total 26, 28; age, 36, 38; color, race, nativity and parentage, 30-31; citizenship of foreign born, 65; country of birth, 59; illiteracy, 48-49, 51-53; school attendance, 44; sex, 33-34.  
   religious bodies, 141.  
   sex of farm operators, 187.  
   size of farms, 186.  
   woodland on farms, 544.  
 Country classification in import and export statistics, 333-334.  
 Courts, juvenile, reports on, 486.  
 Coxe, Tench, compilation by, 13.  
 Credit instruments, use of, 501-502.  
 Crime, relation of immigration to, 103. *See also* Delinquents.  
 Crop Estimates Bureau, data collected by, 202, 203.  
 Crop production in foreign countries, 522; in United States, 197-220.  
 Crop Reporter, data contained in, 203.  
 Crop statistics, discrepancy between those of Census and Department of Agriculture, 214-217.  
 Croppers. *See* Tenure of farm operators.  
 Crops. *See* Farm products.  
 Crops and Markets, data contained in, 8, 166, 203, 427, 448.  
 Cross ties, purchases of, 278.  
 Cuba, census of, 526.  
 Cudahy Packing Company, report on, 304-305.  
 Cuff manufacturing, immigrants in, 95, 97-99.  
 Currency, data on, 14, 489-495; gold value of, 366.  
 Current Business, Survey of, general review of, 9-10.  
 Customs districts, import and export statistics by, 329-332.  
 Customs receipts, data on, 342, 364, 469.  
 Dairy cattle, number of, 222, 223, 224, 225, 226.  
 Dairy products, data on, 233, 423, 427, 428.  
 Dams used for irrigation, 191.  
 Day nurseries, census reports on, 79.  
 DeKnight, W. F., report on currency and loans by, 475.  
 Deaf, data on, 73, 84-85; homes for 79-80.  
 Death rates, special reports on, 124-125, 127.  
 Deaths, general statistics of, 72, 75, 118-129; in foreign countries, 525; in Virgin Islands, 517; of glass workers, causes of, 171; of infants, 116, 123, 172, 176. *See also* Accidents.  
 Debt, of counties and minor civil divisions, 483; of states, 476-478; of United States, 14, 460, 465, 467, 473-475.  
 Defectives, reports on, 73, 78-86.  
 Delaware, manufactures in, early statistics on, 257.  
 Delaware and Raritan Canal, data on, 425.  
 Delinquency of children, report on, 73, 86, 170-172; of women, 170.  
 Delinquents, reports on, 73, 85-86.  
 Denmark, industrial census of, 259.

- Denominations, religious, statistics on, 140-142.
- Density of population, 28.
- Department. *See* first significant word of name.
- Dependents, statistics on, 73, 78-86.
- Depository libraries, note on, 7.
- Dextrine, data on, 309.
- Dictionary of races or peoples, reference to, 97.
- Directory, Statistical, of State Institutions, scope of, 80.
- Disbursements. *See* Expenditures.
- Discount rates, data on, 8, 493.
- Diseases, data on, 7, 75, 129-131; deaths classified by, 123; in foreign countries, 525; of glass workers, causes of, 171.
- Dispensaries, reports on, 79.
- Distilled spirits, production of, 283.
- Distilling, grain used in, 291.
- District of Columbia, appropriations and expenditures of, 471; child labor in, 168.
- Districts. *See* Customs districts; Minor civil divisions.
- Divisions, geographic, states in, 23.
- Divorce, statistics on, 138-139. *See also* Marital condition.
- Divorce laws, digest of, 139.
- Divorced persons. *See* Marital condition.
- Documented vessels, definition of, 408.
- Dodge, J. R., report on wages of farm labor by, 166.
- Domestic commerce, reports on, 11, 363, 415-434.
- Domestic exports, definition of, 329. *See also* Exports.
- Douglas, E. M., cited on state boundaries, 19.
- Drainage, reports on, 195-196.
- Drainage districts, laws governing, 196.
- Drawback, statistics of, 348.
- Drowning, deaths from, 123.
- Drugs, imports of crude botanical, 370.
- Ducks, number of, 222.
- Duties, data on, 342, 463, 469.
- Dwellings, statistics on, 67-68.
- Dyeing industry, immigrants in, 95, 97-99.
- Dyestuffs, cost of production of, 325; imports of, 280-281, 369; production of, 280-281.
- Earnings of immigrants, 98, 100; of wage earners in glass industry, 319; of women and children, 170-171. *See also* Wages.
- Education, statistics on, 143-145.
- Education Bureau, reports of, 143-145.
- Eggs, data on, 229, 230, 428.
- Eight Hour Commission, reports of, 163, 395.
- Election returns, reports on, 538-539.
- Electric lamp industry, employment of women and children in, 171.
- Electric light used on farms, 190.
- Electric plants, municipal, reports on, 485.
- Electric power, general reports on, 435-440; use of, in manufacturing, 267; use of, in mining, 267.
- Electric railroads, reports on, 399-401.
- Eleemosynary institutions, reports on, 79-82.
- Elevators, grain, reports on, 291, 293, 295-296.
- Emigrants and immigrants, reports on, 87-103.
- Employees. *See* Wage earners.
- Employment, statistics on, 11, 164.
- Engineers, Chief of. *See* Chief of Engineers.
- England, banking in, 531; deaths from tuberculosis in, 126; trade and shipping of, 363; wages in thirteenth and fourteenth century in, 146. *See also* Great Britain, United Kingdom.
- English, ability of immigrants in industries to speak, 98, 100; census statistics on inability to speak, 54-55.
- Europe, coal mine labor in, 151.
- Evans, C. H., report on imports by, 364.
- Evans, W. W., report on imports by, 364.

- Evaporated milk, data on, 230, 233, 309.
- Exchange rates, reports on, 307, 503, 534.
- Expenditures of cities, 478-482; of states, 476-478; of United States, 453-473.
- Explosives, sales of, 281.
- Exports:
- compilations on, 362-368.
  - current reports on, 9, 11, 326-362.
  - data on specific commodities:
    - agricultural products affected by Emergency Tariff, 299.
    - antimony, 313.
    - baking powder, 317.
    - beef and beef products, 304.
    - brushes, 321.
    - buttons, 321.
    - chemical glassware, 318.
    - cotton, 310.
    - fish, 251.
    - flaxseed, 300, 301.
    - gas mantles, 318.
    - gasoline, 311.
    - glass, 318.
    - grain and grain products, 290-293, 297, 300, 301.
    - graphite, 313, 314.
    - hay, 300, 301.
    - leaf tobacco, 307.
    - leather, 306.
    - lumber and wood products, 372.
    - manufactured articles, 364.
    - meat and dairy products, vegetable oils, and bread-stuffs, 292.
    - meats, 305.
    - milk and milk products, 307.
    - minerals, 236.
    - paper and books, 320, 321.
    - petroleum and petroleum products, 311, 312.
    - potatoes, 300, 301.
    - quicksilver, 313.
    - silk goods, 310.
    - sugar, 303.
    - sulphur, 313, 315.
    - wood products, 372.
  - preferential freight rates for, 394.
- Exports—*Continued*
- value of, method of determining, 337-339.
- Exports, domestic and foreign, definition of, 329.
- Express companies, statistics of, 397-399.
- Factories, social condition of women employed in, 171.
- Factory conditions, laws relating to, 170; statistics on, 174.
- Failures, reports on, 14, 539-540.
- Fall River, Mass., family budgets of cotton mill workers in, 173; infant mortality and employment of mothers in, 172-173; mortality records of, 173.
- Families, size of, 73.
- Families, immigrant, in industries, income of, 98.
- Family budgets of cotton mill workers, 170, 173.
- Farm experience, data on, 188-189.
- Farm implements. *See* Agricultural implements.
- Farm labor, wages of, 166-167.
- Farm operators, age of, 188; livestock classified by tenure of, 225-226; race and nativity of, 186-187; sex of, 187; tenure of, 73, 178, 182-185; years on farms of, 188.
- Farm products, distribution of, 422; exports and imports of, 177, 360; freight rates on, 393-394; marketing of, 427-434; prices of, 8, 427-434, 448-449; special reports on, 288-307; yield of, 8, 197-226.
- Farm property, value of, 73, 181.
- Farm tenure, reports on, 178, 182-185.
- Farms:
- acreage of, 73, 181.
  - automobiles and motor trucks on, 403.
  - buildings on, value of, 181.
  - expenses of, 190.
  - facilities used on, 190.
  - forest products of, 279.
  - livestock on, 221-227.
  - mortgages on, 70, 178, 189-190.
  - number and value of, 181.

