

## APPENDIX A

### QUANTITY AND VALUE OF PRODUCTS USED IN CONSTRUCTING THE INDEXES

The detailed product statistics used in constructing the published census indexes of physical volume of manufacturing production for 1947 relative to 1939 are shown in this appendix, insofar as they can be published separately. The names of all products used are shown. Although most of the statistics are taken from the 1947 Census of Manufactures volumes issued in 1950, some figures not previously published, some revisions after 1950, and some figures from non-census sources are included. All departures from figures in the earlier volumes are indicated by footnotes and described in appendix C.

The following abbreviations and symbols occur frequently in this appendix and elsewhere in the volume:

|               |                          |
|---------------|--------------------------|
| n. e. c. .... | not elsewhere classified |
| M .....       | thousand                 |
| mil. ....     | million                  |
| std. ....     | standard                 |
| b. m. ....    | board measure            |
| equiv. ....   | equivalent               |
| .....         | zero or not applicable   |

Other abbreviations, such as lb., gal., yd., doz., bbl., are used in the customary senses. Where the term tons only is used, it refers to short tons of 2,000 pounds.

## INDEXES OF PRODUCTION

QUANTITY AND VALUE OF PRODUCTS USED IN CONSTRUCTING INDEXES OF PHYSICAL VOLUME OF PRODUCTION FOR MANUFACTURING INDUSTRIES: 1947 AND 1939<sup>1</sup>

(Money figures in millions of dollars)

| Industry and product  | Unit of measure | 1947                   |                      | 1939                   |                     |
|---|-----------------|------------------------|----------------------|------------------------|---------------------|
|   |                 | Quantity               | Value                | Quantity               | Value               |
| <b>2011 AND 2013 - MEAT PACKING (WHOLESALE) AND PREPARED MEATS</b>            |                 |                        |                      |                        |                     |
| Fresh beef (except variety meats).....  | M lbs.          | 7,195,857              | <sup>2</sup> \$195.1 | <sup>a</sup> 4,807,000 | <sup>2</sup> \$65.4 |
| Fresh veal (except variety meats).....  | do.             | 960,873                | <sup>2</sup> 38.0    | <sup>a</sup> 611,000   | <sup>2</sup> 14.2   |
| Fresh lamb and mutton (except variety meats).....                             | do.             | 714,043                | <sup>2</sup> 13.5    | <sup>a</sup> 721,000   | <sup>2</sup> 8.3    |
| Fresh pork (except variety meats).....  | do.             | 2,875,022              | <sup>2</sup> 74.3    | <sup>a</sup> 2,344,000 | <sup>2</sup> 52.3   |
| Variety meats (beef, veal, lamb, mutton, and pork).....                       | do.             | 652,999                | <sup>2</sup> 17.8    | <sup>a</sup> 527,000   | <sup>2</sup> 8.3    |
| Lard (including rendered pork fat).....                                       | do.             | 1,816,201              | <sup>2</sup> 24.1    | 1,552,338              | <sup>2</sup> 18.7   |
| Cattle hides.....   | M hides         | 17,972                 | <sup>2</sup> 14.4    | 12,055                 | <sup>2</sup> 6.1    |
| Calf hides.....   | do.             | 8,459                  | <sup>2</sup> 6.2     | 5,377                  | <sup>2</sup> 1.9    |
| Pork, processed and cured (except cooked, boiled, or ready-to-eat).....       | M lbs.          | 2,553,914              | <sup>2</sup> 279.4   | <sup>a</sup> 2,258,000 | <sup>2</sup> 103.8  |
| Cooked, boiled, or ready-to-eat pork.....                                     | do.             | 274,103                | <sup>2</sup> 44.2    | 220,599                | <sup>2</sup> 32.1   |
| Sausage, meat loaves, etc. (except canned).....                               | do.             | 2,359,113              | <sup>2</sup> 286.4   | 1,673,571              | <sup>2</sup> 85.3   |
| Canned meats.....   | do.             | 1,011,352              | <sup>2</sup> 120.6   | 341,425                | <sup>2</sup> 17.1   |
| <b>2021 - CREAMERY BUTTER</b>   |                 |                        |                      |                        |                     |
| Creamery butter.....  | do.             | 1,329,457              | 932.7                | 1,773,083              | 443.8               |
| <b>2022 - NATURAL CHEESE</b>  |                 |                        |                      |                        |                     |
| Natural cheese:   |                 |                        |                      |                        |                     |
| Cottage, pot, and bakers' cheese.....   | do.             | 389,486                | 60.4                 | 144,701                | 10.3                |
| Other natural cheese (cheddar, colby, brick, cream, foreign types, etc.)..... | do.             | <sup>3</sup> 1,179,822 | <sup>a</sup> 459.5   | 695,594                | 96.8                |
| <b>2023 - CONCENTRATED MILK</b>   |                 |                        |                      |                        |                     |
| Dried products.....   | do.             | 1,140,240              | 153.7                | 551,848                | 29.8                |
| Canned milk.....  | do.             | 3,375,970              | 427.9                | 2,215,586              | 126.1               |
| Ice-cream mix and ice-milk mix (liquid equivalent).....                       | M gals.         | 81,550                 | 115.2                | 40,612                 | 28.1                |
| Condensed milk and buttermilk, marketed in bulk.....                          | M lbs.          | <sup>3</sup> 1,391,858 | <sup>a</sup> 96.2    | <sup>3</sup> 642,098   | <sup>a</sup> 23.2   |
| <b>2024 - ICE CREAM AND ICES</b>  |                 |                        |                      |                        |                     |
| Ice cream and ices.....   | M gals.         | 598,312                | 802.0                | 302,338                | 276.0               |
| <b>2025 - SPECIAL DAIRY PRODUCTS</b>  |                 |                        |                      |                        |                     |
| Malted milk powder.....   | M lbs.          | 40,567                 | 11.6                 | 19,381                 | 3.0                 |
| Process cheese, cheese food, cheese spread, and related products.....         | do.             | 598,564                | 234.3                | 296,284                | 48.7                |
| <b>2031 - CANNED SEA FOOD</b>   |                 |                        |                      |                        |                     |
| Canned sea food:  |                 |                        |                      |                        |                     |
| Salmon (excluding Alaska pack).....   | do.             | 63,842                 | 32.0                 | 34,994                 | 7.3                 |
| Sardines, Maine (herring).....  | do.             | 57,544                 | 27.7                 | 44,872                 | 7.1                 |
| Sardines, California (pilchards).....   | do.             | 74,367                 | 16.5                 | 139,864                | 9.6                 |
| Tuna, solid meat.....   | do.             | 79,575                 | 61.2                 | 65,901                 | 17.8                |
| Tuna, flakes and grated.....  | do.             | 37,894                 | 29.4                 | 9,087                  | 2.2                 |
| Mackerel, including jack mackerel.....  | do.             | 78,973                 | 15.0                 | 40,023                 | 2.6                 |
| Whiting (silver hake).....  | do.             | 10,616                 | 1.4                  | ...                    | ...                 |
| Anchovies.....  | do.             | 6,246                  | 1.4                  | ...                    | ...                 |
| Other species of fish.....  | do.             | 14,790                 | 3.0                  | 5,424                  | 0.8                 |
| Fish cakes and loaf.....  | do.             | 12,659                 | 3.3                  | 5,464                  | 0.8                 |
| Roe, caviar, and other fish products.....                                     | do.             | 3,434                  | 1.8                  | 835                    | 0.7                 |
| Whole and minced clams (drained weight).....                                  | do.             | 1,594                  | 1.3                  | 3,117                  | 1.0                 |
| Clam chowder, juice, etc.....   | do.             | 34,574                 | 7.3                  | 20,975                 | 2.5                 |
| Crabs.....  | do.             | 2,726                  | 2.7                  | 640                    | 0.3                 |
| Oysters (drained weight).....   | do.             | 5,780                  | 4.3                  | 9,136                  | 2.4                 |
| Shrimp (drained weight).....  | do.             | 7,085                  | 8.2                  | 20,651                 | 5.4                 |
| Other sea food.....   | do.             | 11,761                 | 1.5                  | 2,040                  | 0.3                 |
| <b>2032 - CURED FISH</b>  |                 |                        |                      |                        |                     |
| Cured fish:   |                 |                        |                      |                        |                     |
| Smoked salmon.....  | do.             | 9,830                  | 5.5                  | 7,085                  | 2.3                 |
| Other smoked fish.....  | do.             | 23,894                 | 8.4                  | 21,080                 | 4.4                 |
| Salted and pickled fish.....  | do.             | 63,092                 | 16.2                 | 44,684                 | 5.6                 |
| <b>2033 - CANNING AND PRESERVING, EXCEPT FISH</b>                             |                 |                        |                      |                        |                     |
| Canned fruits:  |                 |                        |                      |                        |                     |
| Apples.....   | M cases         | 2,579                  | 11.6                 | 2,766                  | 4.2                 |
| Applesauce.....   | do.             | 6,638                  | 17.6                 | 3,312                  | 3.9                 |
| Apricots.....   | do.             | 3,442                  | 17.7                 | 3,772                  | 9.4                 |
| Berries, except cranberries.....  | do.             | 1,441                  | 7.8                  | 1,608                  | 4.4                 |
| Cherries, red pitted.....   | do.             | 2,616                  | 13.4                 | 3,047                  | 6.2                 |

For footnotes, see end of table.

## APPENDIX A

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QUANTITY AND VALUE OF PRODUCTS USED IN CONSTRUCTING INDEXES OF PHYSICAL VOLUME OF PRODUCTION FOR MANUFACTURING INDUSTRIES: 1947 AND 1939<sup>1</sup>--Continued

(Money figures in millions of dollars)

| Industry and product  | Unit of measure | 1947     |       | 1939     |       |
|---|-----------------|----------|-------|----------|-------|
|   |                 | Quantity | Value | Quantity | Value |
| 2033 - CANNING AND PRESERVING, EXCEPT FISH--Continued   |                 |          |       |          |       |
| Canned fruits--Continued  |                 |          |       |          |       |
| Cherries, except red pitted and maraschino.....   | M cases         | 743      | \$5.1 | 1,551    | \$5.4 |
| Cranberries and cranberry sauce.....  | do.             | 4,617    | 20.5  | 2,036    | 4.6   |
| Figs.....   | do.             | 831      | 5.4   | 402      | 1.2   |
| Grapefruit segments.....  | do.             | 4,234    | 12.4  | 4,380    | 6.8   |
| Fruit cocktail (including mixed fruits and fruit for salad).....                              | do.             | 10,169   | 73.1  | 4,748    | 19.0  |
| Olives, ripe and green ripe.....  | do.             | 1,888    | 16.0  | 772      | 3.1   |
| Peaches.....  | do.             | 20,287   | 96.4  | 12,548   | 31.3  |
| Pears.....  | do.             | 5,755    | 39.1  | 5,189    | 15.6  |
| Plums and purple plums.....   | do.             | 2,140    | 8.6   | 2,989    | 4.9   |
| Other fruits.....   | do.             | 1,879    | 7.3   | 381      | 0.9   |
| Canned seasonal vegetables:   |                 |          |       |          |       |
| Asparagus.....  | do.             | 4,016    | 24.2  | 2,791    | 10.7  |
| Beans, fresh lima.....  | do.             | 2,148    | 9.3   | 2,664    | 4.8   |
| Beans, green and wax.....   | do.             | 12,794   | 40.7  | 8,374    | 13.5  |
| Beets.....  | do.             | 3,405    | 7.7   | 2,619    | 3.6   |
| Carrots.....  | do.             | 991      | 2.2   | 1,833    | 2.1   |
| Corn, cut.....  | do.             | 29,348   | 87.7  | 16,845   | 26.3  |
| Greens, except spinach.....   | do.             | 1,014    | 1.7   | 467      | 0.7   |
| Mixed vegetables.....   | do.             | 3,826    | 9.6   | 2,232    | 3.6   |
| Peas, fresh green.....  | do.             | 34,899   | 102.6 | 17,787   | 34.4  |
| Pumpkin and squash.....   | do.             | 2,938    | 6.9   | 2,374    | 3.4   |
| Spinach.....  | do.             | 3,216    | 7.9   | 4,160    | 7.0   |
| Tomatoes.....   | do.             | 23,263   | 71.7  | 23,385   | 34.2  |
| Canned nonseasonal vegetables and specialties:  |                 |          |       |          |       |
| Beans, with pork or sauce, including baked.....   | do.             | 31,846   | 90.6  | 19,459   | 31.6  |
| Beans, other dry varieties, except soy.....   | do.             | 9,128    | 25.7  | 6,371    | 9.2   |
| Hominy.....   | do.             | 3,743    | 7.1   | 1,912    | 2.3   |
| Mushrooms.....  | do.             | 1,399    | 7.9   | 1,176    | 2.9   |
| Pimientos.....  | do.             | 1,414    | 4.6   | 981      | 2.2   |
| Sauerkraut.....   | do.             | 4,313    | 8.7   | 4,864    | 6.4   |
| Spaghetti.....  | do.             | 6,285    | 21.1  | 5,173    | 8.7   |
| Sweet potatoes.....   | do.             | 1,237    | 3.5   | 764      | 0.5   |
| Tomato paste.....   | do.             | 9,283    | 39.2  | 2,277    | 6.1   |
| Tomato pulp and puree (for sale as such).....   | do.             | 4,252    | 12.8  | 3,612    | 4.8   |
| Other seasonal and nonseasonal vegetables and specialties                                     | do.             | 6,231    | 17.3  | 2,888    | 4.7   |
| Canned fruit juice:   |                 |          |       |          |       |
| Apple juice.....  | do.             | 1,759    | 4.4   | 337      | 0.5   |
| Grape juice.....  | do.             | 3,405    | 18.8  | 2,960    | 7.1   |
| Grapefruit juice.....   | do.             | 12,148   | 20.0  | 8,993    | 9.6   |
| Lemon juice.....  | do.             | 344      | 1.2   | 84       | 0.2   |
| Orange juice.....   | do.             | 21,010   | 30.6  | 1,507    | 1.9   |
| Prune juice.....  | do.             | 1,871    | 7.8   | 178      | 0.2   |
| Other fruit and berry juices and nectars, including blended orange and grapefruit juices..... | do.             | 11,973   | 25.2  | 41,454   | 42.7  |
| Canned tomato juice.....  | do.             | 18,500   | 38.7  | 13,754   | 20.4  |
| Canned baby foods:  |                 |          |       |          |       |
| Fruits, strained.....   | do.             | 9,898    | 22.0  | 856      | 1.7   |
| Vegetables, strained.....   | do.             | 6,055    | 13.1  | 3,866    | 7.0   |
| Canned mince meat.....  | M lbs.          | 28,437   | 5.4   | 30,848   | 3.1   |
| Canned soups.....   | M cases         | (d)      | (d)   | 427,995  | 475.9 |
| Canned poultry and other canned foods.....  | do.             | (d)      | (d)   | 21,900   | 45.2  |
| 2035 - PICKLES AND SAUCES   |                 |          |       |          |       |
| Catsup and other tomato sauces:   |                 |          |       |          |       |
| Catsup.....   | do.             | 19,772   | 70.0  | 10,957   | 22.5  |
| Chili sauce.....  | do.             | 1,876    | 8.5   | 1,438    | 3.1   |
| Other tomato sauces.....  | do.             | 6,509    | 16.5  | 2,101    | 4.4   |
| Salad dressings:  |                 |          |       |          |       |
| Salad dressing, mayonnaise type.....  | M gals.         | 39,262   | 80.3  | 21,594   | 21.6  |
| Mayonnaise.....   | do.             | 33,319   | 93.2  | 13,430   | 18.9  |
| Sandwich spread (dressing base).....  | do.             | 6,979    | 17.3  | 3,847    | 4.8   |
| French and other salad dressings (Russian, tartar sauce, etc.).....                           | do.             | 4,533    | 10.5  | 2,305    | 3.3   |

For footnotes, see end of table.

## INDEXES OF PRODUCTION

QUANTITY AND VALUE OF PRODUCTS USED IN CONSTRUCTING INDEXES OF PHYSICAL VOLUME OF PRODUCTION FOR MANUFACTURING INDUSTRIES: 1947 AND 1939<sup>1</sup>—Continued

(Money figures in millions of dollars)

| Industry and product   | Unit of measure | 1947      |           | 1939                   |                    |
|--|-----------------|-----------|-----------|------------------------|--------------------|
|  |                 | Quantity  | Value     | Quantity               | Value              |
| 2041 AND 2045 - FLOUR AND MEAL AND BLENDED AND PREPARED FLOUR  |                 |           |           |                        |                    |
| Wheat flour, plain:  |                 |           |           |                        |                    |
| White and other, including farina.....   | M 100-lb. sacks | 257,526   | \$1,520.6 | 187,967                | \$388.5            |
| Whole wheat.....   | do.             | 4,714     | 26.6      | 4,287                  | 8.9                |
| Semolina.....  | do.             | 9,164     | 50.9      | 6,652                  | 13.4               |
| Blended and prepared flour:  |                 |           |           |                        |                    |
| Plain blended.....   | do.             | 2,326     | 13.8      | 1,425                  | 3.2                |
| Phosphated.....  | do.             | 19,679    | 119.7     | 7,270                  | 15.9               |
| Self-rising.....   | do.             | 14,994    | 101.6     | 13,283                 | 32.1               |
| Other prepared flour (pancake, etc.).....  | do.             | 10,375    | 128.8     | 3,867                  | 24.4               |
| Wheat bran, shorts, and middlings.....   | M tons          | 5,285     | 320.6     | 4,391                  | 89.8               |
| Corn meal.....   | M 100-lb. sacks | 11,838    | 65.7      | 14,147                 | 22.6               |
| Other grain-mill products, n.e.c.:   |                 |           |           |                        |                    |
| Rye flour.....   | do.             | 1,930     | 12.5      | 2,844                  | 4.1                |
| Corn grits and hominy for human consumption.....   | do.             | 4,841     | 24.9      | 2,275                  | 3.5                |
| Corn grits and flakes for brewers' use.....  | do.             | 6,911     | 37.5      | 4,035                  | 5.4                |
| 2043 - CEREAL PREPARATIONS   |                 |           |           |                        |                    |
| Cereal preparations:   |                 |           |           |                        |                    |
| Ready to serve.....  | M lbs.          | 713,147   | 148.1     | 576,493                | 67.1               |
| To be cooked before serving.....   | do.             | 773,054   | 69.7      | 712,123                | 36.4               |
| 2044 - RICE CLEANING AND POLISHING   |                 |           |           |                        |                    |
| Milled rice, by type of rice:  |                 |           |           |                        |                    |
| Heads.....   | M 100-lb. bags  | 17,275    | 184.6     | 11,850                 | 33.7               |
| Second heads.....  | do.             | 2,340     | 16.0      | 958                    | 2.1                |
| Screenings.....  | do.             | 1,594     | 10.0      | 1,160                  | 2.2                |
| Brewers'.....  | do.             | 893       | 5.2       | 915                    | 1.6                |
| Rice milling byproducts:   |                 |           |           |                        |                    |
| Bran.....  | do.             | 2,749     | 6.4       | 2,078                  | 1.7                |
| Polish.....  | do.             | 223       | 0.7       | 363                    | 0.4                |
| 2051 - BREAD AND OTHER BAKERY PRODUCTS   |                 |           |           |                        |                    |
| White pan bread.....   | M lbs.          | 8,521,157 | 937.6     | <sup>a</sup> 6,823,138 | <sup>a</sup> 459.7 |
| White hearth, whole wheat, cracked wheat, rye, and other dark breads.....                                | do.             | 1,812,919 | 221.4     | <sup>a</sup> 1,578,025 | <sup>a</sup> 115.9 |
| Raisin and other specialty breads.....   | do.             | 192,476   | 27.8      | <sup>a</sup> 441,235   | <sup>a</sup> 35.4  |
| Rolls (bread type) and sweet yeast goods.....  | do.             | 1,555,119 | 334.8     | <sup>a</sup> 869,852   | <sup>a</sup> 111.7 |
| Doughnuts, cake type.....  | do.             | 309,591   | 80.2      | <sup>a</sup> 258,958   | <sup>a</sup> 40.7  |
| Soft cakes.....  | do.             | 1,210,207 | 390.7     | <sup>a</sup> 846,215   | <sup>a</sup> 164.2 |
| Cookies, hand-made.....  | do.             | 80,596    | 25.1      | <sup>a</sup> 68,511    | <sup>a</sup> 11.0  |
| 2052 - BISCUIT, CRACKERS, AND PRETZELS   |                 |           |           |                        |                    |
| Cookies (machine made), crackers, sponge, grahams, sprayed varieties, and low-sugar content biscuit..... | do.             | 2,011,006 | 540.4     | <sup>a</sup> 1,601,079 | <sup>a</sup> 206.0 |
| Pretzels.....  | do.             | 74,168    | 17.4      | 52,331                 | 6.1                |
| 2061 - RAW CANE SUGAR  |                 |           |           |                        |                    |
| Raw cane sugar.....  | Tons            | 296,111   | 35.8      | 417,314                | 22.9               |
| Other cane mill products:  |                 |           |           |                        |                    |
| Plantation granulated sugar.....   | do.             | 18,021    | 2.7       | 50,471                 | <sup>a</sup> 3.9   |
| Other grades of sugar (clarified, turbinado, crystals, etc.).....  | do.             | 43,585    | 6.1       | 38,257                 | <sup>a</sup> 2.4   |
| Sugar cane sirup.....  | do.             | 31,171    | 3.6       | 20,977                 | 1.1                |
| Molasses, except blackstrap.....   | do.             | 47,211    | 2.9       | 36,103                 | 0.8                |
| Blackstrap molasses.....   | do.             | 147,958   | 6.8       | 189,883                | 1.3                |
| Bagasse.....   | do.             | 223,504   | 0.5       | 119,960                | 0.3                |
| 2062 - CANE-SUGAR REFINING   |                 |           |           |                        |                    |
| Refined cane sugar:  |                 |           |           |                        |                    |
| Hard sugar:  |                 |           |           |                        |                    |
| Shipped in consumer sizes (including all cube and tablet sugar).....                                     | do.             | 2,299,124 | 361.6     | 1,623,474              | <sup>a</sup> 136.0 |
| Shipped in bulk containers and in bulk.....  | do.             | 2,477,071 | 377.6     | 2,266,651              | <sup>a</sup> 182.0 |
| Soft or brown sugar.....   | do.             | 145,574   | 23.1      | 236,383                | <sup>a</sup> 17.9  |

For footnotes, see end of table.

APPENDIX A

QUANTITY AND VALUE OF PRODUCTS USED IN CONSTRUCTING INDEXES OF PHYSICAL VOLUME OF PRODUCTION FOR MANUFACTURING INDUSTRIES: 1947 AND 1939<sup>1</sup>--Continued

(Money figures in millions of dollars)

| Industry and product   | Unit of measure | 1947                   |                     | 1939                   |                     |
|--|-----------------|------------------------|---------------------|------------------------|---------------------|
|  |                 | Quantity               | Value               | Quantity               | Value               |
| <b>2063 - BEET SUGAR</b>   |                 |                        |                     |                        |                     |
| Beet sugar:  |                 |                        |                     |                        |                     |
| Granulated sugar shipped in consumer sizes (25 pounds or less) and confectioners' powdered sugar.....                      | Tons            | <sup>a</sup> 545,597   | <sup>a</sup> \$89.2 | 384,784                | <sup>a</sup> \$26.3 |
| Granulated sugar shipped in bulk and bulk containers (50- and 100-pound bags and barrels and in tank cars and trucks)..... | do.             | <sup>a</sup> 1,181,219 | <sup>a</sup> 186.6  | 1,237,988              | <sup>a</sup> 82.8   |
| Other beet sugar factory products:   |                 |                        |                     |                        |                     |
| Molasses beet pulp.....  | do.             | 199,265                | 8.4                 | 166,474                | 2.6                 |
| Dried beet pulp.....   | do.             | 97,910                 | 5.9                 | 97,827                 | 2.0                 |
| Wet beet pulp.....   | do.             | 1,869,000              | 3.3                 | 1,634,810              | 1.3                 |
| <b>2071 - CONFECTIONERY PRODUCTS</b>   |                 |                        |                     |                        |                     |
| Chocolate covered candy bars, except solid chocolate....   | M lbs.          | 761,716                | 250.7               | 404,986                | 57.1                |
| Other confectionery, except nuts, for which quantity data are available.....   | do.             | 1,549,527              | 569.4               | <sup>a</sup> 1,356,716 | <sup>a</sup> 186.4  |
| <b>2072 - CHOCOLATE AND COCOA PRODUCTS</b>   |                 |                        |                     |                        |                     |
| Chocolate coatings:  |                 |                        |                     |                        |                     |
| Sweet.....   | do.             | 226,378                | 76.6                | 226,704                | 21.2                |
| Milk.....  | do.             | 161,589                | 60.6                | 74,268                 | 7.6                 |
| Liquor.....  | do.             | 35,323                 | 13.6                | 38,558                 | 3.4                 |
| Other chocolate and cocoa products:  |                 |                        |                     |                        |                     |
| Solid chocolate, except coatings:  |                 |                        |                     |                        |                     |
| Sweet.....   | do.             | 69,258                 | 26.7                | 40,043                 | 5.7                 |
| Plain milk and kind not specified.....   | do.             | 135,923                | 57.2                | 90,989                 | 16.9                |
| Milk with nuts, etc.....   | do.             | 85,382                 | 42.5                | 69,560                 | 14.0                |
| Cocoa powder:  |                 |                        |                     |                        |                     |
| Unsweetened:   |                 |                        |                     |                        |                     |
| Consumer sizes.....  | do.             | 41,802                 | 9.5                 | 60,693                 | 5.8                 |
| Bulk containers.....   | do.             | 100,795                | 19.5                | 74,835                 | 4.5                 |
| Sweetened or mixed with other substances.....  | do.             | 29,527                 | 9.4                 | 17,913                 | 2.9                 |
| Cocoa butter.....  | do.             | 25,723                 | 16.9                | 57,205                 | 6.9                 |
| Chocolate sirups.....  | do.             | 95,483                 | 10.2                | <sup>a</sup> 82,000    | 6.0                 |
| <b>2081 - BOTTLED SOFT DRINKS</b>  |                 |                        |                     |                        |                     |
| Soft drinks:   |                 |                        |                     |                        |                     |
| Case goods, carbonated.....  | M cases         | 883,155                | 729.4               | 472,763                | 354.2               |
| Case goods, still.....   | do.             | 14,966                 | 13.3                | 6,293                  | 4.0                 |
| Bulk goods, carbonated.....  | M gals.         | 10,589                 | 2.8                 | 10,879                 | 3.2                 |
| Bulk goods, still.....   | do.             | 138                    | 0.1                 | 941                    | 0.2                 |
| <b>2082 - MALT LIQUORS</b>   |                 |                        |                     |                        |                     |
| Malt liquors:  |                 |                        |                     |                        |                     |
| Case goods.....  | M bbls.         | 58,860                 | 1,005.9             | <sup>a</sup> 26,091    | <sup>a</sup> 318.3  |
| Barrels and kegs.....  | do.             | 28,131                 | 284.2               | <sup>a</sup> 26,789    | <sup>a</sup> 193.2  |
| Other brewery products:  |                 |                        |                     |                        |                     |
| Cereal beverages.....  | do.             | 45                     | 0.8                 | 158                    | 1.6                 |
| Malt extract.....  | M lbs.          | 66,835                 | 7.0                 | 92,306                 | 5.6                 |
| <b>2083 - MALT</b>   |                 |                        |                     |                        |                     |
| Malt:  |                 |                        |                     |                        |                     |
| Transferred by malt houses to breweries under same ownership.....  | do.             | 372,005                | 25.1                | 294,870                | 7.0                 |
| Other shipments.....   | do.             | 3,314,605              | 213.8               | 1,932,331              | 48.6                |
| <b>2085 - DISTILLED LIQUORS, EXCEPT BRANDY</b>   |                 |                        |                     |                        |                     |
| Distilled liquors, except brandy:  |                 |                        |                     |                        |                     |
| Whiskey (raw).....   | M proof gals.   | 137,996                | 138.8               | 86,994                 | 41.7                |
| Gin (distilled in registered distilleries).....  | do.             | 5,468                  | 2.7                 | 6,517                  | 2.0                 |
| Spirits, except fruit.....   | do.             | 99,639                 | 47.5                | 17,139                 | 4.8                 |
| Rum.....   | do.             | 2,260                  | 1.5                 | 1,362                  | 0.5                 |
| Distillers' dried grains and solubles.....   | M tons          | 399                    | 23.5                | 135                    | 3.0                 |
| Bottled liquors:   |                 |                        |                     |                        |                     |
| Whiskey:   |                 |                        |                     |                        |                     |
| Blends of straight whiskeys, rectified.....  | M wine gals.    | 4,432                  | 17.3                | <sup>a</sup> 2,878     | <sup>a</sup> 2.6    |
| Other rectified whiskey.....   | do.             | 133,768                | 442.8               | <sup>a</sup> 86,862    | <sup>a</sup> 79.0   |
| Unrectified, except bottled-in-bond.....   | do.             | 6,537                  | 44.7                | <sup>a</sup> 4,245     | <sup>a</sup> 7.9    |
| Bottled-in-bond.....   | M proof gals.   | 8,839                  | 100.2               | <sup>a</sup> 9,504     | <sup>a</sup> 29.4   |

For footnotes, see end of table.

