

U. S. DEPARTMENT OF COMMERCE

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U. S. BUREAU OF THE CENSUS.

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CENSUS OF MANUFACTURES: 1927

SUMMARY
BY INDUSTRY GROUPS
AND
BY INDUSTRIES

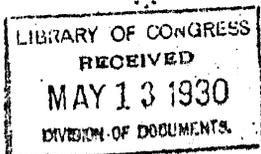


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GENERAL EXPLANATIONS

1. **Legal provision for biennial census.**—Section 32 of the act providing for the Fourteenth Decennial Census authorizes and directs the collection and publication, for the years 1921, 1923, 1925, and 1927, and for every tenth year after each of those years, of statistics of the products of manufacturing industries. Censuses of manufacturing industries were taken decennially prior to 1890 and quinquennially from 1890 to 1919, inclusive. The scope of the biennial inquiries has been somewhat restricted as compared with that of the quinquennial censuses, this restriction having been necessary in the interest of economy both in time and in expense.

2. **Area and period covered.**—The canvass covered the 48 States and the District of Columbia. The returns relate to the calendar year 1927, or the business year which corresponded most nearly to that calendar year, and cover a year's operations, except for establishments which began or discontinued business within the year.

3. **The factory system.**—The censuses for 1904 and subsequent years have been taken in conformity with the provision of law (act approved March 6, 1902, and subsequent census laws) directing that the canvass "shall . . . be confined to manufacturing establishments conducted under what is known as the factory system, exclusive of the so-called neighborhood, household, and hand industries."

In compliance with this provision of law, the following classes of establishments are not canvassed:

- a. Establishments which were idle throughout the year or reported products valued at less than \$5,000. (See sec. 4, below.)
- b. Establishments engaged principally in the performance of work for individual customers, such as custom tailor shops, dressmaking and millinery shops, and repair shops. (This does not apply to large establishments manufacturing to fill special orders.)
- c. Establishments engaged in the building industries, other than those manufacturing building materials for the general trade.
- d. Establishments engaged in the so-called neighborhood industries and hand trades, in which little or no power machinery is used, such as automobile repairing, blacksmithing, harness making, tin-smithing, etc.
- e. Cotton ginneries.
- f. Small grain mills and sawmills engaged exclusively in custom grinding or custom sawing.
- g. Wholesale and retail stores which incidentally manufacture on a small scale, particularly where it is impossible to obtain separate data for the manufacturing and for the mercantile operations.
- h. Educational, eleemosynary, and penal institutions engaged in manufacturing.

Most of the establishments of classes c and d also fall in class b, their work being done mainly to individual order.

4. **Limitation of statistics to establishments reporting products valued at \$5,000 or more.**—At the biennial censuses, in order to reduce the cost of the work and to facilitate the preparation of the statistics, no data (except in regard to wage earners and products, for 1921, and in regard to products only, for certain industries, for 1923 and 1925) were collected from establishments reporting products valued at less than \$5,000. At the quinquennial censuses, however, data on all subjects covered by the census were obtained from all establishments with products valued at \$500 or more. This change in the minimum value-of-products limit, which resulted in a 21.6 per cent reduction in the number of establishments in regard to which general and detailed statistics were compiled at the census for 1921, did not otherwise materially impair the comparability of the biennial and quinquennial figures, since 99.4 per cent of the total wage earners and 99.7 per cent of the total value of products reported at that census were contributed by the establishments having products valued at \$5,000 or more.

5. **The establishment.**—As a rule, the term "establishment" signifies a single plant or factory. In some cases, however, it refers to two or more plants operated under a common ownership and located in the same city, or in the same State but in different municipalities or unincorporated places having fewer than 10,000 inhabitants. On the other hand, separate reports are occasionally obtained for different industries carried on in the same plant, in which event a single plant is counted as two or more establishments.

6. **Classification by industries.**—Each establishment as a whole (a single plant being counted as two or more establishments in certain cases, as explained in the preceding paragraph) is assigned, on the basis of its product or group of products of chief value, to some one industry. The products reported for a given industry thus, on the one hand, usually include minor products different from those covered by the industry designation and, on the other hand, may not include the entire output of products normally belonging to the industry, because some of this class of commodities may be made in establishments in which they are not the products of chief value. In the case of every industry the value of the minor or secondary products not normally belonging to it, and that of commodities normally belonging to it but made as secondary products by establishments engaged primarily in other lines of manufacture, offset one another to a greater or less extent; and in most cases the total value of products as reported does not differ greatly from the value of the total output, in all industries, of the classes of products covered by the industry designation.