Farms—*Continued*

- operators of. *See* Farm operators.
  - population of, 17, 23-24.
  - products of. *See* Farm products.
  - radio sets on, 191.
  - size of, 185-186, 225-226.
  - telephones on, 406.
  - woodland on, 544.
- Fats and oils, reports on, 272.
- Fecundity of immigrant women, 100;  
of negroes, 72.
- Federal reclamation work, reports on, 195.
- Federal Reserve Bulletin, statistics in, 8, 359.
- Federal Trade Commission, activities of, 288-290.
- Federal Trade Commission publications:
- anthracite and bituminous coal, 312.
  - beet sugar industry, 301.
  - canned foods, 308.
  - commercial feeds, 298.
  - farm implement prices, 320.
  - fertilizer industry, 315-316.
  - foreign ownership in the petroleum industry, 312.
  - gasoline prices, 311.
  - grain exporters, methods and operations of, 297.
  - grain trade, 294-297.
  - household furniture prices, 318.
  - meat packing industry, 304-305.
  - milk products, 306-307.
  - newsprint paper industry, 320.
  - petroleum industry of Pacific coast, 311.
  - petroleum industry of Wyoming, 311.
  - petroleum products, prices of, 312.
  - pipe line transportation, 402.
  - private car lines, 396.
  - stove prices, 319.
  - sugar supply and prices, 303.
  - tobacco industry, 307.
  - wheat flour milling, 297-298.
  - wheat prices, 450.
  - woolen rag trade, 309.
- Feeble minded, reports on, 73, 82-84.  
*See also* Insane.

- Feed industry, report on, 298.
- Feed used on farms, expenditures for, 190.
- Females. *See* Women; Sex.
- Fertilizer, expenditure for, for farms, 190.
- Fertilizer industry, reports on, 315-316.
- Finance. *See* Banking.
- Finances, county, reports on, 483; municipal, reports on, 478-483; national, reports on, 453-473; State, reports on, 476-478.
- Fire departments, reports on, 485, 488.
- Fish, marketing reports on, 431.
- Fish, canned, reports on, 308, 309.
- Fisheries Bureau, reports of, 253-256.
- Fishery products, reports on, 251-256.
- Flour industry, report on, 290-293, 297-298, 300, 301, 523.
- Food Administration publications: fats and oils, 272; grain and flour trade, 290-294; production of meat and its distribution during the war, 232; reference handbook of food statistics, 528.
- Foreign and Domestic Commerce Bureau publications:
- artificial dyestuffs used in the United States, 369.
  - chemical and allied products used in the United States, 369.
  - Commerce Reports, 519.
  - Commerce Yearbook, 11.
  - exports according to state of original shipment, 353.
  - Foreign Commerce and Navigation, 343-349.
  - foreign countries, 519-521.
  - Miscellaneous Series, 521.
  - Monthly Summary of Foreign Commerce, 354-358.
  - prices, 444.
  - Special Agents Series, 521.
  - Special Consular Reports, 521.
  - Statistical Abstract, 10.
  - Trade Information Bulletins, 591.

- Foreign and Domestic Commerce Bureau publications—*Continued*  
 Trade of United States with the world, 349-350.  
 Trade Promotion Series, 521.
- Foreign Commerce and Navigation, statistics in, 343-349.
- Foreign countries:
- acids and related material in, 317.
  - agriculture in, 12.
  - antimony production in, 313.
  - barytes, barium chemicals, and lithopone industries in, 316.
  - brush exports and imports of, 321.
  - chemical glassware exports of, 318.
  - chromite production in, 313.
  - fertilizers and fertilizer material in, 316.
  - glass trade in, 318.
  - gold and silver statistics and coinage of, 240-241.
  - graphite production in, 313-314.
  - immigration conditions in, 96.
  - incandescent gas mantle trade in, 317-318.
  - magnesite production in, 313, 314.
  - manganese ore production in, 313, 314.
  - marriage and divorce in, 139.
  - mineral industry in, 525.
  - petroleum production in, 312.
  - prices in, 442, 447, 450.
  - pyrites production in, 313, 315.
  - quicksilver production in, 313.
  - reports on, 9, 11, 14, 518-535.
  - starch imports of, 309.
  - sugar exports and imports of, 303.
  - sulphur production in, 313, 315.
  - trade with, special reports on, 362-364.
  - tungsten-bearing ores in, 313, 314.
  - wages in, 150.
  - water transportation in, 425.
  - wool growing in, 306.
  - wool trade of, 233.
  - zinc trade in, 315.
- See also* names of countries.
- Foreign exports, definition of, 329.
- Foreign parentage, definition of, 28.
- Foreign trade. *See* Imports; Exports.
- Foreign white stock, country of origin of, 60-62; mother tongue of, 62-64.
- Forest products, reports on, 274-279.
- Forest Service publications: electric power development, 438; forest products, 274-279; forests and timber supply, 543.
- Forests, reports on, 543-544.
- Forts, appropriations and expenditures for, 471.
- Foundries and machine shops, wages and hours of labor in, 148.
- France:
- acids and related material in, 317.
  - banking and economic statistics of, 530, 540.
  - coal industry in, 151.
  - coal mine accidents in, 136.
  - gas mantle trade of, 318.
  - imports and exports of, 535.
  - industrial census of, 259.
  - source of wheat supply of, 293.
  - sulphate of ammonia trade in, 316.
  - trade with Latin America, 363.
- Freight movement, data on, 384.
- Freight rates, inland waters, 412; ocean, 413-414; railroad, 297, 300, 390-394, 424.
- Fresno County, Calif., immigrants in, 99.
- Fruit, canned, report on, 308-309.
- Fruits, marketing reports on, 423, 428-429, 433.
- Fuel Administration, report on coal distribution, 242.
- Fuel consumption in manufacturing, 267-268; in mining, 250. *See also* Coal.
- Fuel oil bunkering stations, data on, 312.
- Furniture industry, data on, 319; immigrants in, 95, 97-99; wages and hours of labor in, 148.
- Future trading in grain, reports on, 297.