## INDEXES OF PRODUCTION

QUANTITY AND VALUE OF PRODUCTS USED IN CONSTRUCTING INDEXES OF PHYSICAL VOLUME OF PRODUCTION FOR MANUFACTURING INDUSTRIES: 1947 AND 1939<sup>1</sup>--Continued

(Money figures in millions of dollars)

| Industry and product   | Unit of measure   | 1947                 |        | 1939                |                   |
|--|-------------------|----------------------|--------|---------------------|-------------------|
|  |                   | Quantity             | Value  | Quantity            | Value             |
| 2085 - DISTILLED LIQUORS, EXCEPT BRANDY--Continued                     |                   |                      |        |                     |                   |
| Bottled liquors--Continued   |                   |                      |        |                     |                   |
| Gin:   |                   |                      |        |                     |                   |
| Rectified.....   | M wine gals.      | 8,313                | \$17.5 | <sup>a</sup> 7,917  | <sup>a</sup> 45.3 |
| Unrectified.....   | do.               | 5,197                | 8.5    | <sup>a</sup> 4,950  | <sup>a</sup> 2.6  |
| Cordials and liqueurs.....   | do.               | 2,974                | 13.9   | <sup>a</sup> 2,171  | 3.1               |
| Other liquors (rum, brandy, etc.).....                                 | do.               | 1,014                | 3.9    | <sup>a</sup> 1,166  | <sup>a</sup> 0.9  |
| 2091 - LEAVENING COMPOUNDS   |                   |                      |        |                     |                   |
| Baking powder.....   | M lbs.            | <sup>a</sup> 116,986 | 13.3   | 140,270             | 13.8              |
| Yeast.....   | do.               | 316,330              | 50.3   | 219,364             | 16.4              |
| 2092 - SHORTENING AND COOKING OILS                                     |                   |                      |        |                     |                   |
| Shortening and salad oils, except olive oil:                           |                   |                      |        |                     |                   |
| Shortening:  |                   |                      |        |                     |                   |
| Made of mixed animal and/or vegetable oils (standard)                  | do.               | 409,980              | 123.3  | 351,536             | 28.5              |
| Made solely of hydrogenated vegetable oils.....                        | do.               | 986,025              | 317.9  | 1,030,399           | 99.3              |
| Salad and cooking oils.....  | do.               | 646,169              | 179.1  | 508,006             | 40.4              |
| Olive oil.....   | do.               | 4,074                | 3.0    | 6,333               | 1.3               |
| 2093 - OLEOMARGARINE   |                   |                      |        |                     |                   |
| Oleomargarine:   |                   |                      |        |                     |                   |
| Mixed animal and vegetable oils.....                                   | do.               | 32,263               | 10.5   | 55,361              | 5.5               |
| Vegetable oils only.....   | do.               | 699,570              | 226.6  | 252,064             | 26.8              |
| 2094 - CORN PRODUCTS   |                   |                      |        |                     |                   |
| Corn sirup, sugar, and starch:   |                   |                      |        |                     |                   |
| Corn sirup, unmixed.....   | do.               | 1,604,251            | 77.1   | 957,297             | 21.1              |
| Corn sugar.....  | do.               | 783,975              | 53.1   | 467,153             | 13.6              |
| Corn starch, excluding reprocessed.....                                | do.               | 1,618,952            | 98.2   | 1,120,265           | 29.3              |
| Other starch, including reprocessed:                                   |                   |                      |        |                     |                   |
| Irish potato.....  | do.               | 62,383               | 4.6    | 19,487              | 0.8               |
| Wheat, sweet potato, and rice.....                                     | do.               | 38,755               | 2.8    | 17,671              | 0.8               |
| Household starches made from purchased starch.....                     | do.               | 105,729              | 10.3   | 55,410              | 2.4               |
| Dextrin.....   | do.               | 190,005              | 14.2   | 121,267             | 4.2               |
| Refined corn oil.....  | do.               | 190,906              | 58.3   | 105,001             | 9.0               |
| Corn byproduct feeds (wet process).....                                | do.               | 2,120,413            | 64.7   | 1,192,780           | 11.2              |
| 2095 - FLAVORINGS  |                   |                      |        |                     |                   |
| Flavoring extracts, emulsions, and other liquid flavors:               |                   |                      |        |                     |                   |
| Natural or true.....   | M gals.           | 2,324                | 22.8   | 3,627               | 20.2              |
| Imitation.....   | do.               | 2,628                | 15.8   | 1,579               | 4.2               |
| Other flavoring agents, etc., n.e.c.:                                  |                   |                      |        |                     |                   |
| Concentrated fruit juice products.....                                 | do.               | 5,801                | 15.6   | 1,676               | 1.6               |
| Flavoring concentrates.....  | M lbs.            | 2,570                | 6.2    | <sup>a</sup> 8,362  | <sup>a</sup> 14.4 |
| Flavoring powders.....   | do.               | 22,874               | 9.8    | 11,162              | 3.4               |
| Flavoring pastes.....  | do.               | 4,418                | 1.9    | 11,242              | 1.2               |
| Fruit, crushed or whole for fountain and ice cream use.                | M gals.           | 3,636                | 13.2   | 2,228               | 4.5               |
| Flavoring sirups (except chocolate or caramel) and beverage bases..... | do.               | 126,864              | 189.6  | <sup>a</sup> 78,249 | <sup>a</sup> 93.2 |
| 2096 - VINEGAR AND CIDER   |                   |                      |        |                     |                   |
| Vinegar and cider:   |                   |                      |        |                     |                   |
| Vinegar, fermented.....  | M 40-grain gals.  | 39,850               | 8.3    | 61,056              | 6.8               |
| Vinegar, distilled.....  | M 100-grain gals. | 40,899               | 8.2    | 45,984              | 4.5               |
| Vinegar stock and semifinished vinegar and cider.....                  | M gals.           | 19,577               | 4.2    | 12,618              | 1.6               |
| 2097 - MANUFACTURED ICE  |                   |                      |        |                     |                   |
| Manufactured ice.....  | M tons            | <sup>a</sup> 46,333  | 264.3  | 32,319              | 122.6             |
| 2098 - MACARONI AND SPAGHETTI  |                   |                      |        |                     |                   |
| Macaroni, spaghetti, vermicelli, and other macaroni products.....      |                   |                      |        |                     |                   |
| Noodle products.....   | M lbs.            | 692,891              | 85.8   | 572,024             | 35.2              |
|  | do.               | 125,484              | 24.1   | 112,367             | 10.7              |

For footnotes, see end of table.

## APPENDIX A

QUANTITY AND VALUE OF PRODUCTS USED IN CONSTRUCTING INDEXES OF PHYSICAL VOLUME OF PRODUCTION FOR MANUFACTURING INDUSTRIES: 1947 AND 1939<sup>1</sup>--Continued

(Money figures in millions of dollars)

| Industry and product  | Unit of measure        | 1947                     |                   | 1939                     |                    |
|---|------------------------|--------------------------|-------------------|--------------------------|--------------------|
|   |                        | Quantity                 | Value             | Quantity                 | Value              |
| 2111 AND 2131 - CIGARETTES AND CHEWING AND SMOKING TOBACCO  |                        |                          |                   |                          |                    |
| Cigarettes.....   | Million cigarettes     | 368,998                  | \$1,091.8         | 180,616                  | \$424.8            |
| Chewing and smoking tobacco and snuff:  |                        |                          |                   |                          |                    |
| Smoking tobacco.....  | M lbs.                 | <sup>a</sup> 107,465     | <sup>a</sup> 68.4 | 192,532                  | <sup>a</sup> 94.5  |
| Fine cut smoking and chewing tobacco.....   | do.                    | <sup>a</sup> 4,004       | <sup>a</sup> 2.7  | 13,668                   | <sup>a</sup> 6.9   |
| Scrap chewing.....  | do.                    | <sup>a</sup> 43,573      | <sup>a</sup> 26.7 | 42,173                   | <sup>a</sup> 12.9  |
| Twist chewing.....  | do.                    | <sup>a</sup> 5,322       | <sup>a</sup> 4.8  | 6,602                    | <sup>a</sup> 2.9   |
| Plug chewing.....   | do.                    | <sup>a</sup> 48,799      | <sup>a</sup> 27.8 | 51,034                   | <sup>a</sup> 18.6  |
| Snuff.....  | do.                    | <sup>a</sup> 36,243      | <sup>a</sup> 29.5 | 37,947                   | <sup>a</sup> 21.4  |
| 2121 - CIGARS   |                        |                          |                   |                          |                    |
| Cigars.....   | Million cigars         | 5,441                    | 304.0             | 5,223                    | <sup>a</sup> 147.9 |
| 221 - WOOLEN AND WORSTED MANUFACTURES   |                        |                          |                   |                          |                    |
| Woolen and worsted broad-woven fabrics:   |                        |                          |                   |                          |                    |
| Apparel fabrics.....  | M sq. yd.              | <sup>a</sup> 681,421     | 1,037.3           | 481,509                  | 385.9              |
| Nonapparel fabrics:   |                        |                          |                   |                          |                    |
| Blanketing.....   | do.                    | <sup>a</sup> 55,926      | 61.4              | 39,152                   | 25.5               |
| Other nonapparel fabrics (except felt).....   | do.                    | <sup>a</sup> 60,847      | 109.8             | 46,899                   | 49.5               |
| Woven felts, papermakers'.....  | M lbs.                 | 6,668                    | 21.2              | 5,164                    | 12.8               |
| Woolen and worsted knitting yarns (net shipments and interplant transfers in 1947 and made for sale in 1939): |                        |                          |                   |                          |                    |
| Yarns spun on woolen system.....  | do.                    | 6,210                    | 9.6               | 5,033                    | 3.8                |
| Yarns spun on Bradford system.....  | do.                    | 45,035                   | 88.7              | 31,622                   | 34.1               |
| Yarns spun on French system.....  | do.                    | 11,172                   | 27.5              | 8,057                    | 11.0               |
| 2223 - THREAD MILLS   |                        |                          |                   |                          |                    |
| Thread:   |                        |                          |                   |                          |                    |
| For consumption in the home.....  | do.                    | 18,456                   | 45.3              | 13,820                   | 18.0               |
| For industrial or manufacturer's use (excluding linen and hemp threads).....                                  | do.                    | 50,397                   | 94.4              | 37,576                   | 31.0               |
| 2224 - YARN MILLS, COTTON SYSTEM  |                        |                          |                   |                          |                    |
| Carded cotton yarns:  |                        |                          |                   |                          |                    |
| Weaving yarns (other than carpet).....  | do.                    | 271,744                  | 182.8             | 199,511                  | 46.8               |
| Carpet yarns.....   | do.                    | 34,782                   | 19.6              | 15,183                   | 2.8                |
| Machine-knitting yarns.....   | do.                    | 165,875                  | 115.0             | 124,053                  | 27.9               |
| Sewing-thread yarns.....  | do.                    | 2,504                    | 1.6               | 4,908                    | 1.3                |
| Tire cord, cordage, rope, twine, and all other carded cotton yarns.....                                       | do.                    | 84,828                   | 46.3              | 45,611                   | 9.2                |
| Combed cotton yarns:  |                        |                          |                   |                          |                    |
| Weaving yarns.....  | do.                    | 58,467                   | 64.5              | 20,784                   | 8.5                |
| Machine-knitting yarns.....   | do.                    | 127,313                  | 132.1             | 106,539                  | 37.7               |
| Sewing-thread yarns.....  | do.                    | 21,733                   | 26.2              | 19,653                   | 9.8                |
| Combed yarns for crochet, darning, embroidery, and hand-knitting; and all other combed cotton yarns.....      | do.                    | 16,011                   | 13.2              | 16,059                   | 8.3                |
| All other yarns spun on cotton system:  |                        |                          |                   |                          |                    |
| 100% spun rayon yarns.....  | do.                    | 19,906                   | 17.3              | 6,520                    | 3.0                |
| Cotton-rayon mixed or blended yarns, cotton-wool mixed or blended yarns, and all other mixed fiber yarns..... | do.                    | 17,947                   | 25.4              | 6,187                    | 4.0                |
| 2233 - COTTON BROAD-WOVEN FABRICS   |                        |                          |                   |                          |                    |
| Cotton broad-woven goods over 12 inches in width:   |                        |                          |                   |                          |                    |
| Cotton duck and allied fabrics (including combed duck):   |                        |                          |                   |                          |                    |
| Hose and belting ducks.....   | { M sq. yds.<br>M lbs. | { 42,172<br>55,803 }     | { }<br>\$36.9     | { 19,062<br>24,688 }     | { }<br>\$5.6       |
| Other duck and allied fabrics except laundry netting.....   | { M sq. yds.<br>M lbs. | { 193,548<br>1,132,530 } | { }<br>\$94.2     | { 165,386<br>117,414 }   | { }<br>\$26.0      |
| Sheeting and allied coarse and medium yarn fabrics:   |                        |                          |                   |                          |                    |
| Osnaburges (single yarn clean, tinged, and part waste - all widths).....                                      | { M sq. yds.<br>M lbs. | { 254,126<br>92,126 }    | { }<br>\$61.1     | { 232,315<br>89,508 }    | { }<br>\$17.7      |
| Sheetings, narrower than 42 inches.....   | { M sq. yds.<br>M lbs. | { 1,398,205<br>365,267 } | { }<br>\$287.9    | { 968,320<br>236,456 }   | { }<br>\$51.4      |
| Other sheeting and allied coarse and medium yarn fabrics.....   | { M sq. yds.<br>M lbs. | { 1,960,052<br>622,560 } | { }<br>\$519.9    | { 1,388,935<br>425,008 } | { }<br>\$110.2     |

For footnotes, see end of table.

## INDEXES OF PRODUCTION

QUANTITY AND VALUE OF PRODUCTS USED IN CONSTRUCTING INDEXES OF PHYSICAL VOLUME OF PRODUCTION FOR MANUFACTURING INDUSTRIES: 1947 AND 1939<sup>1</sup>—Continued

(Money figures in millions of dollars)

| Industry and product   | Unit of measure        | 1947                   |           | 1939                     |          |
|--|------------------------|------------------------|-----------|--------------------------|----------|
|  |                        | Quantity               | Value     | Quantity                 | Value    |
| <b>2233 - COTTON BROAD-WOVEN FABRICS--Continued</b>  |                        |                        |           |                          |          |
| Cotton broad-woven goods over 12 inches in width--Continued  |                        |                        |           |                          |          |
| Print cloth yarn fabrics (carded yarns approximately 28's to 42's):  |                        |                        |           |                          |          |
| Window shade cloth and plain print cloths (total threads per square inch 180 to 100).....  | { M sq. yds.<br>M lbs. | 1,435,898<br>279,746   | { \$303.0 | { 1,695,751<br>321,351   | { \$81.9 |
| Carded broadcloths (all widths).....   | { M sq. yds.<br>M lbs. | 255,060<br>62,743      | { \$61.9  | { 295,269<br>65,627      | { \$16.6 |
| Other print cloth yarn fabrics.....  | { M sq. yds.<br>M lbs. | 1,788,445<br>153,906   | { \$105.3 | { P1,154,446<br>P109,101 | { \$30.3 |
| Napped cotton fabrics, blankets, and blanketings:  |                        |                        |           |                          |          |
| Outing flannels, work shirt flannels, canton flannels, interlining flannels, and all other napped fabrics, except blankets.....          | { M sq. yds.<br>M lbs. | 440,495<br>140,616     | { \$117.3 | { 370,959<br>113,419     | { 30.7   |
| Crib blankets (including all fibers).....  | { M sq. yds.<br>M lbs. | 17,866<br>8,431        | { \$9.7   | { 11,904<br>5,927        | { 2.7    |
| Blankets and blanketings (other than crib):  |                        |                        |           |                          |          |
| All cotton.....  | { M sq. yds.<br>M lbs. | 72,692<br>28,980       | { \$29.3  | { 126,669<br>46,071      | { 15.9   |
| Part wool (less than 25% wool).....  | { M sq. yds.<br>M lbs. | 51,910<br>19,323       | { \$14.9  | { 32,490<br>14,410       | { 5.3    |
| Colored yarn fabrics:  |                        |                        |           |                          |          |
| Denims, clothing (basis 28-inch width).....  | { M sq. yds.<br>M lbs. | 260,166<br>151,047     | { \$113.1 | { 192,314<br>116,051     | { \$26.2 |
| Other colored yarn fabrics.....  | { M sq. yds.<br>M lbs. | 447,103<br>153,490     | { \$166.7 | { 433,875<br>154,623     | { \$48.8 |
| Fine cotton goods, combed, part combed, and fine carded:   |                        |                        |           |                          |          |
| Broadcloths (combed and part combed).....  | { M sq. yds.<br>M lbs. | 169,200<br>41,678      | { \$66.6  | { 202,352<br>47,526      | { \$18.9 |
| Other fine cotton goods, combed, part combed, and fine carded.....   | { M sq. yds.<br>M lbs. | r1,225,323<br>r236,748 | { \$371.7 | { r903,763<br>r131,186   | { \$75.1 |
| Towels, towelings, and dishcloths.....   | { M sq. yds.<br>M lbs. | 252,243<br>127,069     | { \$118.1 | { r235,205<br>r110,393   | { \$37.7 |
| Other woven cotton fabrics and specialties.....  | { M sq. yds.<br>M lbs. | r542,745<br>r272,001   | { \$311.1 | { P407,074<br>P186,745   | { \$83.7 |
| Cotton tire cords and tire fabrics.....  | M lbs.                 | 350,685                | \$232.8   | 260,473                  | \$9.8    |
| <b>2234 - RAYON AND RELATED BROAD-WOVEN FABRICS</b>  |                        |                        |           |                          |          |
| Rayon and related broad-woven fabrics (over 12 inches in width):   |                        |                        |           |                          |          |
| 100% filament rayon fabrics, 100% spun rayon fabrics, and filament-and-spun rayon fabrics.....   | M linear yds.          | 1,748,238              | \$702.0   | 1,197,501                | 236.9    |
| Nylon, silk, and other fabrics:  |                        |                        |           |                          |          |
| 100% nylon fabrics.....  | do.                    | 21,881                 | \$15.8    | ...                      | ...      |
| 100% silk fabrics.....   | do.                    | 9,986                  | \$23.8    | 41,221                   | 18.8     |
| Silk mixtures (51% or more silk).....  | do.                    | 414                    | \$0.5     | 27,574                   | 15.2     |
| <b>2251 - FULL-FASHIONED HOSIERY MILLS</b>   |                        |                        |           |                          |          |
| Hosiery:   |                        |                        |           |                          |          |
| Women's full-fashioned.....  | M doz.                 | 41,363                 | 425.1     | 47,900                   | \$276.3  |
| Men's full-fashioned half-hose.....  | do.                    | 172                    | 1.4       | 184                      | 0.8      |
| <b>2252 - SEAMLESS HOSIERY MILLS</b>   |                        |                        |           |                          |          |
| Hosiery:   |                        |                        |           |                          |          |
| Women's seamless, except anklets.....  | M doz.                 | 10,803                 | 53.5      | 13,324                   | \$26.7   |
| Men's seamless half-hose, slack socks, and crew socks..  | do.                    | 52,782                 | 156.8     | 43,883                   | 60.3     |
| Bundle goods.....  | do.                    | 6,960                  | 17.4      | 4,077                    | 4.3      |
| Men's athletic socks.....  | do.                    | 1,851                  | 6.2       | 1,170                    | 2.2      |
| Children's and infants' (except anklets).....  | do.                    | 7,348                  | 17.1      | 11,661                   | 12.7     |
| Anklets.....   | do.                    | 31,307                 | 66.9      | 30,144                   | 29.9     |
| <b>2253 - KNIT OUTERWEAR MILLS</b>   |                        |                        |           |                          |          |
| Knit outerwear:  |                        |                        |           |                          |          |
| Sweaters, jackets, jerseys, pullovers, and sacques, knitted or from knitted materials.....   | do.                    | 6,677                  | 180.2     | 5,884                    | 65.8     |
| Shirts (outerwear), knitted or from knitted materials:   |                        |                        |           |                          |          |
| Women's, misses', children's, and infants': polo, tennis and basque shirts, T-shirts, and other knit shirts, excluding sweat shirts..... | do.                    | 3,288                  | 23.4      | 121                      | 0.6      |
| Men's and boys' sweat shirts.....  | do.                    | 1,124                  | 11.8      | 494                      | 1.9      |

For footnotes, see end of table.

QUANTITY AND VALUE OF PRODUCTS USED IN CONSTRUCTING INDEXES OF PHYSICAL VOLUME OF PRODUCTION FOR MANUFACTURING INDUSTRIES: 1947 AND 1939<sup>1</sup>--Continued

(Money figures in millions of dollars)

| Industry and product   | Unit of measure | 1947     |        | 1939     |        |
|--|-----------------|----------|--------|----------|--------|
|  |                 | Quantity | Value  | Quantity | Value  |
| 2253 - KNIT OUTERWEAR MILLS--Continued   |                 |          |        |          |        |
| Knit outerwear--Continued  |                 |          |        |          |        |
| Bathing suits and trunks, including athletic trunks, knitted or from knitted materials.....              | M doz.          | 497      | \$13.2 | 814      | \$18.2 |
| Knit headwear and neckwear:  |                 |          |        |          |        |
| Men's and boys' headwear.....  | do.             | 169      | 0.9    | 319      | 0.9    |
| Women's and misses' headwear.....  | do.             | 403      | 3.4    | 591      | 2.6    |
| Knit neckwear, except neckties.....  | do.             | 55       | 0.6    | 102      | 0.6    |
| 2254 - KNIT UNDERWEAR MILLS  |                 |          |        |          |        |
| Underwear made from warp knit fabrics, all fibers:   |                 |          |        |          |        |
| Women's and misses' vests, panties, stepins, and bloomers.....   | do.             | 5,453    | 36.5   | 2,004    | 9.1    |
| Women's and misses' slips, children's and infants' underwear, and other garments--except nightwear.....  | do.             | 1,618    | 19.7   | 314      | 3.3    |
| Women's, misses', and children's circular knit cotton and/or wool underwear:                             |                 |          |        |          |        |
| Women's and misses' vests, panties, stepins, and bloomers--tuckstitch.....                               | do.             | 2,104    | 10.4   | 1,173    | 2.8    |
| Women's and children's union suits.....  | do.             | 826      | 7.8    | 1,530    | 6.3    |
| Women's and misses' circular knit vests, panties, stepins, and bloomers--except tuckstitch.....          | do.             | 10,898   | 49.0   | 14,219   | 28.3   |
| Men's and boys' circular knit cotton and/or wool heavy-weight union suits, undershirts, and drawers:     |                 |          |        |          |        |
| Men's heavyweight union suits (9 lbs. and over) and boys' heavyweight union suits (6 lbs. and over)..... | do.             | 2,180    | 36.4   | 2,172    | 14.3   |
| Men's and boys' heavyweight undershirts (7 lbs. and over) and heavyweight drawers (7 lbs. and over)..... | do.             | 654      | 9.4    | 752      | 4.3    |
| Other men's and boys' circular knit cotton and/or wool underwear:  |                 |          |        |          |        |
| Men's lightweight (under 9 lbs.) and boys' lightweight (under 6 lbs.) union suits.....                   | do.             | 924      | 10.7   | 986      | 5.3    |
| Men's and boys' athletic type undershirts.....   | do.             | 10,032   | 38.7   | 8,867    | 14.9   |
| Men's and boys' balbriggan undershirts (with sleeves), and balbriggan drawers.....                       | do.             | 1,389    | 7.9    | 594      | 2.0    |
| Men's and boys' knit shorts.....   | do.             | 787      | 3.8    | 3,430    | 8.0    |
| 2256 - KNIT-FABRIC MILLS   |                 |          |        |          |        |
| Knit cloth made for sale:  |                 |          |        |          |        |
| Warp knit fabrics:   |                 |          |        |          |        |
| Underwear and nightwear fabrics.....   | M lbs.          | 17,422   | 28.5   | 3,157    | 3.6    |
| Corset fabrics.....  | do.             | 604      | 1.9    | 442      | 0.5    |
| Dress and suiting fabrics.....   | do.             | 16,205   | 24.2   | 2,689    | 2.4    |
| Glove fabrics.....   | do.             | 3,971    | 10.9   | 922      | 1.6    |
| Circular knit fabrics:   |                 |          |        |          |        |
| Underwear and nightwear fabrics:   |                 |          |        |          |        |
| Cotton or chiefly cotton, and wool or chiefly wool.  | do.             | 21,282   | 20.3   | 6,746    | 3.4    |
| Rayon or chiefly rayon.....  | do.             | 20,315   | 21.2   | 15,930   | 9.9    |
| Outerwear fabrics, except glove fabrics.....   | do.             | 29,668   | 46.9   | 18,392   | 18.1   |
| Glove and mitten fabrics:  |                 |          |        |          |        |
| Work-glove jersey made of cotton, including balbriggan.....  | do.             | 4,705    | 3.9    | 4,560    | 1.6    |
| Work-glove ribbed tubing made of cotton.....   | do.             | 7,556    | 5.5    | 4,881    | 1.3    |
| Other circular knit glove and mitten fabrics, including all wool glove and mitten fabrics.....           | do.             | 1,661    | 1.6    | 1,041    | 0.4    |
| Other circular knit fabrics:   |                 |          |        |          |        |
| Footwear lining.....   | do.             | 6,970    | 6.9    | 1,789    | 0.8    |
| Meat bagging and other stockinette fabrics.....  | do.             | 10,058   | 8.1    | 7,476    | 2.0    |
| Elastic girdle blanks and elastic fabrics.....   | do.             | 3,579    | 6.2    | 5,120    | 5.2    |
| 2271 - WOOL CARPETS, RUGS, AND CARPET YARN   |                 |          |        |          |        |
| Carpet and rug weaving yarn produced.....  | do.             | 178,694  | ...    | 107,508  | ...    |
| 2274 - HARD-SURFACE FLOOR COVERINGS  |                 |          |        |          |        |
| Linoleum.....  | M sq.yds.       | 65,808   | \$70.4 | 36,004   | 29.4   |
| Asphalted-felt-base floor and wall covering:   |                 |          |        |          |        |
| Piece goods, 12/4 yard and wider.....  | do.             | 47,187   | \$18.0 | 26,662   | 5.9    |
| Rugs and mats.....   | do.             | 98,349   | \$34.4 | 83,817   | 19.5   |

For footnotes, see end of table.

## INDEXES OF PRODUCTION

QUANTITY AND VALUE OF PRODUCTS USED IN CONSTRUCTING INDEXES OF PHYSICAL VOLUME OF PRODUCTION FOR MANUFACTURING INDUSTRIES: 1947 AND 1939<sup>1</sup>—Continued

(Money figures in millions of dollars)

| Industry and product  | Unit of measure | 1947     |        | 1939     |       |
|---|-----------------|----------|--------|----------|-------|
|   |                 | Quantity | Value  | Quantity | Value |
| <b>2281 - FUR-FELT HATS AND HAT BODIES</b>  |                 |          |        |          |       |
| Women's and children's fur-felt hat bodies in the rough, made for sale as such.....         | M doz.          | 487      | \$9.1  | 992      | \$8.2 |
| Men's and boys' fur-felt finished hats:   |                 |          |        |          |       |
| Hat bodies made for sale and hats manufactured complete                                     | do.             | 866      | 53.1   | 711      | 21.3  |
| Hats finished from purchased hat bodies.....  | do.             | 718      | 36.0   | 1,120    | 20.8  |
| <b>2282 - WOOL-FELT HATS AND HAT BODIES</b>   |                 |          |        |          |       |
| Women's and children's wool-felt hat bodies in the rough, made for sale as such.....        | do.             | 2,436    | 12.2   | 2,821    | 10.0  |
| Men's and boys' wool-felt finished hats:  |                 |          |        |          |       |
| Hat bodies made for sale and hats manufactured complete                                     | do.             | 417      | 6.1    | 374      | 3.1   |
| Hats finished from purchased hat bodies.....  | do.             | 79       | 1.3    | 114      | 1.2   |
| <b>2284 - HATTERS' FUR</b>  |                 |          |        |          |       |
| Hatters' fur, cut or blown for sale.....  | M lbs.          | 6,130    | 22.2   | 6,123    | 9.4   |
| <b>2291 - FELT GOODS, N.E.C.</b>  |                 |          |        |          |       |
| Felt goods (except woven felts and hats).....   | do.             | 132,783  | 58.9   | 114,822  | 22.8  |
| <b>2292 - LACE GOODS</b>  |                 |          |        |          |       |
| Levers lace-machine products.....   | M sq. yds.      | 27,942   | \$30.6 | 19,046   | 8.6   |
| Nottingham lace-machine curtains.....   | M pairs         | 10,391   | \$20.8 | 10,530   | 10.2  |
| <b>2293 - PADDINGS AND UPHOLSTERY FILLING</b>   |                 |          |        |          |       |
| Automotive and other pads (sisal, etc.).....  | M lbs.          | 209,415  | 42.8   | 108,875  | 9.5   |
| Cotton batting, wadding, and mattress felts.....  | do.             | 247,898  | 52.7   | 198,169  | 17.7  |
| Upholstery filling.....   | do.             | 31,582   | 9.6    | 45,548   | 3.7   |
| <b>2294 - PROCESSED TEXTILE WASTE</b>   |                 |          |        |          |       |
| Processed waste and recovered fibers:   |                 |          |        |          |       |
| Fiber recovered from own materials.....   | do.             | 66,095   | 14.2   | 64,745   | 13.3  |
| Processed mill waste (except fiber recovered from clips and rags).....                      | do.             | 242,319  | 29.7   | 173,267  | 12.2  |
| Flock.....  | do.             | 8,430    | 2.4    | 3,294    | 0.7   |
| Fibers recovered from clips and rags from materials owned by others.....                    | do.             | 24,739   | 1.7    | 38,631   | 1.8   |
| Oakum.....  | do.             | 12,305   | 1.8    | 17,887   | 1.3   |
| <b>2295 - COATED FABRICS, EXCEPT RUBBERIZED</b>   |                 |          |        |          |       |
| Artificial leather, oilcloth, and other impregnated and coated fabrics (except rubberized): |                 |          |        |          |       |
| Pyroxylin-coated:   |                 |          |        |          |       |
| Light cotton fabrics (except shade cloth).....  | M linear yds.   | 38,407   | 20.4   | 33,728   | 7.9   |
| Heavy cotton fabrics.....   | do.             | 30,923   | 29.4   | 29,171   | 13.8  |
| Nonfabric materials.....  | do.             | 6,243    | 3.3    | 4,780    | 1.5   |
| Oilcloth.....   | M sq. yds.      | 75,007   | 19.9   | 96,115   | 13.2  |
| <b>2297 - JUTE (EXCEPT FELT), AND LINEN GOODS</b>   |                 |          |        |          |       |
| Linen (flax) thread, except jacquard thread and twine....                                   | M lbs.          | 2,117    | 4.8    | 2,495    | 3.4   |
| Jute goods (except felt):   |                 |          |        |          |       |
| Jute yarn and rove produced for sale.....   | do.             | 100,894  | 26.9   | 92,292   | 12.4  |
| Jute bagging for baling cotton.....   | M sq. yds.      | 45,055   | 5.7    | 26,758   | 2.1   |
| <b>2298 - CORDAGE AND TWINE</b>   |                 |          |        |          |       |
| Cordage (rope and cable) and twine:   |                 |          |        |          |       |
| Cotton cordage and twine:   |                 |          |        |          |       |
| Cordage (except braided cord, rope, and cable).....   | M lbs.          | 4,842    | \$2.9  | 30,337   | 6.6   |
| Twine.....  | do.             | 53,857   | \$36.7 | 66,784   | 13.3  |
| Hard fiber cordage and twine:   |                 |          |        |          |       |
| Cordage:  |                 |          |        |          |       |
| Abaca rope and cable.....   | do.             | 108,366  | \$34.0 | 77,041   | 11.2  |
| Agave rope and cable.....   | do.             | 24,811   | \$6.5  | 16,070   | 1.9   |
| Twine:  |                 |          |        |          |       |
| Blinder twine.....  | do.             | 71,134   | \$12.8 | 88,058   | 5.1   |
| Wrapping or tying twine.....  | do.             | 14,145   | \$3.6  | 49,812   | 4.8   |
| Other hard fiber twine (except baler twine and fishing twine).....                          | do.             | 1,201    | \$0.3  | 3,177    | 0.4   |
| Soft fiber cordage and twine, except cotton:  |                 |          |        |          |       |
| Cordage.....  | do.             | 1,997    | \$1.3  | 2,904    | 0.7   |
| Twine, wrapping and other:  |                 |          |        |          |       |
| Hemp.....   | do.             | 8,437    | \$3.0  | 1,327    | 0.4   |
| Jute.....   | do.             | 46,915   | \$12.9 | 19,873   | 2.7   |
| Other fibers and mixed fibers (except isle and paper).....                                  | do.             | 3,269    | \$2.1  | 19,698   | 3.0   |

For footnotes, see end of table.