GENERAL EXPLANATIONS

7. **Persons engaged in the industry.**—Although most salaried officers and employees are paid by the week or the month and most wage earners on a per diem or a piece-price basis, the distinction between the two classes depends primarily on the character of work done rather than on the unit of time employed in calculating rates of pay. In general, office employees are classified as salaried officers and employees and factory workers as wage earners, while factory superintendents and foremen are treated as salaried employees if not engaged in manual labor and as wage earners if they perform manual labor in addition to their supervisory duties. In the case of employees other than wage earners, the number reported for December 15, or for the nearest representative day, is treated as equivalent to the average for the year, since, as a rule, there is little variation from month to month in the number of employees of this class. For wage earners, the number employed on the 15th day of each month, or on the nearest representative day, is reported, and the average for the year is calculated by dividing the sum of the numbers reported for the several months by 12. No data for employees of central administrative offices are included in the statistics for 1927. (In the reports for 1925 such data were presented in footnotes to the "General statistics" table.)

8. **Salaries and wages.**—These items represent, respectively, the total compensation of salaried officers and employees and the total compensation of wage earners (including those employed on a piece-price basis).

9. **Cost of materials, supplies, fuel, and power.**—This item relates to materials, supplies, fuel, and power actually used during the year. The cost of fuel and power covers coal, fuel oil, gasoline, etc., and purchased electric current. For earlier biennial census years (the biennial series began with 1921) the cost of materials, supplies, fuel, and power was reported as a single item, and consequently it is thus shown in the table giving summary statistics covering a number of years. In the general-statistics table, however, which gives figures for 1927 only, the cost of materials and that of fuel and power are shown separately.

10. **Value of products.**—The amounts under this heading represent the selling value, *at the factory*, of all products manufactured during the year, which may differ from the value of the products actually sold.

11. **Value added by manufacture.**—The value of products is not a satisfactory measure of the importance of a given industry, because only a part of this value is actually created within the industry. Another part, and often a much larger one, is contributed by the value of the materials used. For many purposes, therefore, the best measure of the importance of an industry, from a manufacturing standpoint, is the "value added by manufacture"—that is, the value created by the manufacturing processes—which is calculated by deducting the cost of the materials, fuel, and power used from the value of the products.

12. **Cost of manufacture and profits.**—The census statistics do not show the entire cost of manufacture and consequently can not be used for the calculation of profits. No data in regard to depreciation, interest, insurance, rent, taxes, advertising, and other miscellaneous expenses have been collected.

13. **Influence of price changes.**—In comparing the figures for cost of materials, value of products, and value added by manufacture for different census years, account should be taken of changes in prices. To the extent to which this factor was influential, the figures fail to afford a true index of the actual increase or decrease in manufacturing activities.

14. **Quantity of products and number of wage earners as standards of measurement.**—The best standard by which to measure growth or decline in manufacturing industry is found in the quantities (or numbers) of individual classes of products, where these are given for different census years in such form as to be truly comparable. Another fairly reliable standard of measurement is afforded by the average number of wage earners, but it must be remembered that, on the one hand, in some industries mechanical processes have displaced hand labor to such an extent as to make possible a marked increase in production with no increase in the number of wage earners, while, on the other hand, the average length of the working day has been decreasing for many years.

15. **Horsepower.**—Under this head is shown the combined rated horsepower capacity of engines, water wheels, etc., used for the generation of primary power by establishments reporting, plus the rated capacity of electric motors driven by purchased current. The power of motors driven by current generated in the same establishment is not included since this power duplicates that of the prime movers which generate the current. The amount of power in actual daily use is, of course, considerably less than the rated horsepower capacity of the engines, water wheels, etc.

16. **Comparison with earlier years.**—In making comparisons with preceding census years it should be remembered that 1919 and 1921 were not normal years, the former having been characterized by unusual industrial activity and the latter by industrial depression.