- Garbage, disposal of, 486, 487.  
 Garden truck, freight rates on, 392.  
 Gas, consumption of, in manufacturing, 267; prices of, 451; use of, on farms, 190.  
 Gas, natural, statistics of, 238, 247.  
 Gas plants, report on, 437, 485.  
 Gasoline, consumption of, in manufacturing, 267.  
 Gasoline industry, report on, 311.  
 Geese, number of, 222.  
 Geographic divisions, states in, 23.  
 Geological Survey publications: production of electric power, 440; mineral resources, 234, 525; super-power system, 439.  
 Germany:  
   acids and related materials in, 317.  
   banking and economic statistics of, 529-530.  
   coal industry in, 151, 540.  
   coal mine accidents in, 136.  
   gas mantle trade in, 318.  
   imports and exports of, 535.  
   industrial accidents in, 135.  
   industrial census of, 259.  
   potash salt exports of, 316.  
   potato products industry in, 309.  
   sulphate of ammonia trade of, 316.  
   trade with Latin America, 363.  
 Glass industry, cost of production in, 324, 325; deaths and diseases of workers in, 171; employment of women and children in, 170-171; immigrants in, 95, 97-99; wages and hours of labor in, 146.  
 Gloucester, Mass., fishery products landed at, 255.  
 Glove manufacturing, immigrants in, 95, 97-99.  
 Goats, number of, 222, 223, 224, 225.  
 Gold, currency value of, 366.  
 Gold and silver, statistics on, 240-242, 247.  
 Goldenweiser, E. A., and Truesdell, L. E., report on farm tenancy by, 184.  
 Government employees, reports on, 536-538.  
 Government finances, reports on, 14, 453-475.  
 Grade crossings, accidents at, 133.  
 Grain, reports on, 290-293, 297, 300, 429, 433.  
 Grain Corporation, operations and reports of, 290-294.  
 Grain elevators, data on, 423.  
 Grain exporters, methods and operations of, 297.  
 Grain trade, reports on, 294-297, 418, 422.  
 Graphite, report on, 313-314.  
 Great Britain, coal mine accidents in, 136; cotton imports, stocks, and prices, 213. *See also* United Kingdom.  
 Great Lakes, commerce of, 416, 418, 420, 424; grain trade of, 434.  
 Greece, emigration conditions in, 97.  
 Greek padrone systems, report on, 95.  
 Greenhouses, reports on, 202.  
 Greensboro, N. C., family budgets of cotton mill workers in, 173.  
 Guam, reports on, 517.  
 Guinea fowls, number of, 222.  
 Gypsum, statistics of, 247.  
 Hand labor, cost of articles manufactured by, 149.  
 Harbors and rivers, appropriations and expenditures for, 471.  
 Hawaii, immigration conditions in, 95; reports on, 512-514; trade of, 334, 352.  
 Hay, reports on, 300, 430.  
 Hay trade, report on, 423.  
 Hazleton, Pa., child labor and school attendance in, 172.  
 Health departments, municipal, reports on, 486.  
 Hebrews in agriculture, 99; in Russia, 97.  
 Hides and skins, report on, 306.  
 Highways. *See* Roads; Streets.  
 Home conditions of immigrants in industries, 98.  
 Home ownership, by negroes, 73; by immigrants, 98, 100; general statistics on, 68-69.  
 Homes, mortgages on, 69-70.  
 Homicide, deaths from, 123.  
 Honey, marketing reports on, 429; production of, 229, 230.

- Hookworm among cotton mill workers, report on, 170.
- Hops, report on, 523.
- Horses, number of, 222, 223, 224, 225, 226.
- Hosiery industry, cost of production in, 324; wages and hours of labor in, 148.
- Hospitals, reports on, 79-82.
- Hough, F. B., report on forestry by, 279.
- Hours of labor, reports on, 146-163, 265.
- Howard, C. P., report on practicability of eight hour day in train service by, 163.
- Hungary, industrial census of, 259.
- Hunt, W. C., and Wright, Carroll D., report on census inquiries by, 20.
- Ice cream, statistics on, 233.
- Illegitimate children, data on, 116.
- Illinois, industrial accidents in, 135.
- Illiteracy, general statistics of, 47-54; of Chinese and Japanese, 77; of immigrants, 96, 98, 100; of Indians, 74; of negroes, 73; of paupers, 79; of prisoners, 86; of women and children in certain industries, 170-171.
- Immigrants, reports on, 87-103.
- Immigrants and their children, census monograph on, 17.
- Immigration, annual reports on, 87-103; into Brazil, Uruguay, and Argentina, 363; year of, of foreign-born population, 66-67. *See also* Aliens.
- Immigration Bureau, reports on immigration and emigration by, 87-94.
- Immigration Commission, reports of, 95-103.
- Imports:
- compilations of statistics of, 362-372.
  - current reports on, 9, 11, 326-362.
  - data on specific commodities; acids and related materials, 317.
- Imports—*Continued*  
 data on specific commodities—*Continued*
- agricultural products effected by Emergency Tariff, 299.
  - antimony, 313.
  - barytes, barium chemicals and lithopone, 316.
  - beef and beef products, 304.
  - brushes, 321.
  - buttons, 321.
  - cerium, 318.
  - chromite, 313.
  - cotton, 310.
  - dextrine, 309.
  - dyestuffs, 280-281, 369.
  - gas burners and mantles, 318.
  - gas mantle scrip, 318.
  - glass, 318.
  - grain, flaxseed, potatoes, hay, 300, 301.
  - graphite, 313, 314.
  - hides and skins, 306.
  - lumber, 372.
  - magnesite, 313, 314.
  - manganese ore, 313, 314.
  - meats, 305.
  - milk and milk products, 307.
  - minerals, 236.
  - monazite sand, 317.
  - optical glass, 318.
  - paper, 320-321.
  - petroleum and petroleum products, 311, 312.
  - potash salts, 313, 315.
  - potatoes, dried, 309.
  - pyrites, 313, 315.
  - quicksilver, 313.
  - silk and silk goods, 310.
  - starch, 309.
  - sulphate of ammonia, 316.
  - sulphur, 313, 315.
  - thorite, 317.
  - thorsten salts, 317.
  - tungsten-bearing ores, 313, 314.
  - wood products, 372.
  - wool, 233.
  - zinc ores, 315.
- preferential freight rates for, 394.

- Imports—*Continued*  
 value of, method of determining, 337.
- Imports, general, definition of, 327.
- Imports for consumption, definition of, 327; statistics of, 347.
- Inability to speak English, census statistics on, 54-55.
- Incandescent electric lamps, employment of women and children in manufacture of, 170-171.
- Income, reports on, 505-508; family, of immigrants, 98, 100.
- Index numbers, method of computing, 444.
- India, coal mine accidents in, 136; wheat prices in, 294.
- Indian Affairs Office, statistics of, 75-76.
- Indiana, special report on deaths from influenza and pneumonia in, 126.
- Indianapolis, child labor and juvenile delinquency in, 172.
- Indians, statistics on, 73-76.
- Industrial combinations, reports on, 539.
- Industrial Commission, reports of, 166, 167, 404, 422, 445, 539, 540, 541.
- Industries, immigrants in, 97-99; surveys of, 288-325; women in, 172. *See also* Manufacturing industries; Minerals; Fisheries.
- Infant mortality, statistics on, 116, 123, 172, 176.
- Influenza, deaths from, 126. *See also* Deaths.
- Inland Waterways Commission, reports of, 423-424.
- Insane, aliens in institutions for, 89; asylums for, 80; statistics on, 73, 82-84.
- Insanity, immigration and, 95.
- Institutions, benevolent, reports on, 79-80; State, statistical directory of, 80.
- Insurance, reports on, 542-543; taxes collected on, 283.
- Interdepartmental Social Hygiene Board, reports of, 131.
- Interest rates, reports on, 14, 69, 502, 503.
- Internal Commerce. *See* Domestic Commerce.
- Internal Revenue Bureau reports: articles subject to internal revenue taxes, 282-285; income taxes, 505-508; internal taxes, 471.
- International Harvester Company, report on, 320.
- Interstate Commerce Commission publications:  
 block signals, 394.  
 express companies, 398.  
 freight commodity statistics, 382-384.  
 freight and passenger service operating statistics, 387.  
 freight and passenger train service unit costs, 390.  
 locomotive boilers, 396.  
 operating statistics of large steam roads, 388.  
 pipe lines, 401-402.  
 railroad accidents, 132-134.  
 revenue traffic statistics of Class I steam roads, 389.  
 revenues and expenses of steam roads, 385.  
 statistics of railways, 375-382.  
 wages and hours of labor, 155-162.  
 women employed on railroads, 174.
- Iron and steel industry, cost of production in, 324; hours of labor in, 146, 148, 152; immigrants in, 95, working conditions, accidents, etc., in, 152.
- Iron and steel products, consumption of, 287.
- Iron and steel trade, reports on, 313, 418.
- Iron ore, statistics of, 247.
- Iron-ore mining, immigrants in, 95, 97-99.
- Irrigation, statistics on, 75, 191-195.
- Italians in agriculture, 99; in Chicago, 103.
- Italy, banking and economic statistics for, 531; crime in, 97; emigration conditions in, 97; imports and exports of acids and related materials by, 317; source of wheat supply of, 293.