QUANTITY AND VALUE OF PRODUCTS USED IN CONSTRUCTING INDEXES OF PHYSICAL VOLUME OF PRODUCTION FOR MANUFACTURING INDUSTRIES: 1947 AND 1939<sup>1</sup>--Continued

(Money figures in millions of dollars)

| Industry and product  | Unit of measure | 1947     |         | 1939     |         |
|---|-----------------|----------|---------|----------|---------|
|   |                 | Quantity | Value   | Quantity | Value   |
| 2311-2 AND 2327 - MEN'S AND BOYS' SUITS, COATS, AND SEPARATE TROUSERS   |                 |          |         |          |         |
| Suits, except uniform:  |                 |          |         |          |         |
| Men's and students'.....  | M units         | 26,428   | \$797.6 | 24,737   | \$346.4 |
| Cadets' and junior boys'.....   | do.             | 2,454    | 26.6    | 2,617    | 18.4    |
| Men's overcoats and topcoats, except uniform.....   | do.             | 7,233    | 196.4   | 5,644    | 79.8    |
| Men's and students' separate trousers, dress and sport, except uniform.....   | do.             | 46,042   | 263.9   | 40,257   | 64.7    |
| 2321 - MEN'S DRESS SHIRTS AND NIGHTWEAR   |                 |          |         |          |         |
| Men's, youths', and boys' shirts (except work shirts), including civilian uniform shirts - dress, business, and sport.....    | M doz.          | 19,800   | 526.9   | 15,362   | 136.2   |
| Pajamas.....  | do.             | 2,590    | 79.2    | 2,662    | 24.0    |
| 2322 - MEN'S AND BOYS' UNDERWEAR  |                 |          |         |          |         |
| Men's and boys' shorts, woven fabric.....   | do.             | 6,741    | 41.9    | 7,348    | 16.0    |
| 2323 - MEN'S AND BOYS' NECKWEAR   |                 |          |         |          |         |
| Men's, youths', and boys' neckties.....   | do.             | 12,351   | 111.2   | 12,506   | 45.6    |
| 2325 - MEN'S AND BOYS' CLOTH HATS AND CAPS  |                 |          |         |          |         |
| Men's and boys' cloth hats.....   | do.             | 481      | 4.8     | 246      | 1.5     |
| Men's and boys' caps.....   | do.             | 2,531    | 17.5    | 3,569    | 9.9     |
| 2328 - WORK SHIRTS  |                 |          |         |          |         |
| Men's and boys' work shirts, including civilian uniform shirts.....   | do.             | 5,815    | 98.5    | 6,850    | 43.1    |
| 2329 - MEN'S AND BOYS' CLOTHING, N.E.C.   |                 |          |         |          |         |
| Men's and boys' work pants.....   | do.             | 3,716    | 105.0   | 5,081    | 51.4    |
| Men's and boys' dungarees, waistband overalls, and bib overalls.....  | do.             | 6,807    | 160.6   | 3,973    | 39.7    |
| Men's and boys' overall and work jackets.....   | do.             | 398      | 11.3    | 424      | 3.9     |
| Men's and boys' one-piece work suits.....   | do.             | 437      | 19.7    | 285      | 4.8     |
| Men's and boys' blanket-lined jackets and other heavy outerwear (except leather).....   | do.             | 230      | 10.5    | 182      | 2.4     |
| Boys' wash suits.....   | do.             | 458      | 9.5     | 679      | 6.5     |
| 2333-4 - WOMEN'S AND MISSES' DRESSES  |                 |          |         |          |         |
| Women's aprons, uniforms, and other washable service apparel:   |                 |          |         |          |         |
| Aprons, smocks, hoovers, and pinafore aprons.....   | do.             | 2,163    | 20.0    | 3,171    | 11.6    |
| Nurses' and maids' uniforms.....  | do.             | 685      | 23.6    | 768      | 10.1    |
| Women's, misses', and juniors' dresses, sold at a dozen price and at a unit price.....  | M units         | 203,247  | 1,341.0 | 194,383  | 516.8   |
| 2335-6 - WOMEN'S SUITS, COATS, AND SKIRTS   |                 |          |         |          |         |
| Women's, misses', and juniors' suits and coats (except fur coats):  |                 |          |         |          |         |
| Coats with and without fur trimming.....  | do.             | 20,880   | 502.7   | 17,428   | 203.3   |
| Suits (except ski and snow suits, slack suits, and uniform suits).....  | do.             | 14,352   | 341.4   | 4,237    | 50.4    |
| Jackets (including work jackets).....   | do.             | 3,462    | 18.1    | 3,336    | 8.3     |
| Women's, misses', and juniors' skirts (including work skirts).....  | M doz.          | 2,020    | 78.3    | 1,084    | 20.6    |
| 2341 - WOMEN'S AND CHILDREN'S UNDERWEAR   |                 |          |         |          |         |
| Underwear made from warp knit fabrics, all fibers:  |                 |          |         |          |         |
| Women's and misses' vests, panties, stepins, and bloomers.....  | do.             | 5,453    | 36.5    | 2,004    | 9.1     |
| Women's and misses' slips, children's and infants' underwear, and other garments, except nightwear.....                       | do.             | 1,618    | 19.7    | 314      | 3.3     |
| Underwear made from circular knit fabrics, all fibers:  |                 |          |         |          |         |
| Women's and misses' vests, panties, stepins, and bloomers, except tuckstitch.....   | do.             | 10,898   | 49.0    | 14,219   | 28.3    |
| Women's and children's cotton and/or wool union suits..   | do.             | 826      | 7.8     | 1,530    | 6.3     |
| Women's, misses', children's, and infants' knit nightwear   | do.             | 2,351    | 42.6    | 762      | 5.6     |
| Women's, misses', juniors', children's, and infants' nightwear made from woven fabric.....                                    | do.             | 6,596    | 155.4   | 5,854    | 44.8    |
| Negligees made from woven fabric.....   | do.             | 167      | 15.3    | 426      | 9.2     |
| Women's, misses', juniors', children's, and infants' slips, gertrudes, petticoats, and half-slips made from woven fabric..... | do.             | 11,084   | 227.8   | 8,945    | 62.0    |

For footnotes, see end of table.

## INDEXES OF PRODUCTION

QUANTITY AND VALUE OF PRODUCTS USED IN CONSTRUCTING INDEXES OF PHYSICAL VOLUME OF PRODUCTION FOR MANUFACTURING INDUSTRIES: 1947 AND 1939<sup>1</sup>—Continued

(Money figures in millions of dollars)

| Industry and product   | Unit of measure      | 1947             |                      | 1939                |                      |
|--|----------------------|------------------|----------------------|---------------------|----------------------|
|  |                      | Quantity         | Value                | Quantity            | Value                |
| 2371 - FUR GOODS   |                      |                  |                      |                     |                      |
| Fur coats and capes - 32 inches or more in length.....   | M units              | 1,248            | \$232.1              | <sup>a</sup> 1,222  | <sup>4</sup> \$103.5 |
| 2382 - FABRIC AND COMBINATION WORK-GLOVES  |                      |                  |                      |                     |                      |
| Work gloves and mittens, leather and fabric combination..  | M doz.               | 2,677            | <sup>a</sup> 21.9    | 2,790               | 8.7                  |
| Work gloves and mittens, fabric.....   | do.                  | 17,916           | <sup>a</sup> 51.2    | 12,317              | 13.2                 |
| 2383 - SUSPENDERS AND GARTERS  |                      |                  |                      |                     |                      |
| Suspenders.....  | do.                  | 1,585            | 11.5                 | 2,177               | 7.5                  |
| Garters, men's and boys'.....  | do.                  | 1,049            | 2.5                  | 1,525               | 2.7                  |
| Garters and hose supporters, women's and children's.....   | do.                  | 6,355            | 4.9                  | 5,000               | 2.3                  |
| 2384 - ROBES AND DRESSING GOWNS  |                      |                  |                      |                     |                      |
| Robes and dressing gowns.....  | do.                  | 1,179            | 68.1                 | 597                 | 13.8                 |
| Breakfast coats, brunch coats, housecoats, and lounging pajamas.....   | do.                  | 556              | 30.3                 | 771                 | 15.5                 |
| 2386 - LEATHER AND SHEEP-LINED CLOTHING  |                      |                  |                      |                     |                      |
| Leather and sheep-lined clothing.....  | do.                  | <sup>a</sup> 269 | 38.5                 | 383                 | 21.0                 |
| 2387 - BELTS   |                      |                  |                      |                     |                      |
| Belts, leather and other than leather.....   | do.                  | 12,166           | 57.8                 | 9,199               | 20.2                 |
| 2388 - HANDKERCHIEFS   |                      |                  |                      |                     |                      |
| Men's, boys', <del>women's</del> , and girls' handkerchiefs.....   | do.                  | 28,749           | 50.9                 | 35,822              | 20.8                 |
| 2391 - CURTAINS AND DRAPERIES  |                      |                  |                      |                     |                      |
| Window curtains.....   | M prs. or sets       | 37,770           | 89.4                 | 51,267              | 35.6                 |
| Draperies.....   | do.                  | 2,359            | 9.9                  | 2,341               | 5.9                  |
| 2421 - SAWMILLS AND PLANING MILLS, GENERAL   |                      |                  |                      |                     |                      |
| Douglas fir lumber.....  | Mil. ft. b.m.        | 9,043            | <sup>5</sup> 497.4   | 6,494               | <sup>4</sup> 116.3   |
| Ponderosa pine lumber.....   | do.                  | 3,839            | <sup>5</sup> 207.3   | 3,360               | <sup>4</sup> 76.4    |
| All other lumber.....  | do.                  | 22,522           | <sup>5</sup> 1,250.2 | <sup>3</sup> 18,900 | <sup>4</sup> 446.8   |
| 2423 - SHINGLE MILLS   |                      |                  |                      |                     |                      |
| Shingles and shakes.....   | M squares            | 3,832            | 30.5                 | 6,500               | 16.6                 |
| 2425 - EXCELSIOR MILLS   |                      |                  |                      |                     |                      |
| Excelsior, baled or bulk (including excelsior produced and used as a material in plants manufacturing excelsior pads)..... | M tons               | 154              | <sup>a</sup> 5.8     | 123                 | <sup>a</sup> 2.1     |
| 2432 - PLYWOOD PLANTS  |                      |                  |                      |                     |                      |
| Softwood plywood.....  | M sq.ft.(3/8" basis) | 1,592            | 130.1                | 1,043               | 33.1                 |
| 2445 - COOPERAGE   |                      |                  |                      |                     |                      |
| Slack cooperage.....   | M units              | 34,599           | 30.0                 | <sup>a</sup> 23,695 | 12.1                 |
| Tight cooperage - hogsheads, barrels, and kegs for:  |                      |                  |                      |                     |                      |
| Bourbon and other whiskey.....   | do.                  | 3,115            | 45.6                 | 1,762               | 7.9                  |
| Food, chemicals, inedible oils, greases, beer, ale, spirits, wine, and other products.....                                 | do.                  | 3,527            | 19.6                 | <sup>a</sup> 5,556  | 10.7                 |
| Tubs, pails, kits, buckets, firkins, etc.....  | do.                  | 2,677            | 2.3                  | <sup>a</sup> 9,987  | 3.9                  |
| 2492 - LASTS AND RELATED PRODUCTS  |                      |                  |                      |                     |                      |
| Lasts for boots and shoes.....   | M prs.               | 3,502            | 9.8                  | 3,091               | 5.1                  |
| Last sole patterns:  |                      |                  |                      |                     |                      |
| Wood.....  | M units              | 342              | 0.1                  | 763                 | 0.1                  |
| Other patterns and patterns not specified by kind.....   | do.                  | 314              | 0.1                  | 202                 | (s)                  |
| 2515 - MATTRESSES AND BEDSPRINGS   |                      |                  |                      |                     |                      |
| Box bedsprings.....  | M units              | 2,020            | 44.3                 | <sup>a</sup> 757    | 7.0                  |
| Coil bedsprings.....   | do.                  | 3,119            | 27.6                 | <sup>a</sup> 3,805  | 15.2                 |
| Flat bedsprings.....   | do.                  | 466              | 3.0                  | <sup>a</sup> 627    | 2.1                  |
| Innerspring mattresses.....  | do.                  | 6,226            | 136.2                | <sup>a</sup> 4,705  | 47.4                 |

For footnotes, see end of table.

QUANTITY AND VALUE OF PRODUCTS USED IN CONSTRUCTING INDEXES OF PHYSICAL VOLUME OF PRODUCTION FOR MANUFACTURING INDUSTRIES: 1947 AND 1939<sup>1</sup>--Continued

(Money figures in millions of dollars)

| Industry and product  | Unit of measure | 1947     |                      | 1939               |        |
|---|-----------------|----------|----------------------|--------------------|--------|
|   |                 | Quantity | Value                | Quantity           | Value  |
| 2611 - PULP MILLS   |                 |          |                      |                    |        |
| Wood pulp:  |                 |          |                      |                    |        |
| Bleached sulphite.....  | M tons, air-dry | 1,901.9  | <sup>a</sup> \$223.1 | 1,217.2            | \$61.3 |
| Unbleached sulphite.....  | do.             | 894.0    | <sup>a</sup> 88.2    | 729.2              | 24.7   |
| Bleached sulphate.....  | do.             | 1,102.1  | <sup>a</sup> 90.8    | 424.5              | 17.7   |
| Unbleached sulphate.....  | do.             | 4,254.6  | <sup>a</sup> 271.2   | 2,538.2            | 55.2   |
| Soda.....   | do.             | 491.6    | <sup>a</sup> 44.2    | 441.6              | 19.7   |
| Groundwood.....   | do.             | 2,049.8  | <sup>a</sup> 95.9    | 1,444.9            | 27.7   |
| Semichemical, chemfiber, chemipulp, defibrated, and exploded.....       | M tons          | 1,137.3  | <sup>a</sup> 49.9    | 151.7              | 2.1    |
| Screening and off-quality pulp.....                                     | do.             | 114.5    | <sup>a</sup> 5.1     | 46.1               | 0.6    |
| 2612 - PAPER AND BOARD MILLS  |                 |          |                      |                    |        |
| Newsprint.....  | do.             | 833.0    | <sup>a</sup> 67.3    | <sup>v</sup> 954.3 | 39.8   |
| Groundwood paper:   |                 |          |                      |                    |        |
| Hanging stock.....  | do.             | 128.2    | <sup>a</sup> 15.5    | 116.8              | 6.9    |
| Printing grades.....  | do.             | 546.0    | <sup>a</sup> 69.7    | 268.2              | 18.3   |
| Other groundwood paper.....   | do.             | 147.1    | <sup>a</sup> 21.0    | 155.4              | 8.7    |
| Book paper:   |                 |          |                      |                    |        |
| Printing grades.....  | do.             | 1,696.6  | <sup>a</sup> 294.5   | 1,131.7            | 104.9  |
| Converting and other grades.....  | do.             | 511.4    | <sup>a</sup> 89.5    | 402.9              | 34.0   |
| Fine paper:   |                 |          |                      |                    |        |
| Writing paper:  |                 |          |                      |                    |        |
| Rag content.....  | do.             | 174.1    | <sup>a</sup> 76.9    | 83.9               | 24.6   |
| Chemical wood pulp.....   | do.             | 744.2    | <sup>a</sup> 178.2   | 510.7              | 59.3   |
| Bristol, except rag and bogus.....                                      | do.             | 86.8     | <sup>a</sup> 20.1    | 79.5               | 9.0    |
| Cover paper.....  | do.             | 65.3     | <sup>a</sup> 16.4    | 19.4               | 3.4    |
| Text paper.....   | do.             | 27.9     | <sup>a</sup> 8.6     | 12.3               | 2.3    |
| Thin paper.....   | do.             | 73.2     | <sup>a</sup> 49.6    | 17.3               | 8.4    |
| Coarse and special industrial paper.....                                | do.             | 3,172.9  | <sup>a</sup> 519.7   | 2,239.0            | 174.4  |
| Tissue paper, except thin:  |                 |          |                      |                    |        |
| Sanitary grades.....  | do.             | 894.0    | <sup>a</sup> 164.2   | 484.3              | 37.1   |
| Tissue grades:  |                 |          |                      |                    |        |
| Waxing (less than 18 lbs.).....   | do.             | 41.1     | <sup>a</sup> 8.2     | 39.1               | 3.9    |
| Wrapping (less than 18 lbs.).....                                       | do.             | 57.6     | <sup>a</sup> 14.8    | 56.3               | 6.9    |
| Twisting stock.....   | do.             | 26.1     | <sup>a</sup> 7.3     | 7.3                | 1.1    |
| Pattern, sales-book, and other tissue stock.....                        | do.             | 69.8     | <sup>a</sup> 15.4    | 61.4               | 7.2    |
| Absorbent paper:  |                 |          |                      |                    |        |
| Blotting.....   | do.             | 13.1     | <sup>a</sup> 3.7     | 10.7               | 1.9    |
| Filter.....   | do.             | 4.7      | <sup>a</sup> 2.2     | 1.5                | 0.4    |
| Matrix paper and board.....   | do.             | 9.3      | <sup>a</sup> 4.4     | 3.5                | 1.5    |
| Vulcanized fiber stock.....   | do.             | 32.8     | <sup>a</sup> 9.6     | 13.6               | 2.3    |
| Other.....  | do.             | 40.6     | <sup>a</sup> 14.4    | 92.4               | 13.5   |
| Building paper:   |                 |          |                      |                    |        |
| Felts.....  | do.             | 1,116.4  | <sup>a</sup> 88.1    | 567.9              | 24.9   |
| Asbestos.....   | do.             | 97.1     | <sup>a</sup> 10.6    | 42.6               | 4.5    |
| Sheathing and other.....  | do.             | 75.6     | <sup>a</sup> 13.3    | 48.6               | 1.7    |
| Container board:  |                 |          |                      |                    |        |
| Liners.....   | do.             | 3,293.2  | <sup>a</sup> 312.8   | 2,343.1            | 85.5   |
| Straw corrugating.....  | do.             | 409.9    | <sup>a</sup> 35.6    | 399.2              | 12.2   |
| Container chip and other.....   | do.             | 1,240.6  | <sup>a</sup> 108.9   | 619.1              | 20.5   |
| Folding boxboard, including similar boards used for other purposes..... | do.             | 2,757.9  | <sup>a</sup> 294.9   | 1,360.0            | 60.9   |
| Setup boxboard, including similar boards used for other purposes.....   | do.             | 934.6    | <sup>a</sup> 81.3    | 865.5              | 30.1   |
| Cardboard.....  | do.             | 91.9     | <sup>a</sup> 16.6    | 58.9               | 4.8    |
| Other paperboard.....   | do.             | 500.8    | <sup>a</sup> 51.4    | 211.5              | 16.3   |
| Wet machine board:  |                 |          |                      |                    |        |
| Binders board.....  | do.             | 52.6     | <sup>a</sup> 5.9     | 28.1               | 1.8    |
| Leatherboard.....   | do.             | 55.2     | <sup>a</sup> 9.6     | 25.7               | 2.0    |
| Building board.....   | do.             | 1,072.4  | <sup>a</sup> 119.2   | 479.5              | 20.6   |

For footnotes, see end of table.

## INDEXES OF PRODUCTION

QUANTITY AND VALUE OF PRODUCTS USED IN CONSTRUCTING INDEXES OF PHYSICAL VOLUME OF PRODUCTION FOR MANUFACTURING INDUSTRIES: 1947 AND 1939<sup>1</sup>--Continued

(Money figures in millions of dollars)

| Industry and product  | Unit of measure | 1947     |         | 1939     |        |
|---|-----------------|----------|---------|----------|--------|
|   |                 | Quantity | Value   | Quantity | Value  |
| <b>2641-99 - PAPER AND BOARD PRODUCTS<sup>6</sup></b>   |                 |          |         |          |        |
| Envelopes, all types and materials (except stationery envelopes).....   | M tons          | 255.8    | \$120.7 | ✓ a193.1 | \$50.2 |
| Filing accessories:   |                 |          |         |          |        |
| Cards, index.....   | do.             | 12.2     | 9.2     | a7.6     | 3.5    |
| File folders.....   | do.             | 21.0     | 11.0    | a10.7    | 2.6    |
| Rolls for adding and other business machines.....   | do.             |          |         |          |        |
| Stationery.....   | do.             | 11.3     | 5.7     | a16.2    | 2.8    |
| Book and writing-paper grade tablets and pads.....  | do.             | 52.0     | 30.2    | a32.7    | 10.5   |
| Newsprint tablets and pads.....   | do.             | 20.4     | 7.0     | a43.7    | 7.7    |
| Other tablets and related products.....   | do.             | 16.3     | 3.1     | a13.2    | 2.0    |
|   | do.             | 4.1      | 1.2     | a7.1     | 0.8    |
| Coated printing paper (off paper machine), all types....  | do.             |          |         |          |        |
| Waxed and wax laminated paper.....  | do.             | 290.9    | 89.4    | a306.3   | 38.0   |
| Waterproof, plain, reinforced, creped, and lined laminated wrapping products.....                                     | do.             | 329.9    | 135.0   | a308.6   | 57.4   |
| Coin wraps and currency straps.....   | do.             | 83.8     | 28.9    | a57.2    | 5.7    |
| Coated and processed paper.....   | do.             | 1.5      | 0.9     | a1.1     | 0.5    |
|   | do.             | 47.1     | 24.8    | a39.7    | 11.6   |
| Bags and shipping sacks.....  | do.             |          |         |          |        |
| Corrugated shipping containers.....   | do.             | 1,268.5  | 357.1   | a870.0   | 96.6   |
| Solid fiber shipping containers.....  | do.             | 4,261.5  | 769.1   | a2,795.3 | 187.3  |
| Folding boxes and cartons.....  | do.             | 369.8    | 64.8    | a447.1   | 26.2   |
| Setup boxes.....  | do.             | 1,874.7  | 401.4   | a1,196.9 | 126.9  |
|   | do.             | 568.0    | 210.6   | a551.8   | 73.9   |
| Fiber cans, with or without metal ends.....   | do.             |          |         |          |        |
| Cores and tubes.....  | do.             | 83.7     | 32.5    | a66.1    | 14.8   |
| Drums, metal, wood and fiber ends.....  | do.             | 76.7     | 17.5    | a53.9    | 6.5    |
| Fillers and flats for egg cases, except molded.....   | do.             | 42.8     | 11.2    | a4.0     | 0.9    |
| Bottles.....  | do.             | 21.5     | 2.8     | a28.2    | 1.7    |
|   | do.             | 106.4    | 34.8    | a3.8     | 0.9    |
| Bottle caps, closures, and lids.....  | do.             |          |         |          |        |
| Cups and liquid tight containers.....   | do.             | 51.4     | 20.1    | a34.1    | 10.8   |
| Gummed paper-base tape, all types.....  | do.             | 152.9    | 73.5    | a45.8    | 17.4   |
| Gummed paper, including gummed flat.....  | do.             | 97.2     | 45.7    | a52.1    | 8.3    |
| Tags, printed and unprinted.....  | do.             | 15.3     | 9.1     | a17.6    | 4.3    |
|   | do.             | 26.2     | 20.6    | a3.9     | 1.9    |
| Labels and seals.....   | do.             |          |         |          |        |
| Facial tissue and handkerchiefs.....  | do.             | 15.4     | 9.8     | a1.6     | 0.7    |
| Table napkins.....  | do.             | 130.7    | 51.0    | a51.3    | 12.1   |
| Toilet paper.....   | do.             | 102.9    | 37.3    | a64.3    | 10.4   |
| Towels.....   | do.             | 362.7    | 89.4    | a280.7   | 39.0   |
|   | do.             | 183.2    | 38.8    | a140.8   | 15.4   |
| Plates, dishes, spoons, and similar products.....   | do.             |          |         |          |        |
| Fine creped paper.....  | do.             | 29.8     | 18.1    | a17.9    | 2.8    |
| Other novelties, etc.....   | do.             | 10.2     | 5.7     | a13.5    | 3.0    |
| Fiber cones, reels, spools, bobbins, and blocks.....  | do.             | 1.0      | 0.5     | a0.3     | (s)    |
| Jacquard cards.....   | do.             | 36.5     | 9.7     | a23.8    | 3.6    |
|   | do.             | 2.6      | 0.6     | a0.7     | 0.2    |
| Cloth lined paper, except cloth lined waterproof paper...   | do.             |          |         |          |        |
| Folders and mounts, all types.....  | do.             | 0.3      | 0.4     | a1.0     | 0.7    |
| Patterns.....   | do.             | 15.0     | 8.4     | a4.9     | 2.7    |
|   | do.             | 8.6      | 24.3    | a5.2     | 10.2   |
| <b>27 - PRINTING AND PUBLISHING INDUSTRIES</b>  |                 |          |         |          |        |
| Newsprint, total U. S. supply (production plus imports minus exports).....  | M tons          | 4,763.0  | ...     | 3,550.9  | ...    |
| Production.....   | do.             | 833.0    | ...     | 954.3    | ...    |
| Imports.....  | do.             | 73,957.8 | ...     | 72,610.1 | ...    |
| Exports.....  | do.             | 727.9    | ...     | 713.4    | ...    |
| Coated and uncoated printing paper (except newsprint) total U. S. supply (production plus imports minus exports)..... | do.             | 3,149.2  | ...     | 2,095.1  | ...    |
| Uncoated printing paper, except newsprint:  |                 |          |         |          |        |
| Production.....   | do.             |          |         |          |        |
| Imports.....  | do.             | a2,140.6 | ...     | a1,417.9 | ...    |
| Exports.....  | do.             | 774.4    | ...     | 713.4    | ...    |
| Exports.....  | do.             | 757.4    | ...     | 716.2    | ...    |
| Coated printing paper, production.....  | do.             | 991.7    | ...     | a680.0   | ...    |

For footnotes, see end of table.

QUANTITY AND VALUE OF PRODUCTS USED IN CONSTRUCTING INDEXES OF PHYSICAL VOLUME OF PRODUCTION FOR MANUFACTURING  
 INDUSTRIES: 1947 AND 1939--Continued

(Money figures in millions of dollars)

| Industry and product  | Unit of measure | 1947      |        | 1939      |        |
|---|-----------------|-----------|--------|-----------|--------|
|   |                 | Quantity  | Value  | Quantity  | Value  |
| 2812 - ALKALIES AND CHLORINE  |                 |           |        |           |        |
| Chlorine (gas and liquid).....  | Ton             | 781,845   | \$31.2 | 315,130   | \$10.5 |
| Alkalies (electrolytic and nonelectrolytic):  |                 |           |        |           |        |
| Potassium carbonate.....  | do.             | (d)       | (d)    | (d)       | (d)    |
| Potassium hydroxide (caustic potash) (88-92% KOH).....  | do.             | 50,891    | 6.8    | 13,856    | 1.8    |
| Sodium bicarbonate (100% NaHCO <sub>3</sub> ).....  | do.             | 177,381   | 5.4    | 148,610   | 3.8    |
| Sodium carbonate:   |                 |           |        |           |        |
| Soda ash (98-100% Na <sub>2</sub> CO <sub>3</sub> ):  |                 |           |        |           |        |
| Ammonia soda process (finished light and dense)...  | do.             | 3,137,030 | 57.6   | 2,012,804 | 31.1   |
| Electrolytic.....   | do.             | (d)       | (d)    | (d)       | (d)    |
| Monohydrate.....  | do.             | (d)       | (d)    | (d)       | (d)    |
| Natural (100% Na <sub>2</sub> CO <sub>3</sub> ·H <sub>2</sub> O).....                                 | do.             | 260,670   | 5.1    | (d)       | (d)    |
| Sal soda (100% Na <sub>2</sub> CO <sub>3</sub> ·10H <sub>2</sub> O).....                              | do.             | 28,567    | 1.0    | 29,971    | 0.8    |
| Modified sodas.....   | do.             | 95,778    | 4.4    | 432,101   | 41.3   |
| Sodium hydroxides (caustic soda (100% NaOH):  |                 |           |        |           |        |
| Electrolytic process.....   | do.             | 1,109,464 | 48.9   | 426,250   | 15.1   |
| Lime soda process.....  | do.             | 718,140   | 33.8   | 523,907   | 19.4   |
| 2819 - INORGANIC CHEMICALS, N.E.C.  |                 |           |        |           |        |
| Sulfuric acid (gross) (100% H <sub>2</sub> SO <sub>4</sub> ):   |                 |           |        |           |        |
| Chamber process.....  | do.             | 1,662,961 | 21.4   | 1,397,192 | 15.0   |
| Contact process.....  | do.             | 5,161,795 | 67.7   | 1,777,789 | 22.8   |
| Synthetic ammonia and nitric acid:  |                 |           |        |           |        |
| Synthetic ammonia:  |                 |           |        |           |        |
| Anhydrous (100% NH <sub>3</sub> ).....  | do.             | 376,561   | 23.6   | 113,610   | 8.5    |
| Aqua (100% NH <sub>3</sub> ).....   | do.             | 23,360    | 1.5    | 15,653    | 1.4    |
| Nitric acid (100% HNO <sub>3</sub> ).....   | do.             | 71,743    | 4.7    | 34,571    | 3.2    |
| Chlorine bleaching compounds:   |                 |           |        |           |        |
| Calcium hypochlorite (70% avail. Cl <sub>2</sub> ).....   | do.             | 9,968     | 2.8    | (d)       | (d)    |
| Bleaching powder and liquid lime bleach (35-37% avail. Cl <sub>2</sub> ).....                         | do.             | 22,243    | 1.0    | (d)       | (d)    |
| Sodium hypochlorite and other liquid sodium bleaching compounds (15% avail. Cl <sub>2</sub> ).....    | do.             | 156,419   | 16.7   | 878,382   | 49.4   |
| Other inorganic chemicals, n.e.c.:  |                 |           |        |           |        |
| Acids:  |                 |           |        |           |        |
| Boric (Boracic) (100% H <sub>3</sub> BO <sub>3</sub> ).....   | do.             | 36,449    | 3.3    | 17,348    | 1.5    |
| Hydrochloric (includes anhydrous) (100% HCl):   |                 |           |        |           |        |
| From salt and acid (100% HCl).....  | do.             | 109,631   | 6.1    | 51,401    | 2.9    |
| From chlorine (100% HCl).....   | do.             | 6,358     | 0.3    | (d)       | (d)    |
| Byproduct and other (100% HCl).....   | do.             | 90,716    | 3.0    | (d)       | (d)    |
| Hydrocyanic (includes anhydrous) (100% HCN).....  | do.             | 1,072     | 1.1    | (d)       | (d)    |
| Hydrofluoric (includes anhydrous) (100% HF).....  | do.             | 13,624    | 4.2    | 2,173     | 0.7    |
| Mixed acid (nitric and sulfuric).....   | do.             | 89,843    | 3.8    | 56,517    | 2.7    |
| Phosphoric (50% H <sub>3</sub> PO <sub>4</sub> ).....   | do.             | 98,140    | 5.8    | 76,910    | 3.0    |
| Aluminum compounds:   |                 |           |        |           |        |
| Alums:  |                 |           |        |           |        |
| Sodium-aluminum sulfate.....  | do.             | (d)       | (d)    | (d)       | (d)    |
| Ammonium-aluminum sulfate.....  | do.             | 5,167     | 0.4    | 5,065     | 0.3    |
| Potassium-aluminum sulfate.....   | do.             | 3,563     | 0.3    | (d)       | (d)    |
| Chloride:   |                 |           |        |           |        |
| Liquid (10.4% Al <sub>2</sub> O <sub>3</sub> ).....   | do.             | (d)       | (d)    | (d)       | (d)    |
| Crystal (10.4% Al <sub>2</sub> O <sub>3</sub> ).....  | do.             | (d)       | (d)    | (d)       | (d)    |
| Anhydrous (38.6% Al <sub>2</sub> O <sub>3</sub> ).....  | do.             | 11,106    | 2.2    | (d)       | (d)    |
| Oxide (except natural alumina) (100% Al <sub>2</sub> O <sub>3</sub> ).....                            | do.             | 1,145,613 | 50.5   | (d)       | (d)    |
| Ammonium compounds:   |                 |           |        |           |        |
| Chloride (100% NH <sub>4</sub> Cl).....   | do.             | 35,589    | 3.7    | 22,761    | 2.1    |
| Nitrate (100% NH <sub>4</sub> NO <sub>3</sub> ).....  | do.             | 912,525   | 48.7   | 25,968    | 1.3    |
| Sulfate (100% (NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub> ) (other than byproduct coke oven)..... | do.             | 186,917   | 9.1    | (d)       | (d)    |
| Bismuth compounds:  |                 |           |        |           |        |
| Subcarbonate (100% Bi <sub>2</sub> O <sub>2</sub> CO <sub>3</sub> ·1/2H <sub>2</sub> O).....          | Pound           | 232,468   | 0.6    | 241,817   | 0.4    |
| Subnitrate (100% BiONO <sub>3</sub> ·H <sub>2</sub> O).....   | do.             | 409,350   | 0.9    | 365,522   | 0.5    |

For footnotes, see end of table.