- Japan, banking statistics of, 532; coal mine accidents in, 136; cotton industry and trade of, 526; foreign trade of, 526; glass exports of, 318; silk goods exports of, 310; sulphur exports of, 315.
- Japanese immigrants, reports on, 76-77, 93, 99.
- Jefferson, Thomas, report on cod and whale fisheries by, 251.
- Jews in agriculture, 99; in Russia, 97.
- Johnson, E. R., report by, 391.
- Joint Commission of Agricultural Inquiry, report of, 177, 393, 398, 415.
- Jute and jute products, stocks of, 286.
- Juvenile courts, reports on, 486.
- Juvenile delinquency, reports on, 73, 86, 170, 172.
- Kansas, deaths from influenza and pneumonia in, 126.
- Kapok, stocks and consumption of, 287.
- Kiel Canal, data on, 392.
- Labor, hours of, reports on, 147-152, 265. *See also* Contract Labor; Child Labor.
- Labor Commissioner. *See* Labor Bureau, Labor Commissioner, Labor Department, and Labor Statistics Bureau.
- Labor Bureau, Labor Commissioner, Labor Department, and Labor Statistics Bureau reports: accidents, 134-135. cities, 479, 485. convict labor, 167. deaths, 128. employment, 164. Italian population of Chicago, 103. marriage and divorce, 138. Monthly Labor Review, 10. occupations, 107. phosphate industry, 315. prices, retail, 450-452. prices, wholesale, 443-444. strikes and lockouts, 165, 166.
- Labor Bureau, Labor Commissioner, Labor Department, and Labor Statistics Bureau reports—*Continued*
- wages and hours of labor, 147-152.
- water, gas, and electric light plants, 437.
- women and children in industry, 169-174.
- Labor conditions, monthly current statistics on, 10.
- Labor costs, report on, 149.
- Labor Department. *See* Labor Bureau, Labor Commissioner, Labor Department, and Labor Statistics Bureau.
- Labor laws, report on, 170.
- Labor Review, Monthly, general contents of, 10.
- Labor Statistics Bureau. *See* Labor Bureau, Labor Commissioner, Labor Department, and Labor Statistics Bureau.
- Lakes, Great, general commerce of, 416, 418, 420, 424; grain trade of, 434.
- Lambs, marketing statistics of, 227.
- Land used in mineral industry, 249.
- Land, farm. *See* Farms.
- Language, census statistics on foreign born inhabitants of United States or children of foreign born speaking various, 62-64.
- Laundries, statistics of, 263; women employed in, 170.
- Lead, statistics of, 247.
- Leather industry, cost of production in, 324; immigrants in, 95, 97-99.
- Libraries, data on, 145; government publications deposited in, 7.
- Libraries, municipal, reports on, 486.
- License taxes, federal, data on, 284-285.
- License taxes, municipal, data on, 480.
- Licensed vessels, definition of, 408.
- Life tables, publication containing, 127.
- Lightning, deaths from, 123.
- Liquor traffic, reports on, 486, 487, 545.
- Lithopone industry, data on, 316.

- Livestock, cost of raising and marketing, 305; market reports on, 423, 430, 433; statistics of, 73, 75, 221-227, 304-307; valuation of, 181, 509.
- Livestock products, statistics of, 228-233, 304-307.
- Loans. *See* Debt.
- Lockouts, reports on, 164-166.
- Locomotive boilers, data on, 396.
- Los Angeles, Calif., immigrants in, 99; passengers arriving at and departing from, 105.
- Lumber industry, cost of production in, 324; immigrants in, 99; monograph on, 418; production of, 275; wages and hours of labor in, 148, 150.
- Machine shops, wages and hours of labor in, 148.
- Machinery, labor cost of articles manufactured by, 149.
- Magnesite, reports on, 313, 314.
- Magyars in agriculture, report on, 99.
- Maine, manufactures in, early statistics on, 257.
- Malt, data on, 300.
- Managers of farms. *See* Farm operators.
- Manchester, N. H., mortality records of, 173.
- Manchester Canal, data on, 392.
- Manganese, report on, 313, 314.
- Manufacturing industries:  
     capacity of, 264.  
     capital employed in, 268.  
     early reports on, 415-416.  
     fuel consumed in, 267-268.  
     establishments, number of, 263; size of, 264.  
     expenses of, 268.  
     hours of labor in, 146-155, 265.  
     material used in, 264.  
     ownership of, classification of, 264.  
     persons engaged in, 265-266.  
     power used in, 267.  
     production of, 264, 269.  
     statistics of, 257-323.  
     wages and hours of labor in, 146-155.
- Marketing and purchasing, cooperative, by farm operators, 190.
- Marketing of agricultural products, reports on, 427-434; of grain, report on, 296; of livestock, cost of, 305.
- Markets and Crop Estimates Bureau, data collected by, 202, 203.
- Markets, municipal, reports on, 485, 488.
- Marital condition: blind and deaf, 85; emigrants, 93; females over 15 gainfully employed, 113-114, 170-171; immigrants, 92, 98; negroes, 72; paupers, 79; population in general, 17, 39-42; prisoners, 86. *See also* Marriage and divorce.
- Marriage and divorce, reports on, 138-139. *See also* Marital condition.
- Married persons. *See* Marital condition.
- Massachusetts, commitments to penal institutions in, 103; deaths from tuberculosis in, 126; employment statistics for, 164; industrial accidents in, 135; infant mortality and employment of mothers in, 172-173; manufactures in, early statistics on, 257.
- Meat, marketing reports on, 430-432; production of, 231, 232, 293, 304.
- Meat-packing industry, report on, 304-305; wages and hours of labor in, 148.
- Meat trade in foreign countries, 523.
- Men. *See* Sex.
- Metal mines, accidents at, 136.
- Metal trades, accidents in, 172; women in, 170, 172.
- Metallurgical works, accidents at, 137.
- Metropolitan districts, population of, 26.
- Metropolitan Life Insurance Company, death statistics from records of, 128.
- Mexico, banking statistics of, 532; capital invested in petroleum industry in, 312.
- Migration of native population, 55-58.
- Military age, statistics on, 38.

- Milk, freight rates on, 392; marketing reports on, 428; production of, 229, 230.
- Milk, condensed and evaporated, statistics on, 230, 233, 309.
- Milk products, report on, 306-307.
- Milk trade, data on, 423.
- Milwaukee, Wis., immigrants in, 100.
- Minerals, imports and exports of, 359; production of, 234-250; reports on, 313-315. *See also* names of specific minerals under entries Imports, Exports and Production.
- Mines, accidents at, 135-136; production of, 234-250; timber used in, 279.
- Mines and quarries, report on, 242-250.
- Mines Bureau publications: accidents, 135-317; explosives, 281; petroleum products, 282.
- Mining industry, immigrants in, 95, 97-99.
- Minor civil divisions, definition of, 24; population of, 27.
- Minneapolis, Minn., fecundity of immigrant women in, 100; working women in, 171-172.
- Minnesota, fecundity of immigrant women in, 100.
- Mint Bureau, reports of, 240, 490.
- Mississippi River, traffic history of, 425.
- Mixed parentage, definition of, 28.
- Monetary Commission, National, reports of, 495-503.
- Monetary Commission of 1876, report of, 241.
- Money and banking, reports on, 489-504.
- Monographs of Fourteenth Census, list of, 14.
- Monthly Crop Report and Monthly Crop Reporter, data contained in, 203.
- Monthly Labor Review, general contents of, 10, 93-94.
- Monthly Summary of Commerce and Finance, contents of, 14, 94, 354-355, 364.
- Monthly Summary of Foreign Commerce, statistics in, 354-358.
- Morris & Co., report on, 304-305.
- Mortality of infants, statistics on, 116, 123, 172, 176.
- Mortality statistics. *See* Deaths.
- Mortgages on farms, 189-190; on homes, 69-70.
- Mother tongue of foreign white stock, census statistics on, 62-64.
- Motion pictures, reports on, 263.
- Motor trucks, use of, on farms, 190.
- Motor vehicles. *See* Automobiles.
- Mules, number of, 222-226.
- Municipal activities, reports on, 484-488.
- Museums, municipal, report on, 488.
- Narcotics, imports, exports, and sales of, 283.
- National Academy of Science, report on psychological tests, 132.
- National debt, reports on, 460, 465, 467, 473-475.
- National finances, reports on, 453-475.
- National Monetary Commission, reports of, 495-503.
- National Waterways Commission, report of, 424-426.
- National wealth, reports on, 508-510.
- Native parentage, definition of, 28.
- Nativity, births classified by nativity of parents, 116; deaths classified by, 122; population classified by, 28-31.
- Natural gas, statistics of, 238, 247.
- Naturalization, statistics of, 64-66, 98.
- Navigation Bureau, reports of, 408.
- Navy, appropriations and expenditures of, 471; morbidity and mortality in, 129.
- Negroes, number of, 28; birth statistics for, 116; church membership of, 141; distribution of, 72; mortality statistics of, 122, 127; occupations of, 113; special compilations on, 71-73.
- Netherlands, banking statistics of, 532.
- New Hampshire, manufactures in, early statistics on, 257.
- New Jersey, accidents to railroad employees in, 134; employment in, 164; manufactures in, early statistics on, 257.

- New South Wales, coal mine accidents in, 136.
- New York City, criminal statistics of, 103; passengers arriving at and departing from, 105; immigrants in, 100; women and children in clothing industry in, 170, 171; working women in, 171-172.
- New York State, canals in, 416; industrial accidents in, 135; manufactures in, early statistics on, 257.
- New Zealand, immigration conditions in, 96
- Newark, child labor and juvenile delinquency in, 172.
- Newspapers, reports on, 258, 263, 543.
- Nienburg, B. M., report on women by, 17.
- Nimmo, Jos., Jr., report on shipping by, 412.
- Nitrate of soda, data on, 316.
- Norton, T. H., report on dyestuffs by, 369.
- Norway, industrial accidents in, 135.
- Note circulation, report on, 491, 494, 499.
- Nurseries, day, reports on, 79.
- Nurseries, plant, reports on, 202.
- Occupations :
- accidents classified by, 135.
  - causes of death classified by, 128.
  - general statistics on, 106-114.
  - of children, 168, 170-171.
  - of blind and deaf, 85.
  - of citizens departing, 92.
  - of emigrants, 93.
  - of immigrants, 92, 95, 96, 97-99, 100.
  - of negroes, 73.
  - of paupers, 79.
  - of prisoners, 86.
  - of wives of immigrants in industries, 98.
  - of women, 170-171, 172.
  - wages classified by, 146, 163.
- Office. *See* first significant word.
- Ogburn, W. F., monograph on marital condition by, 17.
- Ohio, fecundity of immigrant women in, 100; manufactures in, early statistics on, 257.
- Oil-bunkering stations, data on, 312.
- Oil, fuel, consumption of, in manufacturing, 267.
- Oil industry. *See* Petroleum industry.
- Oils and fats, reports on, 272.
- Orphanages, census reports on, 79.
- Ownership of farms. *See* Tenure of farm operators.
- Ownership of homes, decennial census statistics on, 68-69.
- Oysters. *See* Fishery products.
- Pacific Coast petroleum industry, report on, 311.
- Packing houses, reports on, 304-305.
- Panama Canal, reports on, 516-517.
- Panama Canal traffic and tolls, report on, 391.
- Paper, newsprint, cost of production of, 324.
- Paper industry, reports on, 320; wages and hours of labor in, 148.
- Parentage, population classified by, 28-31.
- Parks, municipal, reports on, 486, 487.
- Passengers, arrivals and departures of, Shipping Board statistics on, 104-105.
- Paterson, N. J., women and children in silk industry in, 170-171.
- Pauperism among immigrants, report on, 103.
- Paupers, census statistics on, 73, 78-79.
- Pawtucket, R. I., child labor and school attendance in, 172; mortality records of, 173.
- Peanuts, marketing reports on, 429.
- Pennsylvania, manufactures in, early statistics on, 257.
- Pennsylvania Railroad, commodity movement on, 363.
- Peonage, report on, 95.
- Peoples, dictionary of, 97.
- Periodicals, reports on, 258, 263, 543.
- Petroleum, production of, 239.
- Petroleum industry, cost of production in, 324; foreign ownership in, 312; reports on, 247, 310-312; wages and hours of labor in, 148.

- Petroleum products, freight rates on, 303; reports on, 311-312.
- Philadelphia, Pa., child labor and delinquency in, 172; deaths from influenza and pneumonia in, 126; immigrants in, 100; women and children in clothing industry in, 170, 171; working women in, 171-172.
- Philippine Islands, reports on, 84, 334, 515-516.
- Phosphate rock, statistics of, 247, 315.
- Physical condition of drafted men, report on, 131-132.
- Pipe lines, data on, 310, 311, 401; taxes collected from, 283; valuation of, 509.
- Pitkin, Timothy, compilation by, 13.
- Pittsburgh, child labor and juvenile delinquency in, 172.
- Platinum, statistics of, 247.
- Playgrounds, reports on, 486, 488.
- Playing cards, taxes collected on, 283.
- Plymouth, Pa., child labor and school attendance in, 172.
- Pneumonia, deaths from, 126. *See also* Deaths.
- Poles in agriculture, report on, 99.
- Police departments, reports on, 486, 487.
- Portland cement, production, shipment, and stocks of, 237, 239.
- Portland, Maine, fishery products landed at, 255.
- Porto Rico, reports on, 69, 334, 352, 400, 406, 514-515.
- Ports, facilities of, 413; immigration and emigration at, 92, 93.
- Portuguese in agriculture, report on, 99.
- Postal Savings bank in foreign countries, reports on, 533-534.
- Potash, report on, 313, 315, 316.
- Potato products, reports on, 309.
- Potatoes, data on, 300.
- Pottery industry, cost of production of, 324; wages and hours of labor in, 146.
- Poultry, marketing reports on, 427, 428; statistics of, 222, 224.
- Powder factories, immigrants in, 99.
- Power used in manufacturing, 267; in mineral industry, 250.
- Power, electric and water, reports on, 435-440.
- Population:
- center of, 28.
  - composition and characteristics of: age, 34-38; citizenship of foreign born, 64-65; color, race, nativity and parentage, 28-30; country of birth of foreign born, 58-59; country of origin of foreign white stock, 60-61; illiteracy, 47-54; inability to speak English, 54; marital condition, 39-41; mother tongue of foreign white stock, 62-63; school attendance, 42-46; sex, 31-33; state of birth of natives, 55-57; year of immigration of foreign born, 66.
  - density of, 28.
  - growth of, 28.
  - intercensal estimates of, 27.
  - total, number of, 25-27.
- Population, farm, statistics on, 23-24.
- Population, rural. *See* Rural and urban population.
- Population, urban. *See* Rural and urban population.
- Precincts. *See* Minor civil divisions.
- Prices:
- publications devoted entirely to, 441-452.
  - publications giving general data on, 8, 9, 10, 11.
  - publications incidentally giving data on:
    - acids and related materials, 317.
    - agricultural products, 177, 294, 299, 427.
    - antimony, 313.
    - barytes, barium chemicals, and lithopone, 316.
    - beef, 304, 306.
    - beef products, 304.
    - bread, 292, 293.
    - butter, 423, 427, 428.

Prices—*Continued*

publications incidentally giving data on—*Continued*  
 canned salmon, 309.  
 cattle, 304, 306.  
 cheese, 427, 428.  
 chromite, 313.  
 cigarettes, smoking tobacco and plug tobacco, 307.  
 coal, 294, 312.  
 copper ingots, 294.  
 cotton, 310, 422, 423, 427.  
 cotton venetians, 310.  
 cottonseed meal, 316.  
 dextrine, 309.  
 farm implements, 319.  
 farm products, 294, 299, 427.  
 feeds, 298.  
 fertilizer material, 316.  
 flour, 292, 293, 301.  
 furniture, 319.  
 gasoline, 311, 312.  
 grain, 297.  
 graphite, 313, 314.  
 hides, 306.  
 imported articles, 368.  
 kerosene, 312.  
 leather, 306.  
 lithopone, 316.  
 livestock, 305, 423, 430.  
 magnesite, 313.  
 manganese ore, 313.  
 milk, 307, 423, 428.  
 milk products, 307.  
 minerals, 236.  
 petroleum, 310, 311, 312.  
 potash salts, 313, 315.  
 pyrites, 313, 315.  
 quicksilver, 313.  
 salmon, canned, 309.  
 shoes, 306.  
 starch, 309.  
 steel billets, 294.  
 stoves, 320.  
 sugar, 301, 303.  
 sulphate of ammonia, 316.  
 sulphur, 313, 315.  
 surgical instruments, 320.  
 tobacco and tobacco products, 307.  
 tungsten-bearing ores, 313, 314.