## INDEXES OF PRODUCTION

QUANTITY AND VALUE OF PRODUCTS USED IN CONSTRUCTING INDEXES OF PHYSICAL VOLUME OF PRODUCTION FOR MANUFACTURING INDUSTRIES: 1947 AND 1939<sup>1</sup>--Continued

(Money figures in millions of dollars)

| Industry and product   | Unit of measure | 1947      |       | 1939      |       |
|--|-----------------|-----------|-------|-----------|-------|
|  |                 | Quantity  | Value | Quantity  | Value |
| 2819 - INORGANIC CHEMICALS, N.E.C.--Continued  |                 |           |       |           |       |
| Other inorganic chemicals, n.e.c.--Continued   |                 |           |       |           |       |
| Bromine (100% Br).....   | Pound           | 1,492,949 | \$0.2 | 2,228,852 | \$0.5 |
| Calcium compounds:   |                 |           |       |           |       |
| Arsenate (100% $\text{Ca}_3(\text{AsO}_4)_2$ ).....  | Ton             | 11,044    | 1.9   | 419,641   | 41.9  |
| Carbonate (precipitated) (100% $\text{CaCO}_3$ ).....  | do.             | 178,471   | 5.4   | 70,504    | 1.6   |
| Carbide.....   | do.             | (d)       | (d)   | 167,592   | 8.5   |
| Chloride:  |                 |           |       |           |       |
| Solid except flake (73-75% $\text{CaCl}_2$ ).....  | do.             | 11,571    | 0.2   | 5,494     | 0.1   |
| Flake (77-80% $\text{CaCl}_2$ ).....   | do.             | 299,106   | 4.9   | 215,149   | 4.1   |
| Liquid (40-45% $\text{CaCl}_2$ ).....  | do.             | 77,299    | 0.4   | 33,019    | 0.2   |
| Carbon (activated).....  | do.             | 221,089   | 4.2   | 16,168    | 1.9   |
| Chromium compounds:  |                 |           |       |           |       |
| Sodium bichromate and chromate.....  | do.             | 76,414    | 11.3  | 54,385    | 6.4   |
| Potassium bichromate and chromate.....   | do.             | (d)       | (d)   | 42,345    | 40.4  |
| Copper sulfate (100% $\text{Cu SO}_4 \cdot 5\text{H}_2\text{O}$ ).....                       | do.             | 69,623    | 9.6   | 34,082    | 2.8   |
| Copper oxide (cupric and cuprous).....   | do.             | (d)       | (d)   | (d)       | (d)   |
| Hydrogen peroxide (100% Vol; 27.5% by weight).....   | do.             | 22,631    | 6.9   | 10,744    | 3.4   |
| Iodine (100% $\text{I}_2$ ) resublimed.....  | Pound           | 745,437   | 1.1   | 404,344   | 0.5   |
| Iron compounds:  |                 |           |       |           |       |
| Ferric chloride (100% $\text{FeCl}_3$ ).....   | Ton             | 15,137    | 0.9   | (n)       | (n)   |
| Ferrous sulfate (100% $\text{FeSO}_4 \cdot 7\text{H}_2\text{O}$ ).....                       | do.             | 52,399    | 0.7   | 35,214    | 0.4   |
| Lead arsenate (acid and basic).....  | do.             | 9,365     | 3.5   | 429,784   | 45.4  |
| Manganese sulfate (100% $\text{MnSO}_4 \cdot 4\text{H}_2\text{O}$ ).....                     | do.             | 17,447    | 1.1   | 5,787     | 0.3   |
| Mercury compounds:   |                 |           |       |           |       |
| Mercuric chloride (100% $\text{HgCl}_2$ ) and Mercurous chloride (100% $\text{HgCl}$ ).....  | do.             | 129       | 0.4   | 322       | 0.9   |
| Mercuric oxide (yellow) (100% $\text{HgO}$ ) and (red) (100% $\text{HgO}$ ).....             | do.             | 241       | 0.5   | 2.3       | 0.7   |
| Nickel sulfate (100% $\text{NiSO}_4 \cdot 6\text{H}_2\text{O}$ ).....                        | do.             | 8,712     | 2.1   | 3,523     | 0.8   |
| Phosphorus compounds:  |                 |           |       |           |       |
| Phosphorus (elemental white-yellow and red) (technical).....                                 | do.             | 57,898    | 13.6  | (d)       | (d)   |
| Oxychloride (100% $\text{POCl}_3$ ).....   | do.             | 5,931     | 1.1   | (d)       | (d)   |
| Potassium compounds:   |                 |           |       |           |       |
| Iodide (100% $\text{KI}$ ).....  | Pound           | 1,178,833 | 2.2   | 914,926   | 1.1   |
| Silver compounds:  |                 |           |       |           |       |
| Cyanide (100% $\text{AgCN}$ ).....   | M oz.           | 678       | 0.4   | 249       | 0.1   |
| Nitrate (100% $\text{AgNO}_3$ ).....   | do.             | 40,131    | 17.9  | 23,653    | 6.3   |
| Sodium compounds:  |                 |           |       |           |       |
| Bisulfate (niter cake) (100% $\text{NaHSO}_4$ ).....   | Ton             | 43,848    | 1.7   | 34,101    | 0.6   |
| Borate (borax) (technical).....  | do.             | 177,984   | 7.3   | (d)       | (d)   |
| Hydrosulfite (100% $\text{Na}_2\text{S}_2\text{O}_4$ ).....                                  | do.             | 20,029    | 7.4   | 7,366     | 2.2   |
| Phosphates:  |                 |           |       |           |       |
| Monobasic (100% $\text{NaH}_2\text{PO}_4$ ).....   | do.             | 4,082     | 0.6   | 3,197     | 0.4   |
| Dibasic (100% $\text{Na}_2\text{HPO}_4$ ).....   | do.             | 24,802    | 3.0   | 13,431    | 1.2   |
| Tribasic (100% $\text{Na}_3\text{PO}_4$ ).....   | do.             | 88,307    | 11.9  | 114,687   | 4.8   |
| Tetra sodium (pyro) (100% $\text{Na}_4\text{P}_2\text{O}_7$ ).....                           | do.             | 53,637    | 6.6   | 47,587    | 4.7   |
| Meta (100% $\text{NaPO}_3$ ).....  | do.             | 29,776    | 4.5   | (d)       | (d)   |
| Silicofluoride (100% $\text{Na}_2\text{SiF}_6$ ).....  | do.             | 15,377    | 1.9   | 6,443     | 0.5   |
| Sulfate:   |                 |           |       |           |       |
| Anhydrous (100% $\text{Na}_2\text{SO}_4$ ).....  | do.             | 36,534    | 1.0   | 42,498    | 0.7   |
| Salt cake (crude) (technical).....   | do.             | 614,853   | 10.7  | 226,151   | 2.3   |
| Glauber's salt (100% $\text{Na}_2\text{SO}_4 \cdot 10\text{H}_2\text{O}$ ).....              | do.             | 28,794    | 0.8   | 34,493    | 0.5   |
| Sulfide:   |                 |           |       |           |       |
| Crystal (30-32% $\text{Na}_2\text{S}$ ).....   | do.             | (d)       | (d)   | (d)       | (d)   |
| Other (including concentrated and liquid) (60-62% $\text{Na}_2\text{S}$ ).....               | do.             | (d)       | (d)   | (d)       | (d)   |
| Sulfite (100% $\text{Na}_2\text{SO}_3$ ).....  | do.             | (d)       | (d)   | (d)       | (d)   |
| Thio sulfate (hypo) (100% $\text{Na}_2\text{S}_2\text{O}_3 \cdot 5\text{H}_2\text{O}$ )..... | do.             | 36,053    | 1.9   | 11,213    | 0.7   |
|  | do.             | 33,604    | 1.9   | 25,714    | 1.1   |

For footnotes, see end of table.

QUANTITY AND VALUE OF PRODUCTS USED IN CONSTRUCTING INDEXES OF PHYSICAL VOLUME OF PRODUCTION FOR MANUFACTURING INDUSTRIES: 1947 AND 1939<sup>1</sup>--Continued

(Money figures in millions of dollars)

| Industry and product  | Unit of measure | 1947     |       | 1939     |       |
|---|-----------------|----------|-------|----------|-------|
|   |                 | Quantity | Value | Quantity | Value |
| 2819 - INORGANIC CHEMICALS, N.E.C.--Continued                                   |                 |          |       |          |       |
| Other inorganic chemicals, n.e.c.--Continued                                    |                 |          |       |          |       |
| Sulfur compounds:   |                 |          |       |          |       |
| Dioxide (100% SO <sub>2</sub> ).....  | Ton             | 27,207   | \$2.3 | 13,486   | \$1.3 |
| Chloride (technical).....   | do.             | 3,375    | 0.2   | 1,877    | 0.1   |
| Tin compounds:  |                 |          |       |          |       |
| Stannous chloride (100% SnCl <sub>2</sub> ).....                                | do.             | 315      | 0.4   | 294      | 0.2   |
| Tungsten compounds:   |                 |          |       |          |       |
| Sodium tungstate (100% Na <sub>2</sub> WO <sub>4</sub> ·2H <sub>2</sub> O)..... | do.             | 379      | 1.0   | 309      | 0.7   |
| Zinc compounds:   |                 |          |       |          |       |
| Sulfate (100% ZnSO <sub>4</sub> ·7H <sub>2</sub> O).....                        | do.             | 12,319   | 1.3   | 14,539   | 0.7   |
| 2821 - CYCLIC (COAL-TAR) CRUDES   |                 |          |       |          |       |
| Crude light oil.....  | M gals.         | 26,948   | 2.0   | (s)      | (s)   |
| Light oil distillates:  |                 |          |       |          |       |
| Benzene, motor grade.....   | do.             | 83,900   | 0.5   | 6,589    | 0.7   |
| Benzene, all other grades.....  | do.             | 9,512    | 1.7   | 2,006    | 0.4   |
| Toluene, all grades.....  | do.             | 7,282    | 1.6   | 4,198    | 1.0   |
| Xylene.....   | do.             | 1,738    | 0.5   | ...      | ...   |
| All other light-oil distillates.....  | do.             | 8,209    | 1.7   | 369      | 0.1   |
| Crude naphthalene (solidifying at less than 70°).....                           |                 |          |       |          |       |
| Cresote oil (sold or consumed as such).....                                     | M pounds        | 166,118  | 6.7   | 41,286   | 0.8   |
|   | do.             | 97,494   | 17.0  | 87,914   | 10.9  |
| 2823 - PLASTICS MATERIALS AND SYNTHETIC RUBBER                                  |                 |          |       |          |       |
| Cellulose plastics materials:   |                 |          |       |          |       |
| Cellulose acetate and mixed ester sheets, rods, and tubes.....                  | do.             | 19,089   | 17.9  | 8,743    | 6.6   |
| Nitrocellulose sheets, rods, and tubes.....                                     | do.             | 12,789   | 16.1  | 11,208   | 8.5   |
| Other cellulose plastics materials.....   | do.             | 56,703   | 28.6  | 11,537   | 5.2   |
| Synthetic resins (including resins used in making protective coatings):         |                 |          |       |          |       |
| Nonbenzenoid.....   | do.             | 513,985  | 264.0 | 39,953   | 17.0  |
| Benzenoid.....  | do.             | 737,714  | 210.2 | 173,074  | 31.0  |
| Transparent wrapping materials (including cellophane)....                       | Pounds          | (d)      | (d)   | (d)      | (d)   |
| Synthetic rubbers:  |                 |          |       |          |       |
| Polysulfide and polychloroprene types (neoprene, thiokol, etc.).....            | M pounds        | (d)      | (d)   | (d)      | (d)   |
| Other synthetic rubbers.....  | do.             | (d)      | (d)   | ...      | ...   |
| 2825 - SYNTHETIC FIBERS   |                 |          |       |          |       |
| Rayon fibers, acetate process:  |                 |          |       |          |       |
| Packaged yarn, by denier:   |                 |          |       |          |       |
| 75 (87 and less).....   | do.             | 87,169   | 78.7  | 27,634   | 21.5  |
| 100 (88 to 112).....  | do.             | (d)      | (d)   | 14,039   | 9.7   |
| 125 (113 to 137).....   | do.             | (d)      | (d)   | 4,217    | 2.6   |
| 150 (138 to 162).....   | do.             | 65,226   | 41.8  | 42,799   | 22.6  |
| 200 (163 and over).....   | do.             | 15,456   | 10.5  | 8,653    | 4.6   |
| Staple.....   | do.             | 60,256   | 27.4  | 6,018    | 2.7   |
| Rayon fibers, viscose and cuprammonium:   |                 |          |       |          |       |
| Packaged yarn, by denier:   |                 |          |       |          |       |
| 75 (87 and less).....   | do.             | 37,053   | 38.2  | 20,420   | 15.1  |
| 100 (88 to 112).....  | do.             | (d)      | (d)   | 45,383   | 29.3  |
| 125 (113 to 137).....   | do.             | (d)      | (d)   | 3,153    | 1.8   |
| 150 (138 to 162).....   | do.             | 120,112  | 79.8  | 122,217  | 57.0  |
| 200 (163 to 249).....   | do.             | (d)      | (d)   | 6,650    | 3.1   |
| 300 (250 to 374).....   | do.             | (d)      | (d)   | 25,471   | 11.5  |
| 450 (375 to 999).....   | do.             | 14,790   | 7.7   | 7,470    | 3.3   |
| 1,100 (1,000 and over).....   | do.             | 239,783  | 121.2 | 519      | 0.2   |
| Staple.....   | do.             | 162,653  | 51.7  | 45,296   | 10.8  |
| Rayon waste.....  | do.             | 21,764   | 3.1   | 12,600   | 1.5   |
| Related cellulose products (sausage casings, caps, bands, sponges, etc.).....   | do.             | 17,351   | 26.5  | (d)      | (d)   |
| Nylon fibers.....   | do.             | (d)      | (d)   | (d)      | (d)   |
| Other synthetic fibers (except glass).....                                      | do.             | (d)      | (d)   | ..       | ...   |

For footnotes, see end of table.

## INDEXES OF PRODUCTION

QUANTITY AND VALUE OF PRODUCTS USED IN CONSTRUCTING INDEXES OF PHYSICAL VOLUME OF PRODUCTION FOR MANUFACTURING INDUSTRIES: 1947 AND 1939<sup>1</sup>--Continued

(Money figures in millions of dollars)

| Industry and product  | Unit of measure | 1947     |       | 1939     |       |
|---|-----------------|----------|-------|----------|-------|
|   |                 | Quantity | Value | Quantity | Value |
| 2826 - EXPLOSIVES   |                 |          |       |          |       |
| Black blasting powder, pellet.....  | M pounds        | 27,534   | \$2.3 | 26,670   | \$1.6 |
| Black blasting powder, granular.....  | do.             | 10,523   | 0.8   | 29,440   | 1.8   |
| High explosives, permissibles.....  | do.             | (d)      | (d)   | 476,438  | 47.7  |
| High explosives, except permissibles.....   | do.             | (d)      | (d)   | (d)      | (d)   |
| Nitroglycerin (for sale as such).....   | do.             | 843      | 2.9   | 347      | 0.1   |
| Smokeless powder.....   | do.             | (d)      | (d)   | (d)      | (d)   |
| 2829 - ORGANIC CHEMICALS, N.E.C.  |                 |          |       |          |       |
| Cyclic (coal-tar) intermediates: <sup>a</sup>   |                 |          |       |          |       |
| 1-Amino-8-Naphthol-3:6-disulfonic acid (H acid).....  | do              | (d)      | (d)   | (d)      | (d)   |
| o-Aminophenol.....  | do.             | 43       | 0.07  | 16       | 0.02  |
| p-Aminophenol and salts.....  | do.             | 782      | 0.56  | (d)      | (d)   |
| Aniline oil.....  | do.             | 64,289   | 7.62  | 13,349   | 1.44  |
| Anthraquinone (100%).....   | do.             | (d)      | (d)   | (d)      | (d)   |
| Benzaldehyde, tech.....   | do.             | 1,531    | 0.58  | (d)      | (d)   |
| Benzoic acid, tech.....   | do.             | 520      | 0.21  | 246      | 0.09  |
| Chlorobenzene, mono.....  | do.             | 267,263  | 15.60 | 3,480    | 0.13  |
| Cresol (meta, para).....  | do.             | 6,288    | 0.87  | (d)      | (d)   |
| Cresol (ortho, meta, para).....   | do.             | 6,055    | 0.78  | 14,594   | 1.08  |
| Cresylic acid, refined.....   | do.             | 24,315   | 2.44  | 14,475   | 0.87  |
| o-Dichlorobenzene.....  | do.             | 11,615   | 0.81  | 4,411    | 0.23  |
| p-Dichlorobenzene.....  | do.             | 34,226   | 3.95  | 15,577   | 1.45  |
| Dimethylaniline.....  | do.             | (d)      | (d)   | (d)      | (d)   |
| Diphenyl derivative-polychlorobiphenyl.....   | do.             | (d)      | (d)   | (d)      | (d)   |
| Hydroquinone, tech.....   | do.             | (d)      | (d)   | (d)      | (d)   |
| Naphthalene solidifying 79° C., or above (refined, flake): From American crude naphthalene..... | do.             | 54,758   | 5.16  | 35,499   | 1.90  |
| 1-Naphthol (α-Naphthol).....  | do.             | 276      | 0.16  | 426      | 0.22  |
| 2-Naphthol-6-sulfonic acid (Schaeffer's acid).....  | do.             | 38       | 0.02  | 43       | 0.02  |
| 2-Naphthylamine-1-sulfuric acid (Tobias acid).....  | do.             | (d)      | (d)   | 700      | 0.39  |
| Nitrobenzene.....   | do.             | 12,946   | 0.96  | (d)      | (d)   |
| 2-Nitro-p-toluidine (m-Nitro-p-toluidine).....  | do.             | 1,422    | 1.65  | 722      | 0.87  |
| Phenol.....   | do.             | 235,226  | 23.15 | 59,857   | 6.11  |
| Phthalic anhydride.....   | do.             | 109,297  | 16.96 | 20,380   | 2.78  |
| Pyridine, refined.....  | do.             | 1,879    | 0.89  | (d)      | (d)   |
| Resorcinol, tech.....   | do.             | (d)      | (d)   | (d)      | (d)   |
| Salicylic acid, tech.....   | do.             | (d)      | (d)   | (d)      | (d)   |
| Styrene (Vinylbenzene): Grade for rubber (Elastomers).....                                      | do.             | 306,829  | 27.64 | (d)      | (d)   |
| p-Toluidine.....  | do.             | 1,237    | 0.59  | (d)      | (d)   |
| Cyclic (coal-tar) dyes: <sup>b</sup>  |                 |          |       |          |       |
| Monocazo dyes:  |                 |          |       |          |       |
| 17 Spirit yellow R.....   | do.             | 62       | 0.05  | 50       | 0.04  |
| 21 Chrysoidine R.....   | do.             | 226      | 0.09  | 122      | 0.04  |
| 24 Sudan I.....   | do.             | 387      | 0.24  | 338      | 0.16  |
| 27 Orange G.....  | do.             | 296      | 0.16  | 180      | 0.08  |
| 31 Amido naphthol red G.....  | do.             | 690      | 0.26  | 463      | 0.15  |
| 36 Chrome yellow 2G.....  | do.             | 233      | 0.13  | 116      | 0.05  |
| 40 Chrome yellow R.....   | do.             | 103      | 0.06  | 72       | 0.04  |
| 57 Amido naphthol red 6B.....   | do.             | 384      | 0.20  | 436      | 0.17  |
| 79 Ponceau R.....   | do.             | 576      | 0.30  | 374      | 0.15  |
| 88 Fast red B.....  | do.             | 88       | 0.05  | 137      | 0.06  |
| 138 Metanil yellow.....   | do.             | 578      | 0.35  | 445      | 0.24  |
| 146 Azo yellow.....   | do.             | 63       | 0.05  | 71       | 0.04  |
| 161 Orange R.....   | do.             | 297      | 0.10  | 251      | 0.07  |
| 176 Fast red A.....   | do.             | 221      | 0.14  | 145      | 0.07  |
| 179 Azo rubine.....   | do.             | 231      | 0.14  | 172      | 0.09  |
| 180 Fast red VR.....  | do.             | 137      | 0.09  | 176      | 0.09  |
| 202 Chrome blue black R.....  | do.             | 1,617    | 0.58  | 1,730    | 0.48  |
| 204 Chrome black A.....   | do.             | 194      | 0.09  | 160      | 0.07  |
| 208 Fast acid blue R.....   | do.             | 137      | 0.07  | 118      | 0.06  |
| 209 Fast acid blue B.....   | do.             | 36       | 0.03  | 38       | 0.02  |
| 216 Acid chrome red B.....  | do.             | 86       | 0.05  | 78       | 0.04  |

For footnotes, see end of table.

QUANTITY AND VALUE OF PRODUCTS USED IN CONSTRUCTING INDEXES OF PHYSICAL VOLUME OF PRODUCTION FOR MANUFACTURING  
INDUSTRIES: 1947 AND 1939<sup>1</sup>---Continued

(Money figures in millions of dollars)

| Industry and product                                | Unit of measure | 1947     |        | 1939     |        |
|---|-----------------|----------|--------|----------|--------|
|   |                 | Quantity | Value  | Quantity | Value  |
| 2829 - ORGANIC CHEMICALS, N.E.C.--Continued         |                 |          |        |          |        |
| Cyclic (coal-tar) dyes <sup>a</sup> ---Continued    |                 |          |        |          |        |
| Disazo dyes:  |                 |          |        |          |        |
| 234 Resorcin brown.....                             | M pounds        | 712      | \$0.41 | 347      | \$0.18 |
| 235 Resorcin dark brown.....                        | do.             | 253      | 0.20   | 126      | 0.09   |
| 246 Acid black 10B.....                             | do.             | 2,002    | 0.88   | 1,993    | 0.75   |
| 252 Brilliant croceine M.....                       | do.             | 355      | 0.35   | 405      | 0.31   |
| 262 Cloth red B.....                                | do.             | 77       | 0.05   | 79       | 0.04   |
| 274 Milling orange.....                             | do.             | 61       | 0.03   | 31       | 0.02   |
| 278 Direct fast red 8BL.....                        | do.             | 319      | 0.74   | 189      | 0.39   |
| 280 Scarlet EC.....                                 | do.             | 49       | 0.04   | 27       | 0.03   |
| 289 Fast acid cyanine 5 R ex.....                   | do.             | 645      | 0.41   | 481      | 0.27   |
| 299 Acid chrome black F.....                        | do.             | 194      | 0.11   | 176      | 0.08   |
| 307 Fast acid cyanine black B.....                  | do.             | 234      | 0.18   | 171      | 0.11   |
| 326 Direct fast scarlet.....                        | do.             | 899      | 1.09   | 590      | 0.63   |
| 331 Bismarck brown G.....                           | do.             | 140      | 0.07   | 86       | 0.03   |
| 332 Bismarck brown R.....                           | do.             | 1,365    | 0.62   | 825      | 0.31   |
| 353 Direct fast pink 2BL.....                       | do.             | 55       | 0.11   | 33       | 0.06   |
| 364 Brilliant yellow.....                           | do.             | 257      | 0.22   | 227      | 0.17   |
| 375 Congo corinth G.....                            | do.             | 632      | 0.45   | 361      | 0.24   |
| 382 Direct scarlet B.....                           | do.             | 202      | 0.20   | 196      | 0.17   |
| 394 Direct violet N.....                            | do.             | 89       | 0.11   | 108      | 0.10   |
| 401 Developed black BH.....                         | do.             | 2,858    | 1.13   | 2,367    | 0.77   |
| 406 Direct blue 2B.....                             | do.             | 1,925    | 0.53   | 1,172    | 0.24   |
| 419 Direct fast red F.....                          | do.             | 418      | 0.29   | 398      | 0.26   |
| 420 Direct brown M.....                             | do.             | 879      | 0.49   | 502      | 0.24   |
| 477 Direct blue 3B.....                             | do.             | 321      | 0.09   | 145      | 0.04   |
| 502 Direct azurine G.....                           | do.             | 316      | 0.25   | 170      | 0.10   |
| 512 Direct blue RW.....                             | do.             | 105      | 0.09   | 143      | 0.11   |
| 518 Direct sky blue FF.....                         | do.             | 732      | 0.73   | 600      | 0.47   |
| 520 Direct pure blue.....                           | do.             | 348      | 0.20   | 94       | 0.05   |
| Trisazo dyes:                                       |                 |          |        |          |        |
| 539 Direct fast black FF.....                       | do.             | 496      | 0.28   | 357      | 0.17   |
| 561 Direct brown BT.....                            | do.             | 367      | 0.50   | 192      | 0.23   |
| 581 Direct black EW.....                            | do.             | 11,072   | 3.24   | 8,465    | 2.03   |
| 582 Direct black RX.....                            | do.             | 726      | 0.26   | 741      | 0.20   |
| 583 Direct green ET.....                            | do.             | 366      | 0.14   | 186      | 0.07   |
| 589 Chloramine green B.....                         | do.             | 71       | 0.02   | 175      | 0.05   |
| 593 Direct green B.....                             | do.             | 1,202    | 0.43   | 756      | 0.26   |
| 594 Direct green G.....                             | do.             | 99       | 0.04   | 108      | 0.04   |
| 596 Direct brown 3G0.....                           | do.             | 1,193    | 0.44   | 928      | 0.30   |
| 598 Congo brown G.....                              | do.             | 200      | 0.10   | 146      | 0.07   |
| Stilbene dyes:                                      |                 |          |        |          |        |
| 620 Direct yellow R.....                            | do.             | 924      | 0.57   | 368      | 0.18   |
| 621 Chloramine orange G.....                        | do.             | 211      | 0.14   | 145      | 0.10   |
| Pyrazolone dyes:                                    |                 |          |        |          |        |
| 639 Xylene light yellow.....                        | do.             | 556      | 0.51   | 315      | 0.27   |
| 640 Tartrazine.....                                 | do.             | 897      | 0.68   | 647      | 0.43   |
| 652 Chrome red B.....                               | do.             | 168      | 0.18   | 210      | 0.18   |
| Ketonimine dyes:                                    |                 |          |        |          |        |
| 655 Auramine.....                                   | do.             | 1,707    | 1.74   | 932      | 0.81   |
| Triphenylmethane and diphenyl-naphthylmethane dyes: |                 |          |        |          |        |
| 657 Malachite green.....                            | do.             | 701      | 0.93   | 358      | 0.41   |
| 666 Acid green B.....                               | do.             | 210      | 0.16   | 114      | 0.08   |
| 667 Fast acid green B.....                          | do.             | 67       | 0.18   | 37       | 0.08   |
| 676 Para fuchsine.....                              | do.             | 10       | 0.02   | 19       | 0.03   |
| 677 Magenta.....                                    | do.             | 85       | 0.19   | 40       | 0.07   |
| 680 Methyl violet B and base.....                   | do.             | 1,559    | 1.08   | 1,010    | 0.64   |
| 698 Acid violet.....                                | do.             | 268      | 0.28   | 270      | 0.25   |
| 707 Soluble blue.....                               | do.             | 191      | 0.46   | 73       | 0.12   |
| 720 Acid chrome azurol B.....                       | do.             | 162      | 0.28   | 125      | 0.21   |
| 737 Wool green S.....                               | do.             | 181      | 0.12   | 194      | 0.10   |

For footnotes, see end of table.