Prices—*Continued*

publications incidentally giving data on—*Continued*  
 wheat, 293, 294, 301, 422.  
 wood used in furniture making, 319.  
 wool, 233, 305, 306, 423, 526.  
 woolen rags, 309.  
 zinc ore, 315.  
 Prison labor, reports on, 167.  
 Prisoners, census reports on, 73, 85-86.  
 Prisons, aliens in, 89.  
 Private car lines, report on, 396.  
 Production:  
 cost of, 323-325.  
 publications giving data on all commodities:  
 crops, 8-12, 197-220, 367-368.  
 fishery products, 251-256, 367-368.  
 livestock, 221-227, 367-368.  
 livestock products, 228-233, 367-368.  
 manufactured articles, 8-11, 257-287, 366-368.  
 minerals, 8-11, 234-250, 367-368.  
 special reports giving production data:  
 acid phosphate, 273.  
 acids and related materials, 317.  
 agricultural and other products, 177.  
 alcohol, 283.  
 antimony, 287, 313.  
 barley, 213, 214.  
 barytes, barium chemicals, and lithopone, 316.  
 beverages, 283.  
 boots and shoes, 286, 271.  
 brush industry, 321.  
 buckwheat, 213, 214.  
 butter, renovated, 283.  
 button industry, 321.  
 canned goods, 308-309.  
 castings, malleable, 272.  
 chemical glassware, 318.  
 chemicals, 370.  
 chickens, 233.

Production—*Continued*  
 special reports giving production data—*Continued*  
 chromite, 313.  
 cigarettes, 220, 283.  
 cigars, 220, 282.  
 clay and refractory products, 274.  
 clothing, 271.  
 coal, 237, 239, 312.  
 coke, 237, 239.  
 cooperage stock, 276-277.  
 corn, 213, 214.  
 cotton, 310.  
 cotton venetians, 310.  
 cottonseed oil, 272.  
 dairy products, 229, 230.  
 eggs, 233.  
 excelsior, 279.  
 farm equipment, 273.  
 farm implement industry, 319.  
 fertilizer material, 316.  
 fertilizers, 315-316.  
 fuel oil, 282.  
 gasoline, 282, 311.  
 gelatin, 274.  
 glass industry, 318.  
 gloves, leather, 271.  
 glue, 274.  
 graphite, 313, 314.  
 hay, 213.  
 hops, 213.  
 hosiery, 271.  
 iron and steel products, 272, 313.  
 lath, 275-276, 279.  
 leather and leather products, 271.  
 lighting equipment, 274.  
 lithopone, 316.  
 lumber, 275-276, 279.  
 magnesite, 313, 314.  
 manganese ore, 313, 314.  
 mechanical stokers, 272.  
 milk, condensed and evaporated, 309.  
 monazite sand, 317.  
 oats, 213, 214.  
 oleomargarine, 283.  
 optical glass, 318.  
 paint and varnish, 273.  
 paper, 279, 320-321.

Production—*Continued*  
 special reports giving production data—*Continued*  
 petroleum, 238, 239, 310, 311, 312.  
 petroleum products, 282, 312.  
 phosphate, acid, 273.  
 phosphate rock, 315.  
 pipes, cast-iron, 272.  
 poles, 278.  
 potash salts, 313, 315.  
 potato products, 309.  
 potatoes, 213.  
 pyrites, 313, 315.  
 pyroxylin-coated textiles, 271.  
 quicksilver, 313.  
 rice, 213.  
 rosin, 278-279.  
 rye, 213, 214.  
 shingles, 275-276, 279.  
 silk goods, 310.  
 slack cooperage stock, 276.  
 stokers, mechanical, 272.  
 sulphate of ammonia, 316.  
 sulphur, 313, 315.  
 sulphuric acid, 273.  
 surgical instrument industry, 320.  
 tan bark, 277.  
 tanning material, 277, 279.  
 textile products, 271.  
 thorium nitrate, 318.  
 tight cooperage stock, 276-277.  
 tobacco, 213.  
 tobacco manufactures, 282.  
 tractors, 273.  
 tungsten-bearing ores, 313, 314.  
 turpentine, 278-279.  
 varnish and paint, 273.  
 wax, 229, 230.  
 wheat, production of, 213, 214.  
 woodpulp, 276, 321.  
 wool, 229, 230.  
 wool goods, 286.  
 zinc ores, 315.  
 Provision trade, monograph on, 418.  
 Prudential Insurance Company, accident experience of, 135; death statistics from records of, 127-128.

- Psychological tests, report on, 132.
- Public debt, reports on, 14, 460, 465, 467, 473-475.
- Public Health Reports, death statistics in, 123-124, 126; morbidity statistics in, 129; sketch of, 129.
- Public Health Service, mortality and morbidity statistics of, 123, 126, 129-130.
- Public works, appropriations and expenditures for, 471.
- Pullman Company, statistics of, 396-397.
- Pulp industry, wages and hours of labor in, 148.
- Pulp wood consumption, reports on, 276, 279.
- Purchasing and marketing, cooperative, by farm operators, 190.
- Pyrites, reports on, 313, 315.
- Quarries, accidents at, 136. *See also* Mines and quarries.
- Quicksilver, report on, 313.
- Race and color, population classified by, 23, 28-31.
- Races, dictionary of, 97.
- Radio receiving sets used on farms, 191.
- Radiotelegraphy, reports on, 404.
- Rag, trade, woolen, report on, 309.
- Railroad Administration, report on employment of women by, 174.
- Railroad cars, building and repairing, wages and hours of labor in, 148.
- Railroad Commissioner, reports of, 374.
- Railroad Labor Board, report on wages of railroad employees, 162.
- Railroads, accidents on, 132-134; early reports on, 13; immigrants employed by, 99; statistics of, 373-396; valuation of, 509; wages of employees of, 149, 155-162; women employed by, 174-175.
- Receipts of cities, 478-482; of counties, 483; of states, 476; of United States, 453-473.
- Reclamation projects, reports on, 195.
- Refuse, disposal of, 486, 487.
- Registered vessels, definition of, 408.
- Registration area for births, 115; for deaths, 119-120.
- Registration of births and deaths, publications on, 128.
- Religious bodies, data on, 140-142.
- Rent paid by immigrants, 98, 100.
- Rented homes, data on, 67.
- Reservoirs used for irrigation, 191.
- Retail prices, reports on, 450-452.
- Rhode Island, fecundity of immigrant women in, 100; manufactures in, early statistics on, 257.
- Ripley, W. Z., report on railway wage schedules and agreements by, 163.
- Rivers, commerce on, 415-427.
- Rivers and harbors, appropriations and expenditures for, 471.
- Roads, data on, 402-403.
- Rochester, women and children in clothing industry in, 170, 171.
- Ross, Frank A., monograph on school attendance by, 45.
- Rossiter, W. S., monograph on population by, 17, 28.
- Royal Dutch-Shell Oil Company, operations of, 312.
- Rural population, definition of, 23.
- Rural and urban population:
  - age, 36-38.
  - color, race, nativity and parent-age, 30-31.
  - country of origin of foreign white stock, 61.
  - deaths, 123.
  - dwellings and families, 68.
  - illiteracy, 49-53.
  - marital condition, 40-41.
  - naturalization of foreign born, 65.
  - number, 25-27.
  - school attendance, 43-47.
  - sex, 33-34.
  - state of birth of native population, 55.
  - year of immigration of foreign born, 67.
- Russia, banking statistics of, 532; Jews in, 97; petroleum production of, 312.



- Sabine, Lorenzo, report on fisheries by, 251.
- St. Louis, working women in, 171-172.
- St. Paul, working women in, 171-172.
- Sales, monthly general statistics on, 9.
- Salmon, canned, report on, 308-309.
- Salmon canneries, immigrants in, 99.
- San Francisco, passengers arriving at and departing from, 105.
- School attendance, general statistics of, 42-47, 73, 74, 75; of women and children in certain industries, 170-171; relation of child labor to, 170, 172.
- School teachers. *See* Teachers.
- Schoolcraft, Henry R., statistics on Indians compiled by, 76.
- Schools, children of immigrants in, 100-102; general statistics on, 143-145.
- Sciences, National Academy of, report on psychological tests, 132.
- Seamen, data on, 410; report on alien, 95.
- Seattle, fishery products landed at, 255.
- Seeds, imports and exports of, 371-372; reports on, 434.
- Senate Commission of Gold and Silver Inquiry, reports of, 242, 503, 534.
- Sewage systems, reports on, 486, 487.
- Sex, statistics classified by:
  - age, 36-38.
  - all classes of population, 32-34.
  - blind and deaf, 85.
  - Chinese and Japanese, 77.
  - church membership, 141.
  - citizens departing, 92.
  - citizenship of foreign born, 65.
  - deaths, 122, 123.
  - emigrants, 93.
  - farm operators, 187.
  - farm population, 23.
  - illiteracy, 48-53.
  - immigrants, 92, 96.
  - Indians, 74.
  - marital condition, 40-42.
  - negroes, 72.
  - occupations, 112.
- Sex, statistics classified by—*Continued*
  - prisoners, 86.
  - paupers, 79.
  - school attendance, 43-47.
  - year of immigration of foreign born, 67.
- Seybert, Adam, compilation by, 13.
- Sheep, marketing statistics for, 227, 430; number of, 222, 223, 224, 225, 226.
- Sheep production in Argentina, report on, 526.
- Sheep and lambs, slaughter of, 229.
- Shingle industry, immigrants in, 99.
- Shingles, production of, 274.
- Shipbuilding, reports on, 286.
- Shipping, disasters to, 544-545; reports on, 408-414; valuation of, 509.
- Shipping Board publications: passenger movement, 104-105; waterborne imports and exports, 360-362.
- Shirt industry, cost of production in, 324; immigrants in, 95, 97-99.
- Shoe industry. *See* Boot and shoe industry.
- Silk, data on, 286.
- Silk industry, employment of women and children in, 170, 171; immigrants in, 95, 97-99; report on, 310; wages and hours of labor in, 148.
- Silver. *See* Gold and Silver.
- Single persons. *See* Marital condition.
- Slaughtering and meat packing industry, immigrants in, 95-97, 99; wages and hours of labor in, 148.
- Slave population, data on, 72.
- Slovaks in agriculture, report on, 99.
- Slums, report on, 545.
- Smelting industry, immigrants in, 99.
- Soap industry, fats and oils consumed by, 272.
- South American countries, foreign trade of, 527.
- Spain, trade with Latin America, 363.
- Spindles, cotton, number of, 217, 271; silk, number of, 286.

- Spirits, distilled, production of, 283.  
 Sponges. *See* Fishery products.  
 Standard Oil Company, report on, 310.  
 Starch, data on, 309.  
 State banks, reports on, 489-490, 491.  
 State boundaries, note on, 19.  
 State finances, reports on, 476-478.  
 State immigration and alien laws, report on, 96.  
 State institutions, statistical directory of, 79, 80.  
 State of birth, decennial census statistics on, 55-58.  
 State universities, statistics on, 144-145.  
 States in registration area for births, 116; in registration area for deaths, 120-122.  
 Statistical Abstract of the United States, general review of, 10; import and export statistics in, 350-353.  
 Statistical Directory of State Institutions, scope of, 80.  
 Statistics Bureau, Treasury Department and Commerce and Labor Department, publications of:  
   analysis of foreign commerce of the United States, 364.  
   commerce of United States and other foreign countries with Mexico, Central America, West Indies, and South America, 363.  
   commerce of United States with European countries, 363.  
   domestic commerce, 416-417, 418.  
   exports of manufactures from the United States and their distribution by articles and countries, 364.  
   immigration, 94.  
   lake commerce, 418.  
 Monthly Summary of Commerce and Finance, 14, 94, 354-355, 364.  
   trade of foreign countries, 527.  
   trade of Philippine Islands, 516.  
   trade with foreign countries, 364.  
 Statistics Division and Bureau, Department of Agriculture, publications of:  
   crop production, 202, 213.  
   foreign trade in farm and forest products, 360.  
   grain movement on Great Lakes, 434.  
   livestock, 225, 227.  
   ocean freight rates, 413, 414.  
   prices of farm implements and machinery, 448.  
   railroad freight rates, 392.  
   trade of foreign countries in agricultural products, 523-524.  
   wages of farm labor, 166.  
 Steam engines. *See* Power.  
 Steel. *See* Iron and steel.  
 Steerage conditions, report on, 96.  
 Steerage legislation, report on, 96.  
 Stocks and bonds, prices of, 540, 542.  
 Stores, employment of women in, 170, 171.  
 Stove industry, report on, 319.  
 Stowaways, report on, 95.  
 Street cleaning, lighting, sprinkling, etc., reports on, 485, 486, 487.  
 Street railways, data on, 399-401; immigrants employed by, 99; valuation of, 509.  
 Strikes, general reports on, 164-166; in coal mines in United Kingdom, 151; in coal mines in United States, 237.  
 Suez Canal, data on, 392.  
 Sugar, data on, 214, 301-303, 523; production cost of, 324, 325.  
 Sugar Equalization Board publications: Government Control of Sugar, 301, 303; Statistical Survey of the Sugar Industry and Trade, 301.  
 Sugar-refining industry, immigrants in, 95, 97-99.  
 Suicide, statistics on, 123.  
 Sulphate of ammonia, data on, 316.  
 Sulphur, reports on, 313, 315.  
 Sunday schools, statistics on, 141.  
 Surface, F. M., report on stabilization of price of wheat during the war, 293.  
 Surgeon General of Army, reports of, 129, 131-132.

- Surgeon General of Navy, reports of, 129, 131-132.
- Surgical instruments, report on, 320.
- Surgical statistics of Army, 129.
- Survey of Current Business, general contents of, 9-10; import and export statistics in, 359.
- Sweden, banking statistics of, 532.
- Swift & Co., report on, 304-305.
- Swine, number of, 222, 223, 224, 225, 226; slaughter of, 229.
- Switzerland, banking statistics of, 532; industrial census of, 259.
- Tariff Commission:
- duties of, 288-290.
  - publications of:
    - acids and related materials, 316.
    - agricultural staples, 299-301.
    - barytes, barium chemical and lithopone industries, 316.
    - brush industry, 320.
    - button industry, 321.
    - cattle and beef in the United States, 304.
    - cotton venetians, 310.
    - cotton yarn, 370.
    - crude botanical drug industry, 370.
    - depreciated exchange and international trade, 450.
    - dictionary of tariff information, 367.
    - domestic potato-product industries, 309.
    - dyes and coal tar products, 280-281.
    - Emergency Tariff, 298-299.
    - Emergency Tariff and its effect on cattle and beef, sheep and mutton, wool, pork, and miscellaneous meats, 305.
    - Emergency Tariff and long staple cotton, 310.
    - glass industry, 319.
    - graphite, 313-314.
    - hides and skins, 306.
    - incandescent gas mantle industry, 317.
- Tariff Commission—*Continued*
- publications of—*Continued*
- industrial readjustment of certain mineral industries affected by the war, 313.
  - Japanese cotton industry and trade, 526.
  - Japanese trade, 526.
  - magnesite industry, 314.
  - manganese ore, 314.
  - optical glass and glassware, 318.
  - paper and books, 320.
  - potash industry, 315.
  - preferential transportation rates, 394.
  - pyrites and sulphur industry, 315.
  - recent tendencies in the wool trade, with special reference to their tariff aspects, 306.
  - relation to the tariff on sugar to the rise in price of February-April, 1923, 303.
  - sheep and wool production in Argentina, 526.
  - silk and manufactures of silk, 310.
  - statistics of imports and duties, 364.
  - summary of tariff information, 367-368.
  - supplemental information concerning the wheat and flour trade, 301.
  - surgical instrument industry, 319.
  - tariff information surveys, 368.
  - tungsten-bearing ores, 314.
  - wool-growing industry, 305.
  - zinc ores, 314-315.
- Tariff information, dictionary of, 367; summary of, 367-368.
- Tariff information surveys, discussion of, 368.
- Taxation of corporations by states, 478.