## INDEXES OF PRODUCTION

QUANTITY AND VALUE OF PRODUCTS USED IN CONSTRUCTING INDEXES OF PHYSICAL VOLUME OF PRODUCTION FOR MANUFACTURING INDUSTRIES: 1947 AND 1939<sup>1</sup>--Continued

(Money figures in millions of dollars)

| Industry and product  | Unit of measure | 1947     |        | 1939     |        |
|---|-----------------|----------|--------|----------|--------|
|   |                 | Quantity | Value  | Quantity | Value  |
| 2829 - ORGANIC CHEMICALS, N.E.C.--Continued                 |                 |          |        |          |        |
| Cyclic (coal-tar) dyes <sup>b</sup> --Continued             |                 |          |        |          |        |
| Acridine dyes:  |                 |          |        |          |        |
| 793 Phosphine.....  | M pounds        | 109      | \$0.10 | 141      | \$0.10 |
| Thiazole dyes:  |                 |          |        |          |        |
| 814 Direct fast yellow.....                                 | do.             | 411      | 0.41   | 332      | 0.30   |
| Azine dyes:   |                 |          |        |          |        |
| 833 Wool fast blue.....                                     | do.             | 245      | 0.40   | 133      | 0.20   |
| 860 Induline, spirit-soluble.....                           | do.             | 51       | 0.03   | 55       | 0.02   |
| 864 Nigrosine, spirit-soluble.....                          | do.             | 3,353    | 1.14   | 1,272    | 0.36   |
| 865 Nigrosine, water-soluble.....                           | do.             | 1,398    | 0.62   | 1,328    | 0.47   |
| Thiazine dyes:  |                 |          |        |          |        |
| 922 Methylene blue.....                                     | do.             | 697      | 0.73   | 522      | 0.47   |
| Sulfur or sulfide dyes:                                     |                 |          |        |          |        |
| Sulfur black.....   | do.             | 30,320   | 7.76   | 10,797   | 1.81   |
| Sulfur blue.....  | do.             | 4,407    | 2.31   | 2,482    | 1.16   |
| Sulfur brown.....   | do.             | 2,521    | 0.73   | 1,794    | 0.50   |
| Sulfur green.....   | do.             | 592      | 0.53   | 931      | 0.65   |
| Sulfur maroon.....  | do.             | 845      | 0.38   | 625      | 0.29   |
| Sulfur olive.....   | do.             | 271      | 0.09   | 158      | 0.05   |
| Sulfur orange.....  | do.             | 45       | 0.01   | 37       | 0.01   |
| Sulfur tan.....   | do.             | 203      | 0.05   | 187      | 0.05   |
| Sulfur yellow.....  | do.             | 281      | 0.22   | 299      | 0.13   |
| Anthraquinone dyes:   |                 |          |        |          |        |
| 1034 Alizarin red S.....                                    | do.             | 87       | 0.18   | 50       | 0.08   |
| 1053 Acid alizarin blue SE.....                             | do.             | 138      | 0.31   | 62       | 0.12   |
| 1054 Acid alizarin blue B.....                              | do.             | 696      | 1.26   | 716      | 1.10   |
| 1078 Alizarin cyanine green.....                            | do.             | 322      | 0.77   | 330      | 0.58   |
| 1085 Anthraquinone blue black B.....                        | do.             | 392      | 0.65   | 157      | 0.23   |
| 1088 Acid anthraquinone sky blue B.....                     | do.             | 64       | 0.23   | 60       | 0.18   |
| Anthraquinone vat dyes:                                     |                 |          |        |          |        |
| 1096 Anthraquinone vat golden orange G, 12%.....            | do.             | 348      | 0.52   | 241      | 0.32   |
| 1099 Anthraquinone vat dark blue BO, 25%.....               | do.             | 566      | 0.81   | 275      | 0.31   |
| 1102 Anthraquinone vat green B and black B, 12-1/2%.....    | do.             | 994      | 0.50   | 361      | 0.15   |
| 1104 Anthraquinone vat violet 2R, 12-1/2%.....              | do.             | 350      | 0.73   | 186      | 0.31   |
| Indigoid and thioindigoid dyes:                             |                 |          |        |          |        |
| 1177 Indigo, synthetic, 20%.....                            | do.             | 25,917   | 5.20   | 11,950   | 1.84   |
| 1212 Vat red 3B, 20%.....                                   | do.             | 250      | 0.34   | 184      | 0.24   |
| Food, drug, and cosmetic dyes.....                          | do.             | 1,003    | 3.13   | 478      | 1.38   |
| Ungrouped dyes:   |                 |          |        |          |        |
| Acetate rayon dyes.....                                     | do.             | 4,502    | 4.50   | 2,402    | 2.21   |
| Azotic dyes and their components.....                       | do.             | 1,543    | 2.38   | 3,145    | 4.71   |
| Synthetic organic pigments, lakes, and toners: <sup>b</sup> |                 |          |        |          |        |
| Lakes:  |                 |          |        |          |        |
| Black lakes.....  | do.             | 85       | 0.06   | 106      | 0.05   |
| Blue lakes.....   | do.             | 2,623    | 2.25   | 324      | 0.18   |
| Brown lakes.....  | do.             | 30       | 0.02   | 24       | 0.01   |
| Green lakes.....  | do.             | 488      | 0.24   | 251      | 0.14   |
| Maroon lakes:   |                 |          |        |          |        |
| Helio fast rubine.....                                      | do.             | 233      | 0.37   | 41       | 0.07   |
| Orange lakes.....   | do.             | 455      | 0.21   | 169      | 0.05   |
| Violet lakes, other.....                                    | do.             | 12       | 0.01   | 17       | 0.01   |
| Methyl violet B.....  | do.             | 106      | 0.08   | 174      | 0.09   |
| Yellow lakes:   |                 |          |        |          |        |
| Fast light yellow.....                                      | do.             | 20       | 0.02   | 46       | 0.03   |
| Naphthol yellow S.....                                      | do.             | 11       | 0.01   | 18       | 0.01   |
| Quinoline yellow.....                                       | do.             | 17       | 0.02   | 24       | 0.02   |
| Tartrazine.....   | do.             | 182      | 0.15   | 178      | 0.10   |
| Toners or full-strength colors.....                         | do.             | 18,978   | 26.87  | 7,553    | 7.95   |
| Reduced or extended toners.....                             | do.             | 7,426    | 5.67   | 1,130    | 0.46   |

For footnotes, see end of table.

APPENDIX A

QUANTITY AND VALUE OF PRODUCTS USED IN CONSTRUCTING INDEXES OF PHYSICAL VOLUME OF PRODUCTION FOR MANUFACTURING INDUSTRIES: 1947 AND 1939<sup>1</sup>—Continued

(Money figures in millions of dollars)

| Industry and product                                     | Unit of measure | 1947     |         | 1939     |        |
|--|-----------------|----------|---------|----------|--------|
|  |                 | Quantity | Value   | Quantity | Value  |
| 2829 - ORGANIC CHEMICALS, N.E.C.—Continued               |                 |          |         |          |        |
| Rubber processing chemicals: <sup>a</sup>                |                 |          |         |          |        |
| Cyclic:  |                 |          |         |          |        |
| Accelerators.....  | M pounds        | 37,554   | \$14.67 | 7,773    | \$3.54 |
| Antioxidants.....  | do.             | 36,799   | 16.34   | 13,192   | 6.54   |
| Acyclic.....   | do.             | 14,225   | 11.59   | 11,896   | 3.09   |
| Plasticizers: <sup>a</sup>                               |                 |          |         |          |        |
| Cyclic.....  | do.             | 88,714   | 31.83   | 19,299   | 4.09   |
| Acyclic.....   | do.             | 29,575   | 13.94   | 5,070    | 1.67   |
| Flavor and perfume materials: <sup>a</sup>               |                 |          |         |          |        |
| Cyclic:  |                 |          |         |          |        |
| Benzenoid and naphthalenoid:                             |                 |          |         |          |        |
| α-Amyl cinnamaldehyde.....                               | do.             | 111      | 0.28    | 67       | 0.10   |
| Amyl salicylate.....                                     | do.             | 92       | 0.07    | 81       | 0.04   |
| Benzyl alcohol.....                                      | do.             | 148      | 0.08    | 130      | 0.07   |
| Benzyl benzoate.....                                     | do.             | 271      | 0.24    | 56       | 0.04   |
| Benzyl propionate.....                                   | do.             | 5        | 0.01    | 2        | 0.003  |
| Benzyl salicylate.....                                   | do.             | 24       | 0.04    | 20       | 0.03   |
| p-Methylacetophenone (Methyl p-tolyl ketone).....        | do.             | 10       | 0.01    | 11       | 0.01   |
| Methyl cinnamate.....                                    | do.             | 25       | 0.03    | 22       | 0.03   |
| Methyl salicylate (Wintergreen oil).....                 | do.             | 2,700    | 0.91    | 1,665    | 0.49   |
| Phenethyl alcohol (Phenylethyl alcohol).....             | do.             | 389      | 0.68    | 154      | 0.27   |
| Vanillin.....  | do.             | 891      | 2.74    | 605      | 1.20   |
| Terpenoid, heterocyclic, and alicyclic:                  |                 |          |         |          |        |
| Citral.....  | do.             | 33       | 0.13    | 30       | 0.04   |
| Citronellol.....   | do.             | 39       | 0.16    | 44       | 0.06   |
| Coumarin, synthetic.....                                 | do.             | 474      | 1.21    | 225      | 0.53   |
| Geraniol.....  | do.             | 81       | 0.29    | 356      | 0.24   |
| Geranyl acetate.....                                     | do.             | 10       | 0.04    | 28       | 0.02   |
| Ionone.....  | do.             | 36       | 0.23    | 92       | 0.17   |
| Methylionone.....  | do.             | 47       | 0.27    | 73       | 0.16   |
| Rhodinol.....  | do.             | 4        | 0.15    | 7        | 0.08   |
| Saccharin and salt.....                                  | do.             | (d)      | (d)     | (d)      | (d)    |
| Terpineol.....   | do.             | (d)      | (d)     | 872      | 0.19   |
| Acyclic:   |                 |          |         |          |        |
| Ethyl butyrate.....                                      | do.             | 122      | 0.09    | 47       | 0.03   |
| Isocamyl butyrate.....                                   | do.             | 32       | 0.03    | 4        | 0.01   |
| Miscellaneous cyclic chemical products: <sup>a</sup>     |                 |          |         |          |        |
| Benzoic acid salts: Sodium benzoate, tech. and U.S.P.... | do.             | 5,393    | 1.87    | (d)      | (d)    |
| Benzoyl peroxide.....                                    | do.             | 298      | 0.24    | (d)      | (d)    |
| Biological stains and chemical indicators.....           | do.             | 21       | 0.31    | (d)      | (d)    |
| Furfural.....  | do.             | (d)      | (d)     | (d)      | (d)    |
| Insecticides, synthetic.....                             | do.             | 48,397   | 22.44   | (d)      | (d)    |
| Photographic chemicals:                                  |                 |          |         |          |        |
| Hydroquinone (Hydroquinol).....                          | do.             | 2,425    | 1.55    | 1,389    | 1.14   |
| p-Methylaminophenol sulfate.....                         | do.             | 766      | 1.89    | 291      | 0.64   |
| Other.....   | do.             | 127      | 0.26    | 37       | 0.07   |
| Tanning materials, synthetic.....                        | do.             | 18,274   | 1.73    | (d)      | (d)    |
| Miscellaneous acyclic chemical products: <sup>a</sup>    |                 |          |         |          |        |
| Acetaldehyde.....  | do.             | 27,011   | 2.50    | (d)      | (d)    |
| Acetic acid: Synthetic (100%).....                       | do.             | 160,786  | 13.78   | (d)      | (d)    |
| Acetone.....   | do.             | 286,505  | 21.04   | 100,935  | 4.38   |
| Amines.....  | do.             | 10,349   | 5.16    | 1,399    | 0.75   |
| Amyl acetates (90%).....                                 | do.             | 11,488   | 2.51    | (d)      | (d)    |
| Amyl alcohols.....                                       | do.             | 8,027    | 1.42    | (d)      | (d)    |
| Butyl acetates (90%).....                                | do.             | 91,532   | 19.96   | 68,158   | 4.69   |
| Butyl alcohols.....                                      | do.             | 206,781  | 35.23   | 52,590   | 3.55   |
| Carbon disulfide.....                                    | do.             | 369,893  | 14.64   | 4161,524 | 45.19  |
| Carbon tetrachloride.....                                | do.             | 176,232  | 8.34    | 84,024   | 3.28   |
| Cellulose acetate.....                                   | do.             | 63,537   | 37.42   | p 40,209 | P12.97 |
| Cellulose nitrate.....                                   | do.             | 87,183   | 25.28   | P 56,626 | P12.08 |
| Chloroacetic acid (mono).....                            | do.             | (d)      | (d)     | (d)      | (d)    |
| Chloroform, tech. and U.S.P.....                         | do.             | 11,256   | 1.71    | (d)      | (d)    |
| Citric acid, refined.....                                | do.             | (d)      | (d)     | 11,653   | 2.42   |

For footnotes, see end of table.

## INDEXES OF PRODUCTION

QUANTITY AND VALUE OF PRODUCTS USED IN CONSTRUCTING INDEXES OF PHYSICAL VOLUME OF PRODUCTION FOR MANUFACTURING INDUSTRIES: 1947 AND 1939<sup>1</sup>--Continued

(Money figures in millions of dollars)

| Industry and product   | Unit of measure | 1947                 |         | 1939                 |                   |
|--|-----------------|----------------------|---------|----------------------|-------------------|
|  |                 | Quantity             | Value   | Quantity             | Value             |
| 2829 - ORGANIC CHEMICALS, N.E.C.--Continued                      |                 |                      |         |                      |                   |
| Miscellaneous acyclic chemical products <sup>2</sup> --Continued |                 |                      |         |                      |                   |
| Diacetone alcohol.....   | M pounds        | (d)                  | (d)     | 2,393                | \$0.19            |
| Dichlorodifluoromethane .....                                    | do.             | (d)                  | (d)     | (d)                  | (d)               |
| Dichlorotetrafluoethane.....                                     | do.             | (d)                  | (d)     | (d)                  | (d)               |
| Diethylene glycol.....   | do.             | (d)                  | (d)     | (d)                  | (d)               |
| Ethyl acetate (85%).....   | do.             | 76,469               | \$10.86 | 51,622               | 2.71              |
| Ethyl alcohol, synthetic.....                                    | do.             | (d)                  | (d)     | (d)                  | (d)               |
| Ethyl chloride, tech. and U.S.P.....                             | do.             | (d)                  | (d)     | (d)                  | (d)               |
| Ethyl ether, all grades.....                                     | do.             | 34,140               | 4.49    | (d)                  | (d)               |
| Ethylene dibromide.....  | do.             | (d)                  | (d)     | (d)                  | (d)               |
| Ethylene dichloride.....   | do.             | (d)                  | (d)     | (d)                  | (d)               |
| Ethylene glycol.....   | do.             | (d)                  | (d)     | (d)                  | (d)               |
| Ethylene glycol, monobutyl ether.....                            | do.             | (d)                  | (d)     | (d)                  | (d)               |
| Ethylene glycol, monoethyl ether.....                            | do.             | (d)                  | (d)     | (d)                  | (d)               |
| Fatty alcohols.....  | do.             | (d)                  | (d)     | (d)                  | (d)               |
| Formaldehyde(37% HCHO by weight).....                            | do.             | 388,389              | 13.91   | 91,160               | 4.06              |
| Formic acid.....   | do.             | (d)                  | (d)     | (d)                  | (d)               |
| Isopropyl acetate.....   | do.             | 31,263               | 3.36    | (d)                  | (d)               |
| Isopropyl alcohol.....   | do.             | (d)                  | (d)     | 18,407               | 0.82              |
| Lactic acid:   |                 |                      |         |                      |                   |
| Technical.....   | do.             | 2,443                | 0.41    | 1,439                | 0.17              |
| Edible and medicinal.....  | do.             | 3,480                | 1.16    | 1,280                | 0.27              |
| Maleic acid and anhydride.....                                   | do.             | (d)                  | (d)     | (d)                  | (d)               |
| Methanol, synthetic.....   | do.             | 374,848              | 12.67   | 136,407              | 4.84              |
| Methyl chloride, crude and refined.....                          | do.             | 26,439               | 3.71    | 2,948                | 0.98              |
| Methyl ethyl ketone.....   | do.             | (d)                  | (d)     | (d)                  | (d)               |
| Methyl isobutyl ketone.....                                      | do.             | (d)                  | (d)     | (d)                  | (d)               |
| Oxalic acid.....   | do.             | 20,594               | 2.44    | 11,858               | 1.17              |
| Pentaerythritol.....   | do.             | 14,616               | 4.83    | (d)                  | (d)               |
| Polyethylene glycol.....   | do.             | (d)                  | (d)     | (d)                  | (d)               |
| Propionic acid.....  | do.             | (d)                  | (d)     | (d)                  | (d)               |
| Propylene glycol.....  | do.             | (d)                  | (d)     | (d)                  | (d)               |
| Tetrachloroethylene (Perchloroethylene).....                     | do.             | (d)                  | (d)     | (d)                  | (d)               |
| Tetraethyl lead.....   | do.             | (d)                  | (d)     | (d)                  | (d)               |
| Trichloroethylene.....   | do.             | (d)                  | (d)     | (d)                  | (d)               |
| Sorbitol.....  | do.             | (d)                  | (d)     | (d)                  | (d)               |
| Urea (solid).....  | do.             | (d)                  | (d)     | (d)                  | (d)               |
| Urea in solid fertilizer.....                                    | do.             | (d)                  | (d)     | (d)                  | (d)               |
| Urea in urea-ammonia solution.....                               | do.             | (d)                  | (d)     | (d)                  | (d)               |
| Industrial ethyl alcohol:  |                 |                      |         |                      |                   |
| Pure.....  | M proof gals.   | <sup>9</sup> 106,527 | 60.32   | <sup>9</sup> 21,124  | P4.44             |
| Denatured.....   | do.             | <sup>9</sup> 184,013 | 85.64   | <sup>9</sup> 201,249 | P15.47            |
| 2841 - SOAP AND GLYCERIN   |                 |                      |         |                      |                   |
| Soap, except specialty soap:                                     |                 |                      |         |                      |                   |
| Bars:  |                 |                      |         |                      |                   |
| Toilet.....  | M pounds        | 555,451              | 187.8   | 409,116              | 66.2              |
| Laundry and household:   |                 |                      |         |                      |                   |
| White.....   | do.             | 407,694              | 87.4    | 660,663              | 29.9              |
| Yellow.....  | do.             | 356,281              | 43.5    | 578,785              | 27.7              |
| Chips and flakes:  |                 |                      |         |                      |                   |
| Packaged.....  | do.             | 230,720              | 67.2    | 284,266              | 25.0              |
| Bulk.....  | do.             | 195,934              | 39.6    | 134,313              | 9.5               |
| Granulated, powdered, and sprayed.....                           | do.             | 1,522,795            | 301.4   | 892,655              | 75.4              |
| Washing powder:  |                 |                      |         |                      |                   |
| Packaged.....  | do.             | 84,839               | 85.9    | 131,756              | 5.3               |
| Bulk.....  | do.             | 103,859              | 6.3     | 110,366              | 3.2               |
| Cleansers, containing abrasives.....                             | do.             | 342,832              | 28.7    | <sup>4</sup> 409,150 | <sup>4</sup> 23.4 |
| Liquid, excluding shampoos (potash and other).....               | M gallons       | 16,468               | 12.6    | 5,348                | 3.6               |

For footnotes, see end of table.

QUANTITY AND VALUE OF PRODUCTS USED IN CONSTRUCTING INDEXES OF PHYSICAL VOLUME OF PRODUCTION FOR MANUFACTURING  
INDUSTRIES: 1947 AND 1939<sup>1</sup>--Continued

(Money figures in millions of dollars)

| Industry and product   | Unit of measure | 1947     |       | 1939     |       |
|--|-----------------|----------|-------|----------|-------|
|  |                 | Quantity | Value | Quantity | Value |
| <b>2841 - SOAP AND GLYCERIN --Continued</b>  |                 |          |       |          |       |
| Specialty soaps:   |                 |          |       |          |       |
| Mechanics' hand soaps and pastes.....  | M pounds        | 50,445   | \$6.4 | 17,914   | \$0.9 |
| Shaving cream lather tube and jar.....   | do.             | 9,314    | 8.5   | 7,941    | 6.2   |
| Shaving soap.....  | do.             | 6,348    | 5.4   | 5,605    | 2.4   |
| Glycerin (100% basis):   |                 |          |       |          |       |
| Crude.....   | do.             | 40,997   | 16.2  | 23,413   | 2.3   |
| High gravity, dynamite, and yellow distilled.....  | do.             | 81,588   | 34.2  | 64,294   | 6.6   |
| Chemically pure.....   | do.             | 92,220   | 38.1  | 90,382   | 9.5   |
| <b>2843 - SULFONATED OILS AND ASSISTANTS</b>   |                 |          |       |          |       |
| Sulfonated oils and fats.....  | do.             | 84,604   | 17.0  | 67,565   | 5.5   |
| Softeners, soluble oils and greases.....   | do.             | 82,035   | 16.0  | 83,610   | 7.5   |
| <b>2851 - PAINTS AND VARNISHES</b>   |                 |          |       |          |       |
| Paints and varnishes:  |                 |          |       |          |       |
| Oil and water paints and stains:   |                 |          |       |          |       |
| Oil paints in paste form:  |                 |          |       |          |       |
| White lead in oil.....   | M pounds        | 71,896   | 14.4  | 129,348  | 10.6  |
| Other paste whites.....  | M gallons       | 1,970    | 5.2   | 2,619    | 5.8   |
| Colors in oil.....   | do.             | 1,207    | 5.1   | 1,941    | 4.8   |
| Other oil paste paints.....  | do.             | 1,260    | 3.6   | 1,201    | 3.9   |
| Oil paints and alkyd vehicle type paints (semi-paste and ready-mixed) and mill whites..... | do.             | 114,408  | 320.5 | 69,895   | 111.8 |
| Bituminous paints (excluding roof coatings).....   | do.             | 18,002   | 8.1   | 3,659    | 1.5   |
| Under coatings and primers.....  | do.             | 24,522   | 54.1  | 11,832   | 15.3  |
| Water thinned paints:  |                 |          |       |          |       |
| Plastic texture paints.....  | M pounds        | 32,326   | 52.7  | 56,685   | 50.5  |
| Cold water paints:   |                 |          |       |          |       |
| Exterior:  |                 |          |       |          |       |
| Casein.....  | do.             | 3,341    | 0.3   | 5,259    | 0.3   |
| Lime and/or cement bound.....  | do.             | 38,087   | 3.4   | 59,885   | 0.7   |
| Interior:  |                 |          |       |          |       |
| Casein, paste and semipaste.....   | M gallons       | 2,523    | 3.7   | 2,969    | 3.3   |
| Dry powder.....  | M pounds        | 9,314    | 0.9   | 13,583   | 1.0   |
| Glue bound.....  | do.             | 2,586    | 0.1   | 4,361    | 0.1   |
| Calcimines:  |                 |          |       |          |       |
| Hot water.....   | do.             | 8,626    | 0.5   | 35,309   | 1.4   |
| Cold water.....  | do.             | 9,873    | 0.5   | 36,575   | 1.6   |
| Barn and roof, marine, metallic, and other.....  | M gallons       | 42,234   | 98.7  | 18,255   | 24.9  |
| Stains:  |                 |          |       |          |       |
| Varnish.....   | do.             | 2,325    | 6.0   | 2,236    | 3.6   |
| Oil, shingle, and other.....   | do.             | 6,525    | 10.2  | 4,219    | 4.6   |
| Varnishes, lacquers, enamels, japans, thinners, and dopes:                                 |                 |          |       |          |       |
| Varnishes:   |                 |          |       |          |       |
| Spirit varnishes, except shellac.....  | do.             | 1,682    | 2.6   | 7,788    | 8.4   |
| Natural resin varnish, except shellac.....   | do.             | 12,521   | 22.7  | 14,113   | 14.0  |
| Synthetic resin base varnish.....  | do.             | 51,813   | 92.3  | 23,826   | 29.8  |
| Drying japans and driers.....  | do.             | 3,990    | 5.5   | 2,784    | 2.3   |
| Baking japans.....   | do.             | 2,305    | 2.2   | 1,940    | 1.5   |
| Other varnishes, including mixtures.....   | do.             | 24,971   | 47.9  | 12,653   | 12.5  |
| Lacquers:  |                 |          |       |          |       |
| Cellulose nitrate:   |                 |          |       |          |       |
| Clear lacquers.....  | do.             | 22,637   | 42.8  | 13,750   | 17.5  |
| Pigmented lacquers.....  | do.             | 18,980   | 57.5  | 12,569   | 27.7  |
| Dopes.....   | do.             | 2,859    | 4.4   | 3,094    | 3.3   |
| Thinners for dopes and lacquers.....   | do.             | 38,816   | 37.3  | 22,410   | 14.2  |
| Enamels.....   | do.             | 89,172   | 248.9 | 40,250   | 76.0  |
| Bleached shellac.....  | M pounds        | 13,010   | 8.4   | 16,289   | 3.2   |
| <b>2852 - INORGANIC COLOR PIGMENTS</b>   |                 |          |       |          |       |
| White opaque pigments:   |                 |          |       |          |       |
| White lead, except white lead in oil:  |                 |          |       |          |       |
| Basic carbonate.....   | Tons            | (d)      | (d)   | (d)      | (d)   |
| Sulphate.....  | do.             | (d)      | (d)   | (d)      | (d)   |
| Zinc oxide pigments: Lead-free and leaded zinc oxide..                                     | do.             | 256,011  | 51.2  | 150,947  | 14.4  |
| Titanium dioxide (100% TiO <sub>2</sub> ).....   | do.             | 204,737  | 69.7  | 57,676   | 14.9  |
| Lithopone.....   | do.             | 155,997  | 15.8  | 144,042  | 12.5  |

For footnotes, see end of table.

## INDEXES OF PRODUCTION

QUANTITY AND VALUE OF PRODUCTS USED IN CONSTRUCTING INDEXES OF PHYSICAL VOLUME OF PRODUCTION FOR MANUFACTURING INDUSTRIES: 1947 AND 1939<sup>1</sup>--Continued

(Money figures in millions of dollars)

| Industry and product   | Unit of measure | 1947     |        | 1939      |                  |
|--|-----------------|----------|--------|-----------|------------------|
|  |                 | Quantity | Value  | Quantity  | Value            |
| 2852 - INORGANIC COLOR PIGMENTS--Continued   |                 |          |        |           |                  |
| White extender pigments:   |                 |          |        |           |                  |
| Blanc fixe (barium sulphate, precipitated).....  | Tons            | 27,485   | \$1.6  | 6,141     | \$0.3            |
| Color pigments (except lakes and toners):  |                 |          |        |           |                  |
| Chrome colors:   |                 |          |        |           |                  |
| Chrome green (chrome yellow and iron blue) C.P.....  | do.             | 7,957    | 5.2    | 4,172     | 1.9              |
| Chrome yellows, chrome oranges, and molybdate<br>chrome orange C.P.....                              | do.             | 23,604   | 12.6   | 17,434    | 5.2              |
| Iron oxide pigments.....   | do.             | 91,368   | 11.6   | 50,975    | 3.3              |
| Lead oxide pigments:   |                 |          |        |           |                  |
| Red lead.....  | do.             | 29,650   | 9.9    | 52,440    | 6.7              |
| Litharge.....  | do.             | 151,930  | 47.6   | 82,227    | 9.2              |
| Iron blues (Prussian blue, milori blue, etc.).....   | do.             | 4,950    | 4.0    | 3,510     | 2.4              |
| 2853 - WHITING AND FILLERS   |                 |          |        |           |                  |
| Wood and metal sash putties and caulking compounds.....  | M pounds        | 220,125  | 18.3   | 103,232   | 3.8              |
| Whiting.....   | do.             | 123,192  | 0.9    | 110,716   | 0.8              |
| 2861 - HARDWOOD DISTILLATION   |                 |          |        |           |                  |
| Hardwood distillation:   |                 |          |        |           |                  |
| Acetic acid, natural, basis 100%.....  | do.             | 26,608   | 2.3    | 48,688    | 2.3              |
| Methanol:  |                 |          |        |           |                  |
| Crude, basis 100%.....   | M gallons       | 157      | 0.1    | 836       | 0.2              |
| Refined, basis 100%.....   | do.             | 2,553    | 1.9    | 2,959     | 0.8              |
| Charcoal.....  | M pounds        | 373,363  | 8.5    | 459,568   | 2.7              |
| 2862 - SOFTWOOD DISTILLATION   |                 |          |        |           |                  |
| Softwood distillation:   |                 |          |        |           |                  |
| Wood turpentine--destructively, steam, and solvent<br>distilled.....                                 | M gallons       | 8,554    | 6.5    | 86,933    | <sup>a</sup> 1.6 |
| Pine oil, destructively distilled.....   | M pounds        | 33,784   | 3.3    | 29,113    | 2.6              |
| Wood rosin.....  | 520-lb. drums   | 936,572  | 35.4   | 821,939   | 7.1              |
| Pine tar and pine tar oil.....   | M gallons       | 5,376    | 1.7    | 5,686     | 0.9              |
| Charcoal.....  | M pounds        | 50,838   | 0.6    | 41,992    | 0.3              |
| 2863 - GUM NAVAL STORES  |                 |          |        |           |                  |
| Gum turpentine.....  | 50-gal. bbls.   | 8290,466 | 89.9   | 400,535   | 4.1              |
| Gum rosin.....   | 520-lb. drums   | 8701,691 | 829.8  | 1,247,605 | 12.7             |
| 2865 - NATURAL TANNING AND DYEING MATERIALS  |                 |          |        |           |                  |
| Natural tanning materials:   |                 |          |        |           |                  |
| Extracts:  |                 |          |        |           |                  |
| Chestnut, liquid and solid.....  | M tan. units    | 61,502   | 9.3    | 83,430    | 4.7              |
| Quebracho, liquid and solid.....   | do.             | 13,148   | 2.2    | 24,080    | 1.8              |
| Wattle.....  | do.             | (d)      | (d)    | (d)       | (d)              |
| Chrome tanning mixtures (100% Cr <sub>2</sub> O <sub>3</sub> basis).....                             | M pounds        | 11,198   | 3.6    | (d)       | (d)              |
| Natural dyestuffs extracts (including logwood, etc.)<br>(solid basis).....                           | do.             | 5,130    | 1.2    | (n)       | 1.7              |
| 287 - FERTILIZERS  |                 |          |        |           |                  |
| Mixtures:  |                 |          |        |           |                  |
| Complete mixtures (grades guaranteeing N, P <sub>2</sub> O <sub>5</sub> , and K <sub>2</sub> O)..... | M tons          | 10,470   | 344.3  | 5,088     | 117.7            |
| Incomplete mixtures:   |                 |          |        |           |                  |
| Grades guaranteeing N and P <sub>2</sub> O <sub>5</sub> only.....                                    | do.             | 316      | 14.6   | 40        | 0.7              |
| Grades guaranteeing P <sub>2</sub> O <sub>5</sub> and K <sub>2</sub> O only.....                     | do.             | 486      | 13.0   | 233       | 4.8              |
| Fertilizer materials of organic origin.....  | do.             | 128      | 2.4    | 360       | 6.7              |
| Superphosphates (18% basis).....   | do.             | 83,297   | 850.2  | 81,507    | 814.4            |
| 2881 - COTTONSEED OIL MILLS  |                 |          |        |           |                  |
| Cottonseed oil, crude.....   | Mil. lbs.       | 1,080    | 8253.6 | 81,390    | 883.0            |
| Cottonseed cake and meal.....  | M tons          | 1,592    | 8124.8 | 81,986    | 852.4            |
| Linters.....   | Mil. lbs.       | 680      | 859.0  | 8686      | 816.4            |
| Hulls.....   | M tons          | 828      | 814.1  | 81,126    | 88.3             |

For footnotes, see end of table.