- Taxes collected, by cities, 478-482; by counties, 483; by national government, 464, 468, 469, 472; by states, 477.
- Taxes paid, by manufacturing establishments, 268; by mineral industry, 249; on commodities and businesses, 282-285; on income, 505-508.
- Teachers, immigrants as, 102; salaries of, 146; statistics of, 106.
- Telegraph lines, reports on, 403-405; valuation of, 509; wages and working conditions on, 152.
- Telephone systems, reports on, 405-407; valuation of, 509; wages and working conditions in, 151.
- Telephones used on farms, 190.
- Tenancy. *See* Tenure.
- Tenure of farm operators, statistics on, 182-185, 226.
- Textile fibers, report on, 286.
- Textile industry, cost of production in, 324; dyestuffs used in, 281; immigrants in, 95, 97-99; wages and hours of labor in, 148.
- Timber lands, area owned by mineral industry, 249.
- Tire industry, wages and hours of labor in, 148.
- Tires, taxes collected on, 283.
- Tobacco, reports on, 219-220, 423.
- Tobacco and tobacco products industry, report on, 307.
- Towns, population of, 27.
- Townships, population of, 27.
- Tractors, number on farms, 190.
- Trade, foreign. *See* Imports; Exports.
- Trade of the United States with the world, statistics in, 349-350.
- Trade unions, immigrants in, 98; women in, 170.
- Train operation, report of, 395.
- Transportation, reports on, 373-401, 415-435.
- Truesdell, L. E., monograph on farm population by, 17.
- Truesdell, L. E. and Goldenweiser, E. A., report on farm tenancy by, 184.
- Trusts, reports on, 539.
- Tuberculosis, deaths from, 126, 128. *See also* Deaths; Diseases.
- Tumors, deaths from, 127. *See also* Deaths.
- Tungsten-bearing ores, report on, 313, 314.
- Turkeys, number of, 222.
- Underwear industry, costs of production in, 324; wages and hours of labor in, 148.
- Union Pacific Railway, reports of government directors of, 374.
- Union scale of wages and hours of labor, reports on, 149.
- Unions, immigrants in, 98; women in, 170.
- United Kingdom, banking and economic statistics of, 528-529, 531; coal industry in, 151; imports of acids and related materials by, 317; industrial census of, 259; source of wheat supply of, 293; sulphate of ammonia trade of, 316; trade with Latin America, 363.
- United States Steel Corporation, report on, 313.
- Universities, data on 143; immigrants in, 102.
- Urban communities, population of, 25-26.
- Urban population, definition of, 23.
- Urban and rural population. *See* Rural and urban population.
- Uruguay, immigration into, 363.
- Value of imports and exports, method of determining, 335-339.
- Van Zandt, N. B., and Watterson, George, compilation by, 13.
- Vegetable fats and oils, reports on, 272.
- Vegetables, marketing reports on, 428-429, 433; canned, reports on, 308-309.
- Vehicle manufacturing, immigrants in, 95, 97-99.
- Veneral diseases, statistics on, 130-131.
- Veneers, wood used in production of, 278.

- Vermont, manufactures in, early statistics on, 257.
- Vessels, construction of, 408; disasters to, 544-545; entrance and clearance of, 342, 349, 411-412.
- Veterinary education, statistics on, 143.
- Virgin Islands, reports on, 517; statistics of shipments to and from, 334.
- Vital statistics, publications on methods of collecting, 128. *See also* Births; Deaths.
- Voting age, statistics on, 36, 38.
- Wage earners in fishery industry, 252, 253; in manufacturing industries, 265-266; in mineral industry, 250; of telegraph companies, 404; of telephone companies, 406. *See also* Occupations.
- Wage rates: agriculture and other industries, 177; coal industry in Europe, 151; farm labor, 166; general reports on, 10, 146-163, 324-325; merchant marine, 410; telegraph companies, 404; telephone companies, 406. *See also* Earnings.
- Wages, amount paid as, in manufacturing industries, 268; in mineral industries, 249.
- Wages and labor, reports on, 146-167.
- Wales, tuberculosis in, deaths from, 126. *See also* Great Britain, United Kingdom.
- War Industries Board, reports on prices by, 446-448.
- War, world, medical, surgical and casualty statistics of army in, 129.
- Wards of cities, statistics classified by: age, 38; citizenship of foreign born, 65; color, race, nativity, and parentage, 30-31; country of birth of foreign born, 59; dwellings and families, 68; home ownership, 69; illiteracy, 48-49, 51; school attendance, 45; sex, 33-34; total population, 27.
- Water used for irrigation, 191.
- Water-borne commerce, reports on, 419-421.
- Water-borne imports and exports, statistics on, 345, 360-362.
- Water power, general reports on, 435-440; use of, in manufacturing, 267; use of, in mining industry, 250.
- Water rights, laws relating to, 192.
- Water supply systems on farms, 190.
- Water transportation, reports on, 419-421, 423-427.
- Waterways Commission. *See* Inland Waterways Commission; National Waterways Commission.
- Waterworks, report on, 437, 486, 487.
- Watterson, George, and Van Zandt, N. B., compilation by, 13.
- Wealth, national, reports on, 508-510.
- Weather, Crops, and Markets, data contained in, 8, 203.
- West Indies, trade of, 527.
- Wheat, cost of production of, 294; reports on, 291, 293, 300, 422, 523; yields per acre and prices of, 214. *See also* Grain.
- White pine lumber industry, wages in, 150.
- Wholesale prices, special reports on, 441-450.
- Widowed persons. *See* Marital condition.
- Wilson & Co., report on, 304-305.
- Wireless systems, reports on, 404.
- Wisconsin, industrial accidents in, 135.
- Women:
  - delinquency of, relation of occupation to, 170.
  - employment of, on railroads, 174.
  - fecundity of immigrant, 100.
  - harboring and importation of, for immoral purposes, 96.
  - in industry, history of, 170, 172; marital condition of, 42.
  - in trades unions, 170.
  - occupation of, 106.
  - occupation of wives of immigrants, 98.
  - special reports on, 168-176.
  - See also* Sex.
- Women's Bureau, reports of, 175.

- Wood distillation, material consumed in, 277.
- Wood preservatives, consumption of, 279.
- Wood pulp, cost of production of, 324.
- Wood using industries, reports on, 321-323.
- Woodland on farms, acreage of, 181.
- Wool, consumption of, 270; cost of production of, 324, 325; distribution of, 423; freight rates on, 392; marketing reports on, 431-432; production in Argentina, 526.
- Wool industry, reports on, 227, 233, 305-306.
- Woolen goods industry, cost of production in, 324; immigrants in, 95, 97-99; production of, 270; wages and hours of labor in, 148.
- Woolen mills, data on, 423.
- Woolen rag trade, report on, 309.
- Woonsocket, R. I., child labor and school attendance in, 172.
- Worsted goods industry, immigrants in, 95, 97-99; wages and hours of labor in, 148.
- Wright, Carroll D., and Hunt, W. C., report on census inquiries by 20.
- Yarn, cotton, imports of, 370.
- Young, Edward, report on labor in Europe and America, 146.
- Zinc, reports on, 247, 314-315.