QUANTITY AND VALUE OF PRODUCTS USED IN CONSTRUCTING INDEXES OF PHYSICAL VOLUME OF PRODUCTION FOR MANUFACTURING INDUSTRIES: 1947 AND 1939<sup>1</sup>--Continued

(Money figures in millions of dollars)

| Industry and product   | Unit of measure | 1947                 |                      | 1939                 |                      |
|--|-----------------|----------------------|----------------------|----------------------|----------------------|
|  |                 | Quantity             | Value                | Quantity             | Value                |
| 2882 - LINSEED OIL MILLS   |                 |                      |                      |                      |                      |
| Linseed oil, crude.....  | Mil. lbs.       | 412                  | <sup>a</sup> \$133.4 | 565                  | \$47.9               |
| Linseed cake and meal.....   | M tons          | 392                  | <sup>a</sup> 30.4    | 551                  | 17.7                 |
| 2883 - SOYBEAN OIL MILLS   |                 |                      |                      |                      |                      |
| Soybean oil, crude.....  | Mil. lbs.       | 1,523                | <sup>a</sup> 331.3   | 458                  | 25.0                 |
| Soybean cake and meal.....   | M tons          | 4,178                | <sup>a</sup> 322.0   | 1,129                | 28.4                 |
| 2886 - GREASE AND TALLOW   |                 |                      |                      |                      |                      |
| Grease.....  | Mil. lbs.       | 621                  | <sup>a</sup> 115.5   | 502                  | 20.6                 |
| Tallow, edible.....  | do.             | 108                  | <sup>a</sup> 22.0    | 80                   | 4.3                  |
| Tallow, inedible.....  | do.             | 1,212                | <sup>a</sup> 224.8   | 791                  | 40.0                 |
| Bone meal.....   | M tons          | 141                  | 9.4                  | 62                   | 1.8                  |
| 2891 - PRINTING INK  |                 |                      |                      |                      |                      |
| Printing inks.....   | M pounds        | <sup>a</sup> 372,475 | 109.4                | <sup>a</sup> 248,055 | <sup>a</sup> 43.6    |
| 2894 - GLUE AND GELATIN  |                 |                      |                      |                      |                      |
| Gelatin:   |                 |                      |                      |                      |                      |
| Edible.....  | do.             | 31,857               | 25.6                 | 22,373               | 7.3                  |
| Photographic, pharmaceutical, technical (inedible), and other gelatin..... | do.             | 13,413               | 11.5                 | 6,771                | 3.3                  |
| Glue:  |                 |                      |                      |                      |                      |
| Animal glue:   |                 |                      |                      |                      |                      |
| Hide and extracted bone.....   | do.             | 85,500               | 23.1                 | 63,984               | 8.1                  |
| Green bone.....  | do.             | 69,128               | 15.2                 | 37,108               | 3.0                  |
| Vegetable glue.....  |                 |                      |                      |                      |                      |
| Casein glue.....   | do.             | 55,844               | 4.7                  | 178,474              | 9.1                  |
|  | do.             | 4.3                  | 1.2                  | 10.2                 | 1.1                  |
| 2895 - CARBON BLACK  |                 |                      |                      |                      |                      |
| Carbon black.....  | do.             | 1,324,293            | 71.0                 | 525,166              | 12.9                 |
| Bone black.....  | do.             | 27,666               | <sup>a</sup> 3.9     | 29,727               | 1.4                  |
| Lamp black.....  | do.             | 7,640                | 0.9                  | 7,842                | 0.7                  |
| 2896 - COMPRESSED AND LIQUEFIED GASES                                      |                 |                      |                      |                      |                      |
| Elemental gases:   |                 |                      |                      |                      |                      |
| Hydrogen.....  | Mil. cu. ft.    | 1,768                | 2.6                  | 1,124                | 1.5                  |
| Oxygen.....  | do.             | 13,878               | <sup>a</sup> 88.3    | 4,562                | 24.0                 |
| Acetylene.....   | do.             | <sup>a</sup> 3,002   | 38.6                 | 1,291                | 16.6                 |
| Carbon dioxide:  |                 |                      |                      |                      |                      |
| Liquid and gas.....  | M pounds        | 237,984              | 7.6                  | 105,683              | 4.7                  |
| Solid (dry-ice).....   | do.             | 703,816              | 12.8                 | 356,894              | 5.5                  |
| Nitrous oxide.....   | M gallons       | 175,305              | 1.5                  | 95,577               | 0.9                  |
| 2898 - SALT  |                 |                      |                      |                      |                      |
| Evaporated salt:   |                 |                      |                      |                      |                      |
| Bulk:  |                 |                      |                      |                      |                      |
| Open pans or grainers.....   | M tons          | 10,526               | 106.3                | 10,499               | 104.2                |
| Vacuum pans.....   | do.             | 101,790              | 1015.8               | 101,616              | 109.4                |
| Solar.....   | do.             | 10,582               | 102.2                | 10,391               | 101.4                |
| Pressed blocks.....  | do.             | 10,260               | 102.7                | 10,152               | 101.1                |
| 2911 AND 2992 - PETROLEUM REFINING AND LUBRICANTS, N.E.C.                  |                 |                      |                      |                      |                      |
| Gasoline:  |                 |                      |                      |                      |                      |
| Aviation.....  | M bbls.         | 26,696               | <sup>a</sup> 128.2   | 9,420                | 36.3                 |
| Automotive and other.....  | do.             | 764,629              | <sup>a</sup> 2,805.5 | 571,385              | <sup>a</sup> 1,280.8 |
| Naphtha solvents.....  | do.             | 16,248               | <sup>a</sup> 64.1    | 9,352                | 23.1                 |
| Kerosene.....  | do.             | 108,133              | <sup>a</sup> 324.1   | 64,526               | 112.1                |
| Distillate and residual fuel oil:  |                 |                      |                      |                      |                      |
| Distillate, grades No. 1, 2, 3, and 4.....                                 | do.             | 246,107              | <sup>a</sup> 660.5   | 68,255               | 107.6                |
| Residual, grades No. 5 and 6.....  | do.             | 405,289              | <sup>a</sup> 744.5   | 312,944              | 234.1                |
| Diesel-type fuel oils and other distillate and residual fuel oils.....     | do.             | 111,587              | <sup>a</sup> 267.8   | 94,586               | 130.5                |
| Lubricating oils and lubricating-oil base stocks.....                      | do.             | 49,710               | <sup>a</sup> 541.4   | <sup>a</sup> 40,685  | <sup>a</sup> 233.3   |
| Lubricating greases.....   | M lbs.          | 1,111,883            | <sup>a</sup> 86.6    | <sup>a</sup> 643,397 | 30.7                 |
| Asphalt:   |                 |                      |                      |                      |                      |
| 200 penetration and over.....  | M bbls.         | 23,819               | <sup>a</sup> 59.2    | 14,498               | 17.1                 |
| Less than 200 penetration.....   | M tons          | 5,402                | <sup>a</sup> 67.9    | 2,346                | 20.9                 |

For footnotes, see end of table.

## INDEXES OF PRODUCTION

QUANTITY AND VALUE OF PRODUCTS USED IN CONSTRUCTING INDEXES OF PHYSICAL VOLUME OF PRODUCTION FOR MANUFACTURING INDUSTRIES: 1947 AND 1939<sup>1</sup>—Continued

(Money figures in millions of dollars)

| Industry and product  | Unit of measure | 1947      |                     | 1939                  |                     |
|---|-----------------|-----------|---------------------|-----------------------|---------------------|
|   |                 | Quantity  | Value               | Quantity              | Value               |
| <b>2911 AND 2992 - PETROLEUM REFINING AND LUBRICANTS, N.E.C.—Continued</b>                          |                 |           |                     |                       |                     |
| Petroleum waxes.....  | M lbs.          | 1,159,626 | <sup>a</sup> \$71.5 | <sup>a</sup> 604,327  | <sup>a</sup> \$19.5 |
| Liquefied gases.....  | M bbls.         | 15,142    | <sup>a</sup> 74.4   | 3,463                 | 4.9                 |
| Road oil.....   | do.             | 8,968     | <sup>a</sup> 19.0   | 6,020                 | 8.5                 |
| Petrolatum.....   | M lbs.          | 334,676   | <sup>a</sup> 8.8    | <sup>a</sup> 125,833  | 2.9                 |
| Petroleum coke.....   | M tons          | 1,619     | 12.4                | 1,522                 | 5.0                 |
| <b>2931 - BEEHIVE COKE OVENS</b>  |                 |           |                     |                       |                     |
| Beehive coke (except screenings and breeze).....  | M tons          | 6,712     | 69.7                | 1,445                 | 6.4                 |
| Beehive screenings and breeze.....  | do.             | 88        | 0.2                 | 52                    | 0.1                 |
| <b>2932 - BYPRODUCT COKE OVENS</b>  |                 |           |                     |                       |                     |
| Byproduct coke (except screenings and breeze).....  | do.             | 65,302    | 712.4               | <sup>a</sup> 42,434   | <sup>a</sup> 205.3  |
| Byproduct screenings and breeze.....  | do.             | 4,073     | 13.9                | <sup>a</sup> 2,054    | <sup>a</sup> 4.5    |
| Coke-oven gas.....  | Mil. cu. ft.    | 564,689   | 115.1               | <sup>10</sup> 404,996 | <sup>10</sup> 69.9  |
| <b>Ammonia:<sup>10</sup></b>  |                 |           |                     |                       |                     |
| Sulfate (including production from purchased synthetic ammonia).....                                | M lbs.          | 1,646,338 | 27.3                | 1,153,902             | 13.2                |
| Liquor.....   | do.             | 47,239    | 1.5                 | 48,035                | 1.5                 |
| Crude tar.....  | M gals.         | 548,798   | 41.0                | <sup>10</sup> 429,898 | <sup>10</sup> 20.7  |
| Creosote oil, distillate as such <sup>10</sup> .....  | do.             | 27,752    | 4.5                 | 13,573                | 1.5                 |
| Crude light oil.....  | do.             | 30,296    | 2.9                 | 9,384                 | 0.7                 |
| Light oil derivatives.....  | do.             | 210,498   | 34.2                | 133,435               | 16.3                |
| Naphthalene.....  | M lbs.          | 104,730   | 3.2                 | 46,551                | 0.7                 |
| <b>2952 - ROOFING FELTS AND COATINGS</b>  |                 |           |                     |                       |                     |
| <b>Asphalt roofing:</b>   |                 |           |                     |                       |                     |
| Smooth-surfaced roll roofing (including sanded, talc, mica, and other fine-material surfacing)..... | M sales sq.     | 22,482    | 31.8                | 17,395                | 15.2                |
| Mineral-surfaced roll roofing.....  | do.             | 16,357    | 31.8                | 9,646                 | 13.1                |
| Strip shingles.....   | do.             | 28,569    | 120.7               | 10,210                | 33.5                |
| Individual shingles.....  | do.             | 4,053     | 14.3                | 1,701                 | 5.4                 |
| <b>Saturated felts:</b>   |                 |           |                     |                       |                     |
| Asphalt.....  | Tons            | 354,291   | 25.3                | 327,018               | 10.3                |
| Tar.....  | do.             | 103,579   | 6.8                 | 67,498                | 2.4                 |
| <b>Roof coatings, cement, and pitches:</b>  |                 |           |                     |                       |                     |
| Solid asphalt roof cement.....  | do.             | 182,405   | 4.4                 | 148,526               | 2.4                 |
| Coal-tar roofing pitch.....   | do.             | 110,328   | 2.9                 | 77,719                | 1.6                 |
| <b>2991 - FUEL BRIQUETS AND PACKAGED FUEL</b>   |                 |           |                     |                       |                     |
| Fuel briquets.....  | M tons          | 3,184     | 30.0                | 892                   | 5.8                 |
| Packaged fuel.....  | do.             | 179       | 2.8                 | 216                   | 1.9                 |
| <b>3011 - TIRES AND INNER TUBES</b>   |                 |           |                     |                       |                     |
| Natural, synthetic, and reclaimed rubber consumed.....  | M long tons     | 924,253   | ...                 | <sup>4</sup> 514,145  | ...                 |
| <b>3021 - RUBBER FOOTWEAR</b>   |                 |           |                     |                       |                     |
| Canvas footwear.....  | M pairs         | 23,602    | <sup>a</sup> 39.6   | 28,177                | 15.0                |
| Boots.....  | do.             | 5,625     | <sup>a</sup> 20.6   | 2,919                 | 5.1                 |
| Lumbermen's and pacs.....   | do.             | 1,860     | <sup>a</sup> 7.2    | 1,124                 | 2.0                 |
| <b>Articles and gaiters:</b>  |                 |           |                     |                       |                     |
| Buckle and automatic, except style.....   | do.             | 10,438    | <sup>a</sup> 27.5   | 3,770                 | 5.2                 |
| Style rubber and cloth.....   | do.             | 20,846    | <sup>a</sup> 45.4   | 12,129                | 7.9                 |
| Light and heavy rubbers.....  | do.             | 18,685    | <sup>a</sup> 21.9   | 14,727                | 7.9                 |
| <b>3031 - RECLAIMED RUBBER</b>  |                 |           |                     |                       |                     |
| Reclaimed rubber.....   | Mil. lbs.       | 628,606   | <sup>a</sup> 47.0   | 340,187               | 17.0                |
| <b>3099 - RUBBER INDUSTRIES, N.E.C.</b>   |                 |           |                     |                       |                     |
| Camelback.....  | M lbs.          | 96,284    | 24.2                | 54,223                | 10.6                |
| <b>Rubber heels and soles:</b>  |                 |           |                     |                       |                     |
| Soling slabs and toplift sheets.....  | M sq. ft.       | 48,755    | 9.9                 | 8,338                 | 1.7                 |
| Heels.....  | M pairs         | 317,623   | 31.0                | 265,666               | 14.5                |
| Soles.....  | do.             | 119,956   | <sup>a</sup> 31.9   | 146,557               | 15.1                |

For footnotes, see end of table.

QUANTITY AND VALUE OF PRODUCTS USED IN CONSTRUCTING INDEXES OF PHYSICAL VOLUME OF PRODUCTION FOR MANUFACTURING INDUSTRIES: 1947 AND 1939<sup>1</sup>--Continued

(Money figures in millions of dollars)

| Industry and product  | Unit of measure | 1947      |        | 1939      |       |
|---|-----------------|-----------|--------|-----------|-------|
|   |                 | Quantity  | Value  | Quantity  | Value |
| 3099 - RUBBER INDUSTRIES, N.E.C.--Continued   |                 |           |        |           |       |
| Mechanical rubber goods:  |                 |           |        |           |       |
| Belts and belting:  |                 |           |        |           |       |
| Conveyor and elevator .....   | M lbs.          | 56,152    | \$37.2 | 18,583    | \$7.8 |
| Transmission:   |                 |           |        |           |       |
| Flat.....   | do.             | 29,460    | 26.1   | 15,735    | 7.3   |
| V-belt:   |                 |           |        |           |       |
| Motor vehicles.....   | do.             | 23,126    | 22.6   | 11,006    | 5.3   |
| Industrial and all other (including standard, notched, and segment).....  | do.             | 33,573    | 40.8   | 9,358     | 7.4   |
| Hose:   |                 |           |        |           |       |
| Molded garden.....  | do.             | 83,073    | 19.8   | 45,534    | 6.5   |
| Gasoline.....   | do.             | 8,703     | 6.3    | 8,887     | 4.4   |
| Tubing (except reinforced).....   | do.             | 21,327    | 7.4    | 11,438    | 2.6   |
| Packing (for sealing moving parts) (excluding molded and lathe-cut goods).....  | do.             | 17,664    | 12.5   | 32,271    | 10.1  |
| Insulation products (heat, electrical, and others).....   | do.             | 4,191     | 1.8    | 8,072     | 1.6   |
| Molded industrial goods (excluding sponge and hard rubber).....   | do.             | 112,860   | 71.0   | 39,841    | 10.4  |
| Flooring (tile or sheet).....   | M sq. ft.       | 46,603    | 14.3   | 9,993     | 2.9   |
| Druggist and medical sundries:  |                 |           |        |           |       |
| Water bottles, fountain syringes, and combinations.....   | Doz.            | 639,256   | 5.3    | 684,922   | 3.0   |
| Nipples and pacifiers.....  | Gross           | 1,214,853 | 9.3    | 423,709   | 1.4   |
| Gloves:   |                 |           |        |           |       |
| Household.....  | Doz. pairs      | 632,731   | 2.1    | 892,038   | 1.2   |
| Surgeons.....   | do.             | 1,165,269 | 2.5    | 851,581   | 1.1   |
| Other rubber products, n.e.c.:  |                 |           |        |           |       |
| Factory rebult or retreaded tires.....  | Units           | 257,025   | 2.0    | 1,236,392 | 4.7   |
| Rubber and synthetic rubber-coated fabrics:   |                 |           |        |           |       |
| Hospital and crib sheeting.....   | M sq. yds.      | 4,180     | 3.0    | 3,857     | 1.6   |
| Automobile upholstery.....  | do.             | 1,219     | 0.8    | 46,926    | 1.7   |
| Electricians' gloves.....   | Doz. pairs      | 17,300    | 0.6    | 12,899    | 0.3   |
| Bathing caps.....   | M doz.          | 1,027     | 3.8    | 1,074     | 1.5   |
| Rubber thread (bare and covered).....   | M lbs.          | 10,497    | 17.4   | 9,704     | 7.5   |
| Rubber cement (for sale as such).....   | M gals.         | 17,650    | 21.0   | 17,589    | 9.2   |
| Stationers' rubber bands.....   | M lbs.          | 3,949     | 3.1    | 5,229     | 1.9   |
| Erasers (except pencil plugs).....  | do.             | 1,886     | 2.2    | 2,052     | 1.0   |
| 3111 - LEATHER TANNING AND FINISHING  |                 |           |        |           |       |
| Cattle hide and kip side leathers:  |                 |           |        |           |       |
| Grains:   |                 |           |        |           |       |
| Sole leather: Vegetable tanned and chrome or retan (backs, bends, sides).....   | do.             | 238,731   | 151.1  | 241,338   | 172.1 |
| Sole leather: Heads, bellies, shoulders, etc.; and belting leather shoulders.....                                     | do.             | 144,141   | 62.4   | 88,863    | 16.4  |
| Welting leather.....  | do.             | 7,265     | 4.0    | 7,933     | 2.5   |
| Belting leather: Curried (butts, butt bends).....   | do.             | 15,674    | 16.6   | 6,107     | 3.7   |
| Harness leather (sides, backs).....   | do.             | 5,260     | 3.5    | 7,668     | 2.3   |
| Collar, skirting, lace, and latigo leather (sides)...   | do.             | 6,854     | 5.1    | 9,414     | 2.3   |
| Bag, case, and strap leather (sides).....   | M sq. ft.       | 44,637    | 26.2   | 21,245    | 4.9   |
| Upper leather, excluding patent (sides).....  | do.             | 492,824   | 234.4  | 370,610   | 167.9 |
| Patent leather (sides).....   | do.             | 51,129    | 28.1   | 51,286    | 10.7  |
| Upholstery leather--top grains and machine buffs (hides) and finished splits (including deep buffs and buffings)..... | do.             | 41,288    | 18.0   | 33,580    | 6.2   |
| Finished splits (including deep buffs and buffing):   |                 |           |        |           |       |
| Upper.....  | do.             | 54,751    | 14.3   | 39,330    | 3.6   |
| Bottom stock, lining, glove, and garment.....   | do.             | 192,174   | 37.5   | 138,186   | 19.8  |
| Calf and whole kip leathers: Upper (skins).....   | do.             | 119,532   | 102.0  | 133,470   | 137.4 |
| Goat and kid leathers:  |                 |           |        |           |       |
| Upper (skins).....  | do.             | 147,903   | 80.2   | 153,829   | 128.8 |
| Lining (skins).....   | do.             | 25,806    | 9.5    | 54,274    | 19.9  |

For footnotes, see end of table.

## INDEXES OF PRODUCTION

QUANTITY AND VALUE OF PRODUCTS USED IN CONSTRUCTING INDEXES OF PHYSICAL VOLUME OF PRODUCTION FOR MANUFACTURING INDUSTRIES: 1947 AND 1939<sup>1</sup>--Continued

(Money figures in millions of dollars)

| Industry and product  | Unit of measure | 1947     |        | 1939     |       |
|---|-----------------|----------|--------|----------|-------|
|   |                 | Quantity | Value  | Quantity | Value |
| 3111 - LEATHER TANNING AND FINISHING--Continued                 |                 |          |        |          |       |
| Sheep and lamb leathers:  |                 |          |        |          |       |
| Lining (skins).....   | M sq. ft.       | 113,375  | \$25.4 | 87,238   | \$8.4 |
| Fancy (skins).....  | do.             | 12,330   | 3.8    | 14,272   | 11.4  |
| Glove and garment (skins).....                                  | do.             | 72,407   | 18.7   | 142,786  | 114.8 |
| Skivers.....  | do.             | 22,774   | 4.6    | 31,371   | 13.1  |
| Shearlings (skins).....   | do.             | 37,458   | 22.3   | 19,050   | 13.6  |
| Horse, colt, mule, ass, and pony leathers:                      |                 |          |        |          |       |
| Sole.....   | do.             | 3,311    | 2.0    | 3,960    | 10.9  |
| Upper.....  | do.             | 8,182    | 4.8    | 11,592   | 13.0  |
| Kangaroo and wallaby leather (skins).....                       | do.             | 8,840    | 5.3    | 5,529    | 11.4  |
| 3131 - FOOTWEAR CUT STOCK                                       |                 |          |        |          |       |
| Cut stock:  |                 |          |        |          |       |
| Outer soles: Leather.....                                       | M doz. prs.     | 18,698   | 101.9  | 20,069   | 44.9  |
| Midsoles:   |                 |          |        |          |       |
| Leather.....  | do.             | 5,509    | 12.6   | 12,914   | 13.2  |
| Other than leather.....   | do.             | 415      | 0.5    | 2,603    | 0.8   |
| Heels:  |                 |          |        |          |       |
| Leather.....  | do.             | 3,877    | 5.2    | 3,190    | 2.6   |
| Other than leather or rubber.....                               | do.             | 4,269    | 5.2    | 4,246    | 1.9   |
| Heel lifts and top lifts:                                       |                 |          |        |          |       |
| Leather.....  | do.             | 9,976    | 7.3    | 9,040    | 3.5   |
| Other than leather.....   | do.             | 1,116    | 0.3    | 1,117    | 0.2   |
| Counters:   |                 |          |        |          |       |
| Leather.....  | do.             | 6,942    | 5.9    | 6,355    | 3.9   |
| Other than leather.....   | do.             | 15,839   | 5.5    | 21,756   | 3.7   |
| Box toes.....   | do.             | 18,221   | 5.4    | 20,358   | 3.1   |
| Taps.....   | do.             | 4,304    | 13.0   | 2,744    | 5.9   |
| Findings:   |                 |          |        |          |       |
| Wood heel blocks made for sale as such.....                     | do.             | 8,974    | 10.6   | 7,678    | 3.5   |
| Finished wood heels:  |                 |          |        |          |       |
| Manufactured complete in own plant.....                         | do.             | 5,066    | 7.9    | 4,153    | 5.0   |
| Finished from purchased blocks.....                             | do.             | 4,178    | 10.5   | 4,818    | 5.7   |
| Shanks (metal and other than metal).....                        | do.             | 17,779   | 5.1    | 23,290   | 2.2   |
| Welting (equivalent 1/2 inch wide).....                         | M linear yds.   | 205,938  | 21.6   | 171,263  | 6.7   |
| 3141 - FOOTWEAR, EXCEPT RUBBER                                  |                 |          |        |          |       |
| Dress and work shoes:   |                 |          |        |          |       |
| Men's dress, including moccasin-type dress shoes.....           | M pairs         | 85,015   | 467.0  | 76,637   | 182.2 |
| Men's work, including moccasins.....                            | do.             | 21,786   | 97.5   | 28,125   | 48.6  |
| Youths' and boys'.....  | do.             | 19,822   | 55.9   | 17,316   | 24.8  |
| Women's, including sandal-type dress shoes.....                 | do.             | 182,215  | 774.9  | 168,777  | 335.1 |
| Misses', including sandal-type dress shoes, and children's..... | do.             | 53,083   | 139.8  | 46,091   | 50.3  |
| Infants' and babies'.....                                       | do.             | 35,038   | 57.2   | 24,632   | 17.7  |
| Athletic shoes.....   | do.             | 4,424    | 19.9   | 4,144    | 8.9   |
| Play shoes and footwear, not specified by kind.....             | do.             | 34,949   | 90.9   | 19,874   | 29.6  |
| 3151 - LEATHER DRESS GLOVES                                     |                 |          |        |          |       |
| Leather gloves and mittens, dress and semidress:                |                 |          |        |          |       |
| Men's and boys':  |                 |          |        |          |       |
| All leather, including fur:                                     |                 |          |        |          |       |
| Table, pattern, and pulldown cut.....                           | M doz.          | 240      | 8.9    | 233      | 4.0   |
| Block cut.....  | do.             | 626      | 14.0   | 581      | 5.1   |
| Women's, misses', and children's:                               |                 |          |        |          |       |
| All leather, including fur:                                     |                 |          |        |          |       |
| Table, pattern, and pulldown cut.....                           | do.             | 564      | 20.0   | 636      | 9.9   |
| Block cut.....  | do.             | 89       | 1.5    | 91       | 0.7   |
| 3152 - LEATHER WORK GLOVES                                      |                 |          |        |          |       |
| Leather work gloves and mittens.....                            | do.             | 11,205   | 16.0   | 1,064    | 5.9   |

For footnotes, see end of table.

QUANTITY AND VALUE OF PRODUCTS USED IN CONSTRUCTING INDEXES OF PHYSICAL VOLUME OF PRODUCTION FOR MANUFACTURING INDUSTRIES: 1947 AND 1939<sup>1</sup>--Continued

(Money figures in millions of dollars)

| Industry and product  | Unit of measure      | 1947      |         | 1939        |       |
|---|----------------------|-----------|---------|-------------|-------|
|   |                      | Quantity  | Value   | Quantity    | Value |
| <b>3161 - LUGGAGE</b>   |                      |           |         |             |       |
| Leather hand luggage.....   | M units              | 1,619     | \$24.6  | 1,597       | \$8.9 |
| Nonleather hand luggage.....  | do.                  | 5,579     | 36.6    | 5,178       | 12.9  |
| Other leather hand luggage.....   | do.                  | 737       | 8.9     | 369         | 1.2   |
| Other nonleather hand luggage.....  | do.                  | 4,662     | 11.4    | 2,170       | 1.6   |
| Trunks, hand trunks, and lockers.....   | do.                  | 1,244     | 14.0    | 648         | 4.0   |
| Briefcases.....   | do.                  | 2,297     | 11.1    | 1,421       | 3.3   |
| <b>3171 - HANDBAGS AND PURSES</b>   |                      |           |         |             |       |
| Women's handbags and purses:  |                      |           |         |             |       |
| All leather and chiefly leather.....  | do.                  | 16,466    | 74.3    | 20,576      | 27.9  |
| Chiefly nonleather.....   | do.                  | 37,348    | 76.0    | 43,931      | 27.7  |
| <b>3211 - FLAT GLASS</b>  |                      |           |         |             |       |
| Sheet (window) glass.....   | M boxes of 50 sq.ft. | 19,058    | \$73.0  | 9,498       | 24.3  |
| Plate glass.....  | M sq. ft.            | (d)       | (d)     | (d)         | (d)   |
| Laminated glass made in the flat-glass industry.....  | do.                  | 58,763    | \$44.5  | 53,612      | 30.9  |
| Obscured glass, rolled, rough, fluted, figured, etc. (excluding wire glass).....                                  | do.                  | 68,429    | \$10.3  | 18,967      | 1.2   |
| Wire glass:   |                      |           |         |             |       |
| Rough-rolled and obscured.....  | do.                  | 30,586    | \$4.6   | \$14,446    | \$1.6 |
| Polished.....   | do.                  | 1,780     | \$1.0   | \$1,751     | \$0.7 |
| <b>3221 - GLASS CONTAINERS</b>  |                      |           |         |             |       |
| Machine-made glass containers:  |                      |           |         |             |       |
| Food:   |                      |           |         |             |       |
| Narrow neck.....  | M gross              | \$11,480  | \$44.9  | 3,985       | 12.3  |
| Wide mouth.....   | do.                  | \$27,122  | \$76.8  | 10,342      | 28.8  |
| Medicinal, health supplies, toiletries, and cosmetics (narrow neck and wide mouth).....                           |                      |           |         |             |       |
| Chemical, household, and industrial (narrow neck and wide mouth).....   | do.                  | \$23,099  | \$62.8  | 17,995      | 38.2  |
| Beverage, returnable and nonreturnable (narrow neck)...   | do.                  | \$6,571   | \$29.9  | 2,156       | 6.8   |
| Beer, returnable and nonreturnable (narrow neck).....   | do.                  | 11,788    | \$60.0  | 3,449       | 14.2  |
| Liquor and wine (narrow neck).....  | do.                  | 14,552    | \$51.0  | 2,574       | 7.5   |
| Dairy products (wide mouth).....  | do.                  | 13,197    | \$65.8  | 8,213       | 29.6  |
| Packers' tumblers, fruit jars, and domestic jelly glasses (wide mouth).....                                       | do.                  | 4,137     | \$25.8  | 2,536       | 13.1  |
| 3229 - PRESSED AND BLOWN GLASSWARE, N.E.C.  |                      |           |         |             |       |
| Machine-made table, kitchen, art, and novelty glassware:  |                      |           |         |             |       |
| Tumblers, goblets, and other stemware.....  | M doz.               | 74,293    | \$34.3  | 45,209      | 14.1  |
| Tableware (designed for serving food and drink; excluding tumblers, goblets, and other stemware).....             | do.                  | 33,443    | \$19.2  | 24,945      | 9.6   |
| Ornamental, decorative, and novelty glassware; and smokers' accessories.....                                      | do.                  | 4,442     | \$4.4   | 17,926      | 4.7   |
| Hand-made table, art, and novelty glassware:  |                      |           |         |             |       |
| Pressed ware:   |                      |           |         |             |       |
| Tumblers, goblets, and other stemware.....  | do.                  | 778       | \$2.8   | 1,305       | 2.4   |
| Tableware (excluding tumblers, goblets, and other stemware).....  | do.                  | 1,293     | \$7.9   | 1,287       | 1.6   |
| Blown ware:   |                      |           |         |             |       |
| Tumblers, goblets, and other stemware.....  | do.                  | 3,351     | \$15.0  | 2,882       | 3.9   |
| Lamp chimneys.....  | do.                  | 1,500     | \$1.2   | 1,663       | 0.8   |
| Tubing (excluding fluorescent and industrial tubing).....   | M lbs.               | 24,191    | \$6.0   | 27,623      | 4.7   |
| <b>3241 - CEMENT, HYDRAULIC</b>   |                      |           |         |             |       |
| Portland, natural, masonry-natural, and puzzolan cements; and portland cement used in making masonry mortars..... | M bbls. of 376 lbs.  | 189,879   | \$358.7 | 124,708     | 183.7 |
| <b>3251 - BRICK AND HOLLOW TILE</b>   |                      |           |         |             |       |
| Unglazed brick (common or back-up, and facing).....   | M std. brick         | 5,142,343 | \$114.8 | 4,725,879   | 56.8  |
| Vitrified paving brick.....   | do.                  | 24,771    | \$0.9   | 61,068      | 1.5   |
| Unglazed hollow facing tile.....  | M std. brick equiv.  | 135,386   | \$4.2   | 58,846      | 1.2   |
| Glazed brick and hollow facing tile:  |                      |           |         |             |       |
| Ceramic glazed.....   | do.                  | (d)       | (d)     | 70,943      | 2.4   |
| Salt glazed.....  | do.                  | (d)       | (d)     | 123,368     | 3.4   |
| Non-load-bearing and load-bearing structural tile.....  | Ton                  | 1,237,239 | \$12.9  | \$1,712,310 | 8.5   |
| <b>3253 - FLOOR AND WALL TILE</b>   |                      |           |         |             |       |
| Floor and wall tile, except quarry tile.....  | M sq. ft.            | 103,818   | \$43.1  | 66,393      | 16.5  |

For footnotes, see end of table.

## INDEXES OF PRODUCTION

QUANTITY AND VALUE OF PRODUCTS USED IN CONSTRUCTING INDEXES OF PHYSICAL VOLUME OF PRODUCTION FOR MANUFACTURING INDUSTRIES: 1947 AND 1939<sup>1</sup>--Continued

(Money figures in millions of dollars)

| Industry and product   | Unit of measure            | 1947       |         | 1939       |        |
|--|----------------------------|------------|---------|------------|--------|
|  |                            | Quantity   | Value   | Quantity   | Value  |
| 3254 - SEWER PIPE  |                            |            |         |            |        |
| Vitrified sewer pipe and fittings.....   | Ton                        | 1,394,687  | \$44.7  | 1,076,184  | \$15.7 |
| 3255 - CLAY REFRACTORIES   |                            |            |         |            |        |
| Fire-clay brick, superduty fire-clay brick, and insulating fire-clay brick (standards and special shapes)..... | M 9-inch equiv.            | 836,112    | \$71.5  | (n)        | (n)    |
| High-alumina brick (standards and special shapes).....   | do.                        | 25,184     | \$5.5   | (n)        | (n)    |
| Ladle brick.....   | do.                        | 151,619    | \$6.7   | 59,783     | 1.6    |
| Glass-house pots, tank blocks, upper structure, and floaters.....  | Ton                        | 30,963     | \$3.6   | 26,956     | 2.3    |
| 3259 - STRUCTURAL CLAY PRODUCTS, N.E.C.  |                            |            |         |            |        |
| Drain tile.....  | Ton                        | 933,960    | \$13.6  | 487,119    | 4.0    |
| Terra cotta (architectural).....   | do.                        | 15,422     | \$3.2   | 28,009     | 2.9    |
| Quarry tile.....   | M sq. ft.                  | 7,374      | \$1.8   | 11,946     | 1.0    |
| Roofing tile.....  | Sq. (100 sq. ft.)          | 156,567    | \$3.2   | 243,040    | 2.4    |
| Flue lining.....   | Ton                        | 233,512    | \$6.5   | 177,964    | 2.5    |
| 3261 - VITREOUS PLUMBING FIXTURES  |                            |            |         |            |        |
| Lavatories (vitreous china).....   | Unit                       | 1,392,033  | 12.7    | 278,571    | 3.0    |
| Water closet bowls (vitreous china):   |                            |            |         |            |        |
| Syphon jet.....  | do.                        | 294,473    | 4.4     | 193,627    | 1.6    |
| Washdown.....  | do.                        | 1,428,636  | 10.4    | 904,637    | 3.4    |
| Reverse trap.....  | do.                        | 961,601    | 8.3     | 486,305    | 3.0    |
| Flush tanks (vitreous china).....  | do.                        | 2,367,181  | 20.7    | 1,245,266  | 6.2    |
| 3271 - CONCRETE PRODUCTS   |                            |            |         |            |        |
| Concrete block.....  | M block (8"x8"x16" equiv.) | 1,056,625  | \$177.0 | 406,555    | 25.5   |
| Culvert pipe.....  | M tons                     | 1,648      | \$29.2  | 712        | 8.9    |
| Sewer pipe.....  | do.                        | 1,131      | \$21.3  | 880        | 10.5   |
| Irrigation pipe.....   | do.                        | 742        | \$10.6  | 159        | 1.9    |
| Other pipe (including drain tile and conduits).....  | do.                        | 519        | \$8.2   | 88         | 1.0    |
| Burial vaults and boxes.....   | M units                    | 400        | \$16.0  | 142        | 5.2    |
| Laundry trays.....   | do.                        | 511        | \$3.9   | 207        | 1.0    |
| 3272 - GYPSUM PRODUCTS   |                            |            |         |            |        |
| Industrial plasters.....   | Ton                        | 212,476    | 3.7     | 110,395    | 1.4    |
| Building plasters:   |                            |            |         |            |        |
| Base-coat.....   | do.                        | 1,724,888  | 18.8    | 1,413,291  | 12.8   |
| Sanded.....  | do.                        | 128,849    | 1.1     | 116,459    | 0.7    |
| Gaging and molding.....  | do.                        | 174,337    | 2.4     | 150,175    | 1.9    |
| Other (including insulating, roof-deck, and prepared finishes).....  | do.                        | 130,131    | 2.8     | 72,588     | 1.3    |
| Keene's cement.....  | do.                        | 44,470     | 0.8     | 27,191     | 0.4    |
| Prefabricated building materials:  |                            |            |         |            |        |
| Lath.....  | do.                        | 1,290,083  | 32.2    | 850,768    | 14.6   |
| Wallboard.....   | do.                        | 1,698,671  | 53.1    | 303,472    | 8.8    |
| Sheathing board.....   | do.                        | 111,895    | 3.5     | 5,097      | 0.1    |
| Tile.....  | do.                        | 153,986    | 2.8     | 174,780    | 2.1    |
| 3274 - LIME  |                            |            |         |            |        |
| Quicklime (including dead-burned dolomite).....  | M tons                     | 5,112      | 46.4    | 2,936      | 19.9   |
| Hydrated lime.....   | do.                        | 1,756      | 18.4    | 1,318      | 10.1   |
| 3296 - SAND-LIME PRODUCTS  |                            |            |         |            |        |
| Sand-lime brick.....   | M brick                    | 103,504    | \$1.9   | 153,280    | 1.6    |
| 3297 - NONCLAY REFRACTORIES  |                            |            |         |            |        |
| Silica brick and shapes.....   | M 9-inch equiv.            | 313,001    | \$29.6  | 175,376    | 9.1    |
| Magnesite and chrome brick and shapes.....   | do.                        | 61,223     | \$23.5  | 21,549     | 6.4    |
| Graphite and other carbon crucibles and retorts.....   | Ton                        | 10,449     | \$4.6   | 4,976      | 1.7    |
| Other graphite and carbon refractories.....  | do.                        | 2,874      | \$1.1   | 1,111      | 0.4    |
| High-temperature bonding mortars and plastic refractories (including wet and dry ramming mixtures).....        | do.                        | 109,596    | \$8.0   | 72,216     | 2.5    |
| 3311 AND 3313 - BLAST FURNACES AND ELECTROMETALLURGICAL PRODUCTS   |                            |            |         |            |        |
| Pig iron:  |                            |            |         |            |        |
| Foundry.....   | Ton                        | 3,156,157  | 95.1    | 2,414,579  | 40.8   |
| Basic.....   | do.                        | 44,947,995 | 1,356.9 | 26,386,348 | 448.3  |
| Bessemer.....  | do.                        | 6,850,065  | 209.8   | 5,172,653  | 98.8   |
| Low-phosphorus.....  | do.                        | 361,806    | 12.6    | 329,589    | 6.8    |
| Malleable.....   | do.                        | 2,787,901  | 88.4    | 1,438,583  | 27.8   |
| Charcoal and other (not ferro-alloys).....   | do.                        | 263,586    | 7.8     | 200,711    | 4.3    |

For footnotes, see end of table.

APPENDIX A

QUANTITY AND VALUE OF PRODUCTS USED IN CONSTRUCTING INDEXES OF PHYSICAL VOLUME OF PRODUCTION FOR MANUFACTURING INDUSTRIES: 1947 AND 1939<sup>1</sup>--Continued

(Money figures in millions of dollars)

| Industry and product  | Unit of measure | 1947        |         | 1939        |        |
|---|-----------------|-------------|---------|-------------|--------|
|   |                 | Quantity    | Value   | Quantity    | Value  |
| <b>3311 AND 3313 - BLAST FURNACES AND ELECTROMETALLURGICAL PRODUCTS--Continued</b>  |                 |             |         |             |        |
| Ferromanganese.....   | Ton             | 614,626     | \$80.0  | 302,524     | \$22.0 |
| Spiegeleisen.....   | do.             | 134,329     | 5.4     | 102,470     | 2.7    |
| Ferrosilicon.....   | do.             | 769,653     | 53.5    | 313,560     | 13.7   |
| Ferrotungsten.....  | do.             | 2,094       | 6.7     | 1,776       | 4.8    |
| Other ferro-alloys (except ferrophosphorus).....  | do.             | 260,009     | 75.2    | 85,741      | 20.4   |
| Blast-furnace gas (coal equivalent).....  | do.             | 10,072,830  | 52.9    | 6,817,285   | 21.1   |
| <b>3312, 3393, AND 3399 - STEEL WORKS AND ROLLING MILLS; WELDED AND HEAVY-RIVETED PIPE; AND PRIMARY METAL INDUSTRIES, N.E.C.</b>              |                 |             |         |             |        |
| Plates--carbon steel.....   | do.             | 5,690,817   | (d)     | 2,505,863   | 111.7  |
| Plates--alloy steel.....  | do.             | 173,632     | (d)     | 86,887      | 7.5    |
| Hot rolled sheets--carbon and alloy steel (including electrical and enameling).....   | do.             | 8,012,146   | 565.4   | 5,165,793   | 222.3  |
| Hot rolled sheets--galvanized.....  | do.             | 1,444,074   | 146.1   | (d)         | (d)    |
| Long ternes and terneplate.....   | do.             | 247,643     | 25.4    | 294,942     | 23.7   |
| Hot rolled strip--carbon and alloy steel.....   | do.             | 1,301,369   | 105.4   | 868,158     | 40.9   |
| Hot rolled strip--galvanized.....   | do.             | 57,461      | 9.5     | (d)         | (d)    |
| Cold rolled sheets.....   | do.             | 5,511,614   | 468.3   | 2,024,096   | 100.4  |
| Cold rolled strip.....  | do.             | 1,562,486   | 256.6   | 654,856     | 62.6   |
| Black plate.....  | do.             | 861,625     | 70.3    | 282,315     | 13.6   |
| Tin plate.....  | do.             | 3,681,505   | 403.7   | 2,560,721   | 235.9  |
| Hot rolled bars (including tool steel)--carbon steel.....   | do.             | 5,623,502   | 388.7   | 2,965,982   | 139.5  |
| Hot rolled bars (including tool steel)--alloy steel.....  | do.             | 1,908,612   | 233.3   | 757,386     | 71.6   |
| Hot rolled bars--stainless steel.....   | do.             | 23,723      | (d)     | 19,935      | 9.3    |
| Hot rolled concrete reinforcing bars.....   | do.             | 1,378,521   | (d)     | 1,225,409   | 44.7   |
| Cold finished bars.....   | do.             | 1,620,340   | 200.3   | 692,847     | 62.4   |
| Pipe and tubes:   |                 |             |         |             |        |
| Stainless steel.....  | do.             | 15,514      | 26.5    | 4,489       | 4.7    |
| Carbon and alloy steel:   |                 |             |         |             |        |
| Line pipe.....  | do.             | (d)         | (d)     | (d)         | (d)    |
| Oil country goods.....  | do.             | 1,433,023   | 154.8   | (d)         | (d)    |
| Mechanical and pressure tubing.....   | do.             | 1,092,935   | 216.9   | 413,685     | 66.0   |
| Standard and all other pipe and tubes.....  | do.             | (d)         | (d)     | 1,780,476   | 126.0  |
| Wire.....   | do.             | 2,472,979   | 313.8   | 1,375,262   | 110.8  |
| Structural shapes and piling.....   | do.             | 4,999,997   | 285.2   | 3,140,866   | 131.6  |
| Rails.....  | do.             | 2,436,442   | 137.5   | 1,316,272   | 48.2   |
| Rail joints and tie plates.....   | do.             | 759,587     | 50.0    | 517,420     | 25.2   |
| Wheels, rolled (including tires and rims).....  | do.             | 415,767     | 50.3    | 159,484     | 13.1   |
| <b>3321 - GRAY-IRON FOUNDRIES</b>   |                 |             |         |             |        |
| Chilled iron railroad-car wheels:   |                 |             |         |             |        |
| Made from manufacturer-owned metal.....   | do.             | 222,851     | 18.5    | 177,877     | 45.5   |
| Made on a conversion basis.....   | do.             | 529,761     | 44.0    | 339,132     | 10.4   |
| Cast iron pipe and fittings.....  | do.             | 1,613,119   | 162.6   | 1,274,273   | 69.4   |
| Miscellaneous gray-iron castings and ingot molds and stools for heavy steel ingots (except castings made and consumed in the same plant)..... | do.             | 6,957,915   | 1,032.2 | 3,482,774   | 287.0  |
| <b>3322 - MALLEABLE-IRON FOUNDRIES</b>  |                 |             |         |             |        |
| Malleable-iron castings.....  | do.             | 694,661     | 178.4   | 427,040     | 58.9   |
| <b>3323 - STEEL FOUNDRIES</b>   |                 |             |         |             |        |
| High alloy-steel castings.....  | do.             | 37,852      | 45.0    | 7,104       | 6.7    |
| Other steel castings.....   | do.             | 1,375,560   | 389.1   | 684,809     | 123.0  |
| <b>333 - PRIMARY NONFERROUS METALS</b>  |                 |             |         |             |        |
| Primary products:   |                 |             |         |             |        |
| Primary copper:   |                 |             |         |             |        |
| Smelter production.....   | do.             | 10,944,688  | 291.3   | 10,769,768  | 228.8  |
| Refinery production.....  | do.             | 101,159,970 | 268.1   | 101,009,515 | 221.1  |
| Refined primary lead.....   | do.             | 10,441,010  | 29.6    | 10,484,035  | 28.5   |
| Antimonial lead produced at primary lead refineries.....  | do.             | 1086,075    | 2.3     | 1021,995    | 20.5   |
| Primary slab zinc.....  | do.             | 10,802,495  | 247.3   | 10,507,236  | 220.7  |
| Primary aluminum.....   | do.             | 10,571,750  | 264.1   | 10,163,545  | 236.9  |
| Primary magnesium.....  | do.             | 1012,344    | 21.6    | 103,350     | 20.9   |
| Nickel.....   | do.             | 10646       | 20.04   | 10394       | 20.02  |
| Primary cadmium (metallic cadmium and cadmium in compounds).....  | M lbs.          | 108,508     | 23.8    | 104,790     | 21.0   |

For footnotes, see end of table.

## INDEXES OF PRODUCTION

QUANTITY AND VALUE OF PRODUCTS USED IN CONSTRUCTING INDEXES OF PHYSICAL VOLUME OF PRODUCTION FOR MANUFACTURING INDUSTRIES: 1947 AND 1939<sup>1</sup>--Continued

(Money figures in millions of dollars)

| Industry and product  | Unit of measure | 1947      |       | 1939      |       |
|---|-----------------|-----------|-------|-----------|-------|
|   |                 | Quantity  | Value | Quantity  | Value |
| <b>333 - PRIMARY NONFERROUS METALS--Continued</b>   |                 |           |       |           |       |
| Primary products--Continued   |                 |           |       |           |       |
| Gold from:  |                 |           |       |           |       |
| "Crude ore to smelters".....  | M fine ozs.     | 1087      | 20.3  | 10434     | 21.3  |
| "Concentrates smelted".....   | do.             | 10693     | 22.2  | 10875     | 22.7  |
| Silver from:  |                 |           |       |           |       |
| "Crude ore to smelters".....  | do.             | 105,790   | 20.4  | 1021,192  | 20.8  |
| "Concentrates smelted".....   | do.             | 1029,498  | 22.0  | 1037,825  | 21.4  |
| Secondary products:   |                 |           |       |           |       |
| Secondary copper produced by primary refineries.....  | Ton             | 10269,085 | 218.1 | 10116,613 | 22.1  |
| Refined lead produced from scrap at primary refineries.....   | do.             | 1015,662  | 20.3  | 1029,011  | 20.5  |
| Redistilled secondary zinc produced at primary smelters.....  | do.             | 1022,093  | 21.3  | 1023,471  | 21.0  |
| Copper sulfate produced by copper refineries.....   | do.             | 1024,600  | 20.7  | 1019,110  | 20.2  |
| Sulfuric acid (basis 100%):   |                 |           |       |           |       |
| Produced at copper and lead plants.....   | do.             | 10126,494 | 20.4  | 10193,840 | 20.3  |
| Produced at zinc-blende roasting plants:  |                 |           |       |           |       |
| From zinc blende.....   | do.             | 10598,703 | 26.1  | 10410,775 | 24.1  |
| From native sulfur.....   | do.             | 10266,104 | 22.7  | 1079,738  | 20.8  |
| <b>3361 - NONFERROUS FOUNDRIES</b>  |                 |           |       |           |       |
| Aluminum and aluminum-base alloy castings (except die castings).....  | do.             | 110,974   | 117.9 | 432,711   | 428.5 |
| Copper and copper-base alloy castings (except die castings).....  | do.             | 257,839   | 189.9 | 496,667   | 439.5 |
| <b>3411 - TIN CANS AND OTHER TINWARE</b>  |                 |           |       |           |       |
| Consumption of tin plate, terneplate, black plate, and carbon-steel sheet and strip.....                                    | M tons          | 3,098     | ...   | 81,961    | ...   |
| <b>3421 - CUTLERY</b>   |                 |           |       |           |       |
| Safety razors.....  | M units         | 20,092    | 9.6   | 10,457    | 1.6   |
| Razor blades.....   | do.             | 2,759,183 | 50.3  | 1,958,659 | 17.6  |
| Pocket knives.....  | do.             | 31,340    | 17.5  | 111,493   | 5.2   |
| <b>3424 - FILES</b>   |                 |           |       |           |       |
| Metalworking files and rasps.....   | do.             | 112,483   | 22.8  | 81,393    | 10.7  |
| <b>3432 - OIL BURNERS</b>   |                 |           |       |           |       |
| Residential oil burners for central heating units, shipped separately.....  | Units           | 925,014   | 88.3  | (d)       | (d)   |
| Commercial and industrial oil burners, shipped separately.....  | do.             | 48,930    | 14.9  | (d)       | (d)   |
| Range-type oil burners, shipped separately (sleeve- and pot-type burners for use in water heaters, stoves, and ranges)..... | do.             | 682,219   | 4.7   | 160,453   | 1.2   |
| <b>3439 - HEATING AND COOKING APPARATUS, N.E.C.</b>   |                 |           |       |           |       |
| Steam and hot water heating equipment:  |                 |           |       |           |       |
| Cast-iron heating boilers.....  | do.             | 248,488   | 48.3  | 2157,425  | 15.1  |
| Steel heating boilers.....  | do.             | 117,627   | 40.8  | 28,855    | 8.1   |
| Warm-air furnaces.....  | do.             | 885,149   | 148.6 | 2482,326  | 35.3  |
| Domestic heating stoves:  |                 |           |       |           |       |
| Gas.....  | do.             | 2,752,465 | 40.9  | 2818,681  | 5.6   |
| Wood (sheet metal air-tight type).....  | do.             | 636,209   | 2.1   | 474,450   | 1.4   |
| Coal and wood (other than sheet metal air-tight type).....  | do.             | 669,439   | 15.4  | 398,319   | 7.9   |
| Kerosene, gasoline, and fuel oil.....   | do.             | 2,420,216 | 87.9  | 719,463   | 12.5  |
| Domestic cooking stoves, ranges, and appliances (except electric):  |                 |           |       |           |       |
| Gas ranges and bungalow ranges.....   | do.             | 2,338,705 | 187.1 | 1,502,301 | 63.8  |
| Coal and wood.....  | do.             | 449,356   | 23.9  | 636,151   | 20.1  |
| Combination ranges (except bungalow ranges).....  | do.             | 171,517   | 26.0  | 102,260   | 9.7   |
| Kerosene, gasoline, and fuel oil.....   | do.             | 559,579   | 20.6  | 1,158,952 | 14.4  |
| Gas hot plates.....   | do.             | 167,318   | 0.8   | 137,848   | 0.5   |
| Direct fired water heaters, except electric:  |                 |           |       |           |       |
| Gas, underfired storage.....  | do.             | 1,809,159 | 84.8  | 498,905   | 15.0  |
| Gas, side arm, less tank.....   | do.             | 258,560   | 2.5   | 407,455   | 2.5   |
| Oil.....  | do.             | 282,423   | 13.8  | 67,213    | 1.4   |
| Coal or wood.....   | do.             | 91,347    | 1.4   | 297,064   | 2.5   |
| Other heating and cooking equipment:  |                 |           |       |           |       |
| Gas burners for residential heating equipment, for sale separately.....   | do.             | 54,616    | 3.4   | 244,723   | 1.9   |
| Unit heaters.....   | do.             | 404,611   | 39.2  | 2116,835  | 8.7   |
| Range boilers.....  | do.             | 691,252   | 7.4   | 999,329   | 6.7   |
| Tanks for water heaters, sold separately.....   | do.             | 1,041,022 | 12.9  | 265,637   | 2.5   |

For footnotes, see end of table.

QUANTITY AND VALUE OF PRODUCTS USED IN CONSTRUCTING INDEXES OF PHYSICAL VOLUME OF PRODUCTION FOR MANUFACTURING INDUSTRIES: 1947 AND 1939<sup>1</sup>--Continued

(Money figures in millions of dollars)

| Industry and product  | Unit of measure | 1947        |        | 1939       |        |
|---|-----------------|-------------|--------|------------|--------|
|   |                 | Quantity    | Value  | Quantity   | Value  |
| <b>3441 - STRUCTURAL AND ORNAMENTAL PRODUCTS</b>  |                 |             |        |            |        |
| Fabricated structural iron and steel for:   |                 |             |        |            |        |
| Bridges.....  | Ton             | 275,657     | \$42.2 | 2408,517   | \$36.9 |
| Buildings.....  | do.             | 2,189,267   | 379.1  | 1,173,762  | 102.4  |
| Ships, boats, barges, and other structures.....   | do.             | 2562,099    | 100.0  | 2330,709   | 31.5   |
| Ornamental iron and steel metal work:   |                 |             |        |            |        |
| Grille work, stairs, staircases, fire escapes, and railings.....  | do.             | (n)         | 38.2   | (n)        | 10.8   |
| Gratings, flooring, and other ornamental work.....  | do.             | (n)         | 20.3   | (n)        | 14.1   |
| Ornamental nonferrous metal work.....   | do.             | (n)         | 10.8   | (n)        | 5.5    |
| Fabricated concrete reinforcing bars.....   | do.             | 560,314     | 54.1   | 2362,038   | 19.1   |
| <b>3442 - METAL DOORS, SASH, AND TRIM</b>   |                 |             |        |            |        |
| Consumption of steel-mill shapes and forms (except carbon-steel wire and all other carbon-steel shapes and forms).....      | do.             | 342,991     | ...    | 2117,292   | ...    |
| <b>3443 - BOILER SHOP PRODUCTS</b>  |                 |             |        |            |        |
| Consumption of steel-mill shapes and forms (except carbon-steel wire and all other carbon-steel mill shapes and forms)..... | do.             | 2,187,686   | ...    | 2778,389   | ...    |
| <b>3489 - WIREWORK, N.E.C.</b>  |                 |             |        |            |        |
| Iron and steel wire rope and cable.....   | do.             | 174,678     | 75.2   | 98,486     | 35.8   |
| Iron and steel strand, including guard-rail cable.....  | do.             | 66,538      | 17.3   | 40,934     | 6.0    |
| Fencing and fence gates.....  | do.             | 488,064     | 63.3   | 318,963    | 25.4   |
| Woven wire netting (poultry, fur farm, stucco, etc.).....   | do.             | 86,108      | 17.6   | 54,252     | 7.0    |
| Welded steel wire concrete reinforcing mesh.....  | do.             | 209,491     | 22.4   | 167,838    | 10.9   |
| Barbed and twisted wire.....  | do.             | 257,781     | 27.3   | 230,765    | 13.8   |
| Wire bale ties.....   | do.             | 159,202     | 18.2   | 84,783     | 5.9    |
| Wire tire chain.....  | do.             | 48,729      | 16.5   | 20,670     | 4.1    |
| Other wire chain.....   | do.             | 66,540      | 19.7   | 28,030     | 5.2    |
| Wire garment hangers.....   | M lbs.          | 103,091     | 11.0   | 234,774    | 1.8    |
| <b>3491 - METAL BARRELS, DRUMS, AND PAILS</b>   |                 |             |        |            |        |
| Consumption of steel-mill shapes and forms (except carbon-steel bars and bar shapes, structural shapes, and wire).....      | Ton             | 868,773     | ...    | 452,979    | ...    |
| <b>3493 - STEEL SPRINGS</b>   |                 |             |        |            |        |
| Leaf springs.....   | do.             | 396,653     | 85.7   | 2237,351   | 28.8   |
| Helical springs, hot wound.....   | do.             | 98,686      | 21.3   | 240,239    | 5.1    |
| <b>3494 - BOLTS, NUTS, WASHERS, AND RIVETS</b>  |                 |             |        |            |        |
| Ferrous bolts, nuts, rods, lag screws, and studs.....   | M lbs.          | (n)         | 190.7  | 2907,687   | 65.4   |
| Ferrous and nonferrous metal cap and set screws.....  | M pieces        | 24,736,036  | 57.8   | 21,585,093 | 10.6   |
| Ferrous machine screws and stove bolts.....   | do.             | 214,945,438 | 32.2   | 27,840,503 | 8.3    |
| Nonferrous metal machine screws and stove bolts.....  | do.             | 22,934,042  | 9.2    | 2840,811   | 2.4    |
| Ferrous and nonferrous sheet metal and tapping screws (thread forming screws).....  | do.             | 27,394,995  | 17.2   | 21,933,789 | 3.5    |
| Ferrous wood and drive screws.....  | M gross         | 263,411     | 20.2   | 239,760    | 6.0    |
| Nonferrous metal wood and drive screws.....   | do.             | 7,259       | 4.8    | 23,162     | 1.1    |
| Ferrous flat plate washers.....   | M lbs.          | 93,182      | 11.2   | 63,065     | 3.7    |
| Ferrous rivets.....   | M tons          | (n)         | 32.4   | 2142       | 13.6   |
| <b>3519 - INTERNAL-COMBUSTION ENGINES</b>   |                 |             |        |            |        |
| Gasoline and other carburetor engines, except outboard:   |                 |             |        |            |        |
| 5.9 hp and under.....   | Units           | (d)         | (d)    | 215,228    | (n)    |
| 6.0-10.9 hp.....  | do.             | (d)         | (d)    | 13,472     | (n)    |
| 11.0-20.9 hp.....   | do.             | (d)         | (d)    | 19,389     | (n)    |
| 21.0-50.9 hp.....   | do.             | (d)         | (d)    | 56,870     | (n)    |
| 51.0-100.9 hp.....  | do.             | (d)         | (d)    | 39,530     | (n)    |
| 101.0 hp and over.....  | do.             | (d)         | (d)    | 3,971      | (n)    |
| Outboard engines:   |                 |             |        |            |        |
| 5.9 hp and under.....   | do.             | 442,015     | 33.5   | 287,964    | (n)    |
| 60 hp and over.....   | do.             | 142,443     | 16.7   | 242,817    | (n)    |
| Diesel and semi-Diesel engines:   |                 |             |        |            |        |
| 50.9 hp and under.....  | do.             | (d)         | (d)    | 5,733      | (n)    |
| 51.0-100.9 hp.....  | do.             | (d)         | (d)    | 6,255      | (n)    |
| 101.0-200.9 hp.....   | do.             | (d)         | (d)    | 6,301      | (n)    |
| 201.0-400.9 hp.....   | do.             | (d)         | (d)    | 482        | (n)    |
| 401.0-600.9 hp.....   | do.             | (d)         | (d)    | 176        | (n)    |
| 601.0-1,000.9 hp.....   | do.             | (d)         | (d)    | 181        | (n)    |
| 1,001.0 hp and over.....  | do.             | (d)         | (d)    | 135        | (n)    |

For footnotes, see end of table.

## INDEXES OF PRODUCTION

QUANTITY AND VALUE OF PRODUCTS USED IN CONSTRUCTING INDEXES OF PHYSICAL VOLUME OF PRODUCTION FOR MANUFACTURING INDUSTRIES: 1947 AND 1939<sup>1</sup>--Continued

(Money figures in millions of dollars)

| Industry and product   | Unit of measure | 1947     |         | 1939     |        |
|--|-----------------|----------|---------|----------|--------|
|  |                 | Quantity | Value   | Quantity | Value  |
| 3521 - TRACTORS  |                 |          |         |          |        |
| Wheel-type complete tractors:                                  |                 |          |         |          |        |
| All purpose:   |                 |          |         |          |        |
| 8 and under 30 belt hp.....                                    | Units           | 301,435  | \$214.5 | 149,195  | \$83.1 |
| 30 and under 45 belt hp.....                                   | do.             | 64,622   | 64.3    | 9,390    | 7.3    |
| Other:   |                 |          |         |          |        |
| 8 and under 25 belt hp.....                                    | do.             | 16,446   | 12.2    | 11,248   | 6.7    |
| 25 and over belt hp.....                                       | do.             | 46,162   | 58.3    | 15,725   | 13.8   |
| Track-laying type complete tractors:                           |                 |          |         |          |        |
| 49 and under drawbar hp.....                                   | do.             | 21,608   | 48.5    | 13,284   | 19.2   |
| 50 and over drawbar hp.....                                    | do.             | 15,926   | 85.8    | 6,843    | 26.1   |
| Complete garden tractors (including motor tillers).....        | do.             | 172,252  | 33.2    | 9,777    | 1.4    |
| 3522 - FARM MACHINERY (EXCEPT TRACTORS)                        |                 |          |         |          |        |
| Plows and listers:   |                 |          |         |          |        |
| Moldboard plows:   |                 |          |         |          |        |
| Horse drawn:   |                 |          |         |          |        |
| Walking.....   | do.             | 197,432  | 2.0     | 166,538  | 1.3    |
| Sulky type and gang type, 2-bottom and larger.....             | do.             | 1,682    | 0.2     | 4,260    | 0.3    |
| Tractor drawn, 1-way and 2-way.....                            | do.             | 140,449  | 12.4    | 104,458  | 8.1    |
| Disc plows, drawn:   |                 |          |         |          |        |
| 1-disc.....  | do.             | 968      | (s)     | 949      | 0.1    |
| 2-disc.....  | do.             | 2,982    | 0.3     | 3,378    | 0.3    |
| 3-disc.....  | do.             | 2,104    | 0.4     | 1,736    | 0.3    |
| 4-disc.....  | do.             | 1,803    | 0.5     | 784      | 0.2    |
| 5-disc.....  | do.             | 1,272    | 0.4     | 491      | 0.1    |
| 6-disc and larger.....   | do.             | 1,120    | 0.5     | 474      | 0.1    |
| One-way disc plows or tillers.....                             | do.             | 26,215   | 7.3     | 10,320   | 1.7    |
| Plowlocks.....   | do.             | 66,925   | 0.2     | 47,036   | 0.1    |
| Drawn listers, without planting attachments.....               | do.             | 11,500   | 0.2     | 16,316   | 0.7    |
| Plowshares.....  | M pounds        | 59,293   | 8.2     | 20,534   | 2.0    |
| Harrows, rollers, pulverizers, and stalk cutters:              |                 |          |         |          |        |
| Harrows:   |                 |          |         |          |        |
| Spike-tooth harrow sections.....                               | Units           | 355,916  | 4.9     | 141,268  | 1.1    |
| Spring-tooth harrow sections and heavy duty harrows..          | do.             | 124,993  | 2.1     | 78,106   | 0.9    |
| Disc harrows, field type, heavy duty, brush, and bog type..... | do.             | 247,359  | 30.7    | 91,375   | 6.8    |
| Soil pulverizers and packers.....                              | do.             | 26,658   | 2.7     | 11,057   | 0.6    |
| Stalk cutters.....   | do.             | 24,043   | 1.7     | 5,436    | 0.2    |
| Planting, seeding, and fertilizing machinery:                  |                 |          |         |          |        |
| Corn planters, drawn:  |                 |          |         |          |        |
| 1-row.....   | do.             | 13,113   | 0.2     | 16,243   | 0.3    |
| 2-row.....   | do.             | 28,433   | 2.6     | 29,664   | 1.7    |
| 3-row and larger.....  | do.             | 6,751    | 1.4     | 1,704    | 0.2    |
| Corn and cotton planters:                                      |                 |          |         |          |        |
| Drawn:   |                 |          |         |          |        |
| 1-row.....   | do.             | 21,637   | 0.5     | 33,532   | 0.5    |
| 2-row and larger.....  | do.             | 4,403    | 0.3     | 6,000    | 0.4    |
| Mounted.....   | do.             | 22,205   | 1.6     | 2,704    | 0.1    |
| Listers with planting attachments.....                         | do.             | 18,221   | 2.2     | 3,316    | 0.3    |
| Potato planters, drawn or mounted.....                         | do.             | 4,556    | 1.1     | 2,942    | 0.3    |
| Beet and bean drills.....                                      | do.             | 3,127    | 0.7     | 776      | 0.1    |
| Hand--wheel-type--garden or vegetable planters.....            | do.             | 51,442   | 0.3     | 51,945   | 0.2    |
| Transplanters, drawn or mounted.....                           | do.             | 6,024    | 1.0     | 1,932    | 0.2    |
| Grain drills, including legume planters.....                   | do.             | 50,236   | 10.6    | 26,458   | 3.4    |
| Broadcast seeders:   |                 |          |         |          |        |
| Hand-type.....   | do.             | 156,352  | 0.2     | 89,296   | 0.1    |
| End-gate and drawn.....  | do.             | 15,053   | 0.4     | 11,249   | 0.2    |
| Drawn or mounted fertilizer distributors.....                  | do.             | 100,524  | 3.6     | 38,334   | 0.5    |
| Lime spreaders, wheel-type, drawn.....                         | do.             | 23,877   | 1.9     | 6,103    | 0.2    |
| Manure spreaders, 2-wheel and 4-wheel.....                     | do.             | 61,222   | 11.2    | 34,291   | 4.2    |

For footnotes, see end of table.

QUANTITY AND VALUE OF PRODUCTS USED IN CONSTRUCTING INDEXES OF PHYSICAL VOLUME OF PRODUCTION FOR MANUFACTURING INDUSTRIES: 1947 AND 1939<sup>1</sup>--Continued

(Money figures in millions of dollars)

| Industry and product  | Unit of measure | 1947      |       | 1939     |       |
|---|-----------------|-----------|-------|----------|-------|
|   |                 | Quantity  | Value | Quantity | Value |
| 3522 - FARM MACHINERY (EXCEPT TRACTORS)--Continued                      |                 |           |       |          |       |
| Cultivators and weeders:  |                 |           |       |          |       |
| Corn and cotton type cultivators:                                       |                 |           |       |          |       |
| Horse-drawn:  |                 |           |       |          |       |
| 1-horse.....  | Units           | 90,063    | \$0.6 | 85,208   | \$0.7 |
| 2-horse:  |                 |           |       |          |       |
| Walking, 1-row.....   | do.             | 6,998     | 0.4   | 17,484   | 0.5   |
| Riding, 1-row.....  | do.             | 1,141     | 0.1   | 17,316   | 0.7   |
| Mounted.....  | do.             | 202,931   | 19.0  | 70,652   | 6.1   |
| Beet, bean, vegetable, and garden cultivators,<br>drawn or mounted..... | do.             | 7,138     | 0.4   | 2,993    | 0.2   |
| Rotary hoes and cultivators, drawn or mounted.....                      | do.             | 30,791    | 2.3   | 3,486    | 0.2   |
| Field cultivators, drawn or mounted.....                                | do.             | 34,339    | 3.5   | 6,994    | 0.8   |
| Hand cultivators, wheel-type.....                                       | do.             | 545,477   | 2.0   | 210,857  | 0.4   |
| Rod weeders, drawn or mounted, except flame.....                        | do.             | 5,968     | 0.6   | 4,151    | 0.2   |
| Sprayers and dusters:   |                 |           |       |          |       |
| Power sprayers.....   | do.             | 37,976    | 17.7  | 8,045    | 2.0   |
| Spray-pumps, power driven.....  | do.             | 5,854     | 1.2   | 2,221    | 0.3   |
| Dusters:  |                 |           |       |          |       |
| Orchard, tree, field, and row-crop.....                                 | do.             | 14,453    | 2.7   | 1,795    | 0.2   |
| Traction.....   | do.             | 5,203     | 0.5   | 1,575    | 0.1   |
| Hand-type.....  | do.             | 1,053,086 | 1.5   | 132,320  | 0.2   |
| Harvesting machinery:   |                 |           |       |          |       |
| Combines (harvester-threshers):   |                 |           |       |          |       |
| Pull-type--6 ft. and under.....   | do.             | 59,331    | 44.1  | 26,519   | 12.1  |
| Pull-type--larger than 6 ft.--and self-propelled.....                   | do.             | 17,569    | 31.7  | 8,530    | 9.3   |
| Grain binders, including rice binders.....                              | do.             | 9,393     | 2.8   | 17,105   | 3.2   |
| Corn pickers.....   | do.             | 67,162    | 36.5  | 13,878   | 6.6   |
| Potato diggers:   |                 |           |       |          |       |
| Walking, plow-type.....   | do.             | 288       | (a)   | 936      | (s)   |
| Drawn, 1- and 2-row.....  | do.             | 5,853     | 1.7   | 2,250    | 0.4   |
| Beet lifters.....   | do.             | 2,572     | 0.3   | 1,652    | 0.1   |
| Pea and bean cutters or pullers.....                                    | do.             | 292       | (s)   | 956      | 0.1   |
| Forage harvesters (field and row type), including<br>hay choppers.....  | do.             | 15,596    | 11.2  | 440      | 0.2   |
| Haying machinery:   |                 |           |       |          |       |
| Mowers, drawn.....  | do.             | 53,244    | 5.6   | 84,270   | 5.9   |
| Rakes:  |                 |           |       |          |       |
| Sulky (dump).....   | do.             | 34,135    | 1.9   | 28,104   | 0.9   |
| Side delivery (including combination side rakes<br>and tedders).....    | do.             | 59,480    | 7.4   | 18,248   | 1.6   |
| Sweep or buck (horse or tractor drawn).....                             | do.             | 21,333    | 1.3   | 5,479    | 0.3   |
| Loose hay loaders.....  | do.             | 16,597    | 2.4   | 15,625   | 1.5   |
| Hay stackers (stationary and combination).....                          | do.             | 7,854     | 1.6   | 1,368    | 0.1   |
| Pick-up hay balers, wire and twine.....                                 | do.             | 26,934    | 33.1  | 410      | 0.5   |
| Stationary hay and straw balers.....                                    | do.             | 6,749     | 2.3   | 4,326    | 1.3   |
| Machines for preparing crops for market or for use:                     |                 |           |       |          |       |
| Stationary threshers:   |                 |           |       |          |       |
| Grain, rice, and alfalfa:   |                 |           |       |          |       |
| Under 28-inch cylinder.....   | do.             | 1,083     | 1.0   | 1,505    | 1.2   |
| 28-inch cylinder and larger.....  | do.             | 346       | 0.4   | 1,922    | 1.9   |
| Pea and bean.....   | do.             | 97        | 0.1   | 276      | 0.1   |
| Peanut pickers and threshers.....                                       | do.             | 2,277     | 1.4   | 633      | 0.3   |
| Corn shellers:  |                 |           |       |          |       |
| Hand.....   | do.             | 50,048    | 0.2   | 51,400   | 0.2   |
| Power (cylinder).....   | do.             | 25,499    | 2.8   | 7,792    | 0.9   |
| Ensilage cutters (silo fillers).....                                    | do.             | 12,957    | 4.1   | 9,516    | 2.0   |
| Corn huskers and combination corn husker-shredders.....                 | do.             | 1,503     | 0.9   | 1,757    | 0.8   |
| Feed cutters (hand or power).....                                       | do.             | 1,000     | 0.1   | 1,280    | (s)   |
| Feed grinders and crushers:   |                 |           |       |          |       |
| Hand.....   | do.             | 8,661     | (s)   | 27,811   | 0.1   |
| Power:  |                 |           |       |          |       |
| Hammermills and combination roughage mills (farm<br>size).....          | do.             | 89,144    | 11.0  | 42,901   | 4.4   |
| Burr mills (farm size).....   | do.             | 11,626    | 0.6   | 8,288    | 0.3   |

For footnotes, see end of table.

## INDEXES OF PRODUCTION

QUANTITY AND VALUE OF PRODUCTS USED IN CONSTRUCTING INDEXES OF PHYSICAL VOLUME OF PRODUCTION FOR MANUFACTURING INDUSTRIES: 1947 AND 1939<sup>1</sup>--Continued

(Money figures in millions of dollars)

| Industry and product   | Unit of measure    | 1947       |       | 1939       |       |
|--|--------------------|------------|-------|------------|-------|
|  |                    | Quantity   | Value | Quantity   | Value |
| 3522 - FARM MACHINERY (EXCEPT TRACTORS)--Continued                                 |                    |            |       |            |       |
| Machines for preparing crops for market or for use--                               |                    |            |       |            |       |
| Continued  |                    |            |       |            |       |
| Maple syrup furnaces.....  | Units              | 425        | \$0.1 | 287        | (s)   |
| Grain and corn graders and cleaners (farm size).....                               | do.                | 19,289     | 0.9   | 3,325      | \$0.4 |
| Potato sorters and graders (farm size).....  | do.                | 1,622      | 0.5   | 1,604      | 0.1   |
| Cane mills (farm size).....  | do.                | 2,582      | 0.3   | 2,104      | 0.1   |
| Barnyard equipment:  |                    |            |       |            |       |
| Animal stock tanks.....  | do.                | 141,215    | 2.6   | 97,343     | 1.3   |
| Livestock outside-watering bowls.....  | do.                | 3,698      | (s)   | 6,571      | 0.1   |
| Livestock feeders.....   | do.                | 67,767     | 2.0   | 72,356     | 0.8   |
| Farm and poultry equipment:  |                    |            |       |            |       |
| Incubators:  |                    |            |       |            |       |
| 1,000-egg capacity and smaller.....  | Total egg capacity | 1,352,135  | 0.1   | 2,018,646  | 0.2   |
| 1,001-egg capacity and larger.....   | do.                | 34,999,442 | 3.7   | 28,998,603 | 2.5   |
| Brooders:  |                    |            |       |            |       |
| Floor:   |                    |            |       |            |       |
| Electric.....  | Units              | 130,086    | 2.1   | 91,741     | 1.0   |
| Oil.....   | do.                | 148,475    | 1.7   | 133,967    | 1.2   |
| Coal.....  | do.                | 23,666     | 0.4   | 42,529     | 0.5   |
| Gas.....   | do.                | 31,009     | 0.6   | 3,806      | (s)   |
| Battery:   |                    |            |       |            |       |
| 1-2 deck.....  | do.                | 51,956     | 0.4   | 1,318      | (s)   |
| 3 deck.....  | do.                | 3,896      | 0.1   | 1,959      | (s)   |
| 4 deck.....  | do.                | 939        | 0.1   | 1,152      | 0.1   |
| 5 deck and larger.....   | do.                | 14,336     | 1.5   | 7,125      | 0.6   |
| Growing batteries.....   | do.                | 15,989     | 0.6   | 9,775      | 0.3   |
| Poultry feeders.....   | do.                | 4,786,496  | 3.1   | 3,376,389  | 1.0   |
| Poultry waterers.....  | do.                | 3,299,436  | 2.3   | 4,513,681  | 1.0   |
| Farm dairy machines and equipment:   |                    |            |       |            |       |
| Mechanical milking equipment.....  | do.                | 242,533    | 15.0  | 24,492     | 1.5   |
| Cream separators (hand or power operated):   |                    |            |       |            |       |
| 500 lbs. and under per hour.....   | do.                | 52,257     | 1.9   | 38,350     | 0.9   |
| 501 lbs.-1,500 lbs. per hour.....  | do.                | 50,549     | 5.4   | 26,173     | 1.6   |
| Barn equipment:  |                    |            |       |            |       |
| Feed carriers (overhead), and litter carriers.....                                 | do.                | 10,720     | 0.5   | 3,619      | 0.1   |
| Track for feed and litter carrier systems.....                                     | M feet             | 920        | 0.2   | 1,680      | 0.3   |
| Feed trucks.....   | Units              | 7,510      | 0.4   | 992        | (s)   |
| Hay carriers.....  | do.                | 56,227     | 0.8   | 38,147     | 0.3   |
| Hay forks (harpoon and grapple).....   | do.                | 83,930     | 0.8   | 39,479     | 0.2   |
| Hay slings--rope or chain, and slat.....   | do.                | 39,731     | 0.1   | 21,479     | (s)   |
| Cattle stalls with and without stanchions.....                                     | do.                | 263,230    | 2.7   | 95,643     | 0.6   |
| Stanchions shipped separately.....   | do.                | 541,685    | 1.7   | 280,834    | 0.7   |
| Livestock water bowls, inside.....   | do.                | 550,325    | 1.7   | 200,742    | 0.4   |
| Lawn mowers:   |                    |            |       |            |       |
| Hand (reel type).....  | do.                | 2,209,126  | 30.4  | 1,271,664  | 6.5   |
| Power.....   | do.                | 362,339    | 36.5  | 34,575     | 3.3   |
| Farm pumps:  |                    |            |       |            |       |
| Windmill heads.....  | do.                | \$39,076   | \$2.4 | \$52,706   | \$2.1 |
| Windmill towers.....   | do.                | \$22,269   | \$1.4 | \$17,418   | \$0.8 |
| 3541 - MACHINE TOOLS   |                    |            |       |            |       |
| Boring machines:   |                    |            |       |            |       |
| Horizontal boring, drilling, and milling machines.....                             | do.                | 367        | 9.7   | 341        | 5.3   |
| Vertical boring and turning mills (including vertical turret lathes).....          | do.                | 331        | 7.8   | 417        | 5.6   |
| Precision- and jig-boring machines.....  | do.                | 663        | 7.4   | 702        | 2.9   |
| Other boring machines.....   | do.                | 83         | 1.0   | 33         | 0.4   |
| Drilling machines (including light industrial types):                              |                    |            |       |            |       |
| Sensitive drilling machines:   |                    |            |       |            |       |
| Bench type.....  | Number of spindles | 2,826      | 0.5   | 413,011    | 1.0   |
| Floor and pedestal type.....   | do.                | 11,072     | 4.7   | 43,894     | 1.2   |
| Vertical (upright) drilling machines - standard and heavy duty single-spindle..... | Units              | 3,245      | 3.1   | 693        | 0.9   |
| Multiple-spindle drilling machines, way and special types.....                     | do.                | 1,139      | 16.5  | 738        | 2.1   |

For footnotes, see end of table.

QUANTITY AND VALUE OF PRODUCTS USED IN CONSTRUCTING INDEXES OF PHYSICAL VOLUME OF PRODUCTION FOR MANUFACTURING INDUSTRIES: 1947 AND 1939<sup>1</sup>--Continued

(Money figures in millions of dollars)

| Industry and product   | Unit of measure | 1947     |       | 1939     |       |
|--|-----------------|----------|-------|----------|-------|
|  |                 | Quantity | Value | Quantity | Value |
| 3541 - MACHINE TOOLS--Continued  |                 |          |       |          |       |
| Gear cutting and finishing machines:   |                 |          |       |          |       |
| Gear hobbing machines.....   | Units           | 499      | \$5.6 | 426      | \$2.4 |
| Gear shapers, cutters (including planer type), generators, and gear finishing machines (including honing, lapping, and gear-tooth grinding machines, etc.) | do.             | 1,183    | 12.1  | 1,304    | 8.8   |
| Grinding and polishing machines (except gear-tooth grinding, honing, lapping, polishing, and buffing machines), including light industrial types:          |                 |          |       |          |       |
| External cylindrical grinding machines:  |                 |          |       |          |       |
| Plain.....   | do.             | 480      | 5.3   | 1,131    | 7.0   |
| Universal.....   | do.             | 289      | 2.0   | 569      | 2.4   |
| Internal cylindrical grinding machines (including centerless).....   | do.             | 359      | 4.2   | 1,028    | 7.4   |
| Surface grinding machines.....   | do.             | 3,384    | 8.9   | 2,436    | 4.7   |
| Disc, bench, floor, and snag grinding machines:  |                 |          |       |          |       |
| Disc grinders.....   | do.             | 526      | 2.4   | 434      | 0.5   |
| Bench, floor, and snag grinders.....   | do.             | 70,187   | 4.5   | 46,663   | 0.3   |
| Tool and cutter grinding machines.....   | do.             | 3,303    | 4.4   | 1,433    | 2.1   |
| Lapping machines (except gear lapping).....  | do.             | 135      | 0.6   | 218      | 0.5   |
| Polishing and buffing machines.....  | do.             | 6,648    | 4.3   | 4,357    | 0.3   |
| Lathes (including light industrial types):   |                 |          |       |          |       |
| Bench lathes (except bench turret lathes).....   | do.             | 17,528   | 4.3   | 15,191   | 2.3   |
| Engine lathes (manufacturing and tool-room lathes):  |                 |          |       |          |       |
| Up to and including 16" swing.....   | do.             | 9,061    | 19.6  | 4,756    | 6.8   |
| 17"-36" swing.....   | do.             | 2,086    | 12.7  | 1,542    | 5.2   |
| Over 36" swing.....  | do.             | 42       | 1.2   | 125      | 1.1   |
| Gap lathes.....  | do.             | 118      | 0.5   | 134      | 0.4   |
| Turret lathes (except vertical turret lathes):   |                 |          |       |          |       |
| Ram type.....  | do.             | 1,026    | 5.1   | 1,937    | 7.5   |
| Saddle type.....   | do.             | 334      | 3.8   | 723      | 5.5   |
| Automatic chucking lathes, between-center lathes, and screw (bar) machines.....  | do.             | 4,440    | 34.4  | 2,877    | 18.6  |
| Milling machines (including light industrial types):   |                 |          |       |          |       |
| Planer type milling machines.....  | do.             | 20       | 1.2   | 126      | 2.1   |
| Thread milling machines.....   | do.             | 79       | 0.8   | 206      | 1.1   |
| Other machine tools, except those designed primarily for home workshops, laboratories, garages, service shops, and model makers:                           |                 |          |       |          |       |
| Broaching machines.....  | do.             | 532      | 5.0   | 470      | 2.3   |
| Keyseating machines.....   | do.             | 282      | 0.4   | 402      | 0.1   |
| Planers:   |                 |          |       |          |       |
| Openside.....  | do.             | 81       | 2.0   | 59       | 1.0   |
| Other planers (including double housing, plate, plit, etc.).....   | do.             | 71       | 2.0   | 102      | 3.5   |
| Shapers (except gear shapers), horizontal crank type...  | do.             | 1,787    | 6.9   | 1,163    | 1.9   |
| Sawing and cut-off machines.....   | do.             | 11,459   | 5.6   | 1,585    | 0.9   |
| Tapping machines.....  | do.             | 845      | 2.8   | 623      | 0.8   |
| Threading machines (except thread milling machines or thread grinding machines):   |                 |          |       |          |       |
| Pipe threading.....  | do.             | 17,060   | 5.0   | 43,738   | 1.1   |
| Other threading machines (including bolt threading)...   | do.             | 618      | 2.4   | 341      | 0.6   |
| 3562 - ELEVATORS AND ESCALATORS  |                 |          |       |          |       |
| Electric passenger elevators (except residence lifts)....  | do.             | 2,682    | 25.3  | (n)      | (n)   |
| Freight elevators.....   | do.             | 4,052    | 22.7  | 41,797   | 4.5   |
| Automobile lifts (service-station and garage type).....  | do.             | 42,920   | 13.6  | 18,332   | 4.3   |
| 3568 - MECHANICAL STOKERS  |                 |          |       |          |       |
| Mechanical stokers, by capacity:   |                 |          |       |          |       |
| 100 lbs. and under (classes I and II).....   | do.             | 61,765   | 48.5  | 90,902   | 11.7  |
| 101 lbs. and over (classes III, IV, and V).....  | do.             | 7,312    | 49.7  | 10,049   | 8.6   |
| 3571 - COMPUTING AND RELATED MACHINES  |                 |          |       |          |       |
| Computing machines and cash registers:   |                 |          |       |          |       |
| Accounting and bookkeeping machines (including billing machines with accounting registers).....  | do.             | 40,539   | 50.2  | 13,076   | 49.2  |
| Adding machines.....   | do.             | 342,561  | 47.2  | 131,726  | 47.7  |
| Calculating machines.....  | do.             | 122,879  | 37.6  | 31,578   | 46.5  |
| Cash registers.....  | do.             | (d)      | (d)   | (d)      | (d)   |

For footnotes, see end of table.

## INDEXES OF PRODUCTION

QUANTITY AND VALUE OF PRODUCTS USED IN CONSTRUCTING INDEXES OF PHYSICAL VOLUME OF PRODUCTION FOR MANUFACTURING INDUSTRIES: 1947 AND 1939<sup>1</sup>--Continued

(Money figures in millions of dollars)

| Industry and product  | Unit of measure | 1947      |        | 1939     |        |
|---|-----------------|-----------|--------|----------|--------|
|   |                 | Quantity  | Value  | Quantity | Value  |
| <b>3572 - TYPEWRITERS</b>   |                 |           |        |          |        |
| Standard typewriters, except portable (including noiseless and electric).....   | Units           | 865,955   | \$93.7 | 484,440  | \$23.0 |
| Portable typewriters.....   | do.             | 626,731   | 30.7   | 432,850  | 9.4    |
| <b>3581 - DOMESTIC LAUNDRY EQUIPMENT</b>  |                 |           |        |          |        |
| Household laundry equipment:  |                 |           |        |          |        |
| Washing machines, mechanical:   |                 |           |        |          |        |
| Small size.....   | M units         | 408       | 8.0    | 11       | 0.1    |
| Standard size nonautomatic, electrically driven.....  | do.             | (d)       | (d)    | 1,382    | 48.5   |
| Standard size, gasoline driven.....   | do.             | 108       | 9.6    | 106      | 5.5    |
| Driers, mechanical (gas and electric).....  | do.             | 65        | 7.4    | (d)      | (d)    |
| Ironers, mechanical (table and portable).....   | do.             | 530       | 34.8   | 4130     | 4.8    |
| <b>3583 - SEWING MACHINES</b>   |                 |           |        |          |        |
| Household sewing machines:  |                 |           |        |          |        |
| Electric (cabinet and portable).....  | do.             | (d)       | (d)    | 4335     | 411.3  |
| Other (including foot and hand).....  | do.             | (d)       | (d)    | 4122     | 42.1   |
| Industrial (except shoe-sole stitching machines).....   | do.             | 175       | 31.0   | 59       | 6.9    |
| <b>3584 - VACUUM CLEANERS</b>   |                 |           |        |          |        |
| Household type vacuum cleaners:   |                 |           |        |          |        |
| Hand type.....  | do.             | 133       | 1.5    | 353      | 42.3   |
| Standard types (upright, cylinder, and other general purpose household types).....  | do.             | 3,920     | 131.6  | 1,092    | 429.5  |
| <b>3585 - REFRIGERATION MACHINERY</b>   |                 |           |        |          |        |
| Household refrigerators:  |                 |           |        |          |        |
| Household mechanical refrigerators, complete units (electric and gas):  |                 |           |        |          |        |
| 5.4 cubic feet and under.....   | Units           | 130,178   | 12.8   | (d)      | (d)    |
| 5.5 cubic feet and over.....  | do.             | 3,847,292 | 490.7  | (d)      | (d)    |
| Household ice refrigerators.....  | do.             | 340,062   | 11.2   | 4265,168 | 45.5   |
| Unitary commercial refrigeration equipment:   |                 |           |        |          |        |
| Display cases for meat, dairy products, fish and vegetables (except frozen food).....   | do.             | 77,241    | 41.8   | 410,511  | 44.1   |
| Ice cream hardening and dispensing cabinets.....  | do.             | 167,180   | 39.3   | 448,683  | 47.4   |
| Packaged air-conditioners.....  | do.             | 74,976    | 39.5   | 434,264  | 46.9   |
| Mechanical drinking-water coolers.....  | do.             | 176,217   | 429.7  | 422,905  | 42.1   |
| Bottled beverage coolers.....   | do.             | 292,778   | 55.8   | 442,202  | 44.4   |
| <b>3586 - MEASURING AND DISPENSING PUMPS</b>  |                 |           |        |          |        |
| Gasoline dispensing pumps, filling station type:  |                 |           |        |          |        |
| Computing.....  | Units           | 197,507   | 53.4   | 93,204   | 19.4   |
| Noncomputing.....   | do.             | 5,704     | 1.5    | 17,359   | 1.9    |
| <b>3613 - ELECTRICAL MEASURING INSTRUMENTS</b>  |                 |           |        |          |        |
| Electrical integrating instruments:   |                 |           |        |          |        |
| A.C. watt-hour meters, single phase and polyphase.....  | M units         | 3,488     | 50.1   | 1,896    | 17.6   |
| Demand meters.....  | Units           | (d)       | (d)    | 449,804  | 41.5   |
| Electrical measuring instruments, other than integrating instruments and test equipment:                                      |                 |           |        |          |        |
| Indicating instruments:   |                 |           |        |          |        |
| Panel type (except motor vehicle and aircraft).....   | M units         | 1,147     | 10.5   | 692      | 2.2    |
| Switchboard type instruments, 4-1/2 in. nominal size and larger with accuracy within 1% of full scale.....                    | do.             | 115       | 3.1    | 67       | 1.0    |
| Industrial portable ammeters, voltmeters, watt-varmeters, etc., including hook-on and split-core current measuring types..... | do.             | 68        | 1.7    | 27       | 0.8    |
| Instrument, meter, and tripping transformers (current and potential).....   | do.             | 278       | 10.6   | (d)      | (d)    |
| Recording instruments, excluding control types.....   | do.             | 14        | 1.9    | 6        | 0.6    |
| <b>3614-5 - MOTORS, GENERATORS, AND TRANSFORMERS</b>  |                 |           |        |          |        |
| Fractional horsepower motors:   |                 |           |        |          |        |
| Below 1/20 hp.....  | do.             | 19,519    | 475.2  | 4,842    | 47.7   |
| 1/20 hp. and over, but not including 1 hp.....  | do.             | 21,268    | 4278.8 | 6,107    | 446.9  |

For footnotes, see end of table.

QUANTITY AND VALUE OF PRODUCTS USED IN CONSTRUCTING INDEXES OF PHYSICAL VOLUME OF PRODUCTION FOR MANUFACTURING INDUSTRIES: 1947 AND 1939<sup>1</sup>--Continued

(Money figures in millions of dollars)

| Industry and product   | Unit of measure | 1947      |         | 1939                 |                   |
|--|-----------------|-----------|---------|----------------------|-------------------|
|  |                 | Quantity  | Value   | Quantity             | Value             |
| ✓ 3614-5 - MOTORS, GENERATORS, AND TRANSFORMERS--Continued   |                 |           |         |                      |                   |
| Integral horsepower motors and generators:   |                 |           |         |                      |                   |
| A.C. single-phase motors (all sizes).....  | Units           | 488,680   | \$20.7  | 85,184               | \$3.6             |
| A.C. polyphase-induction motors:   |                 |           |         |                      |                   |
| 1-200 hp.....  | do.             | 1,318,973 | \$148.8 | <sup>4</sup> 366,214 | <sup>4</sup> 32.3 |
| Over 200 hp.....   | do.             | 2,456     | 9.9     | <sup>4</sup> 367     | <sup>4</sup> 1.4  |
| A.C. generators (all sizes).....   | do.             | 11,192    | \$25.5  | 2,973                | \$2.3             |
| Specialty transformers--luminous tube, including series fluorescent lighting applications and ignition, including oil- and gas-furnace ignition applications, but excluding internal-combustion engine ignition..... | M units         | 2,470     | 20.1    | <sup>8</sup> 914     | 4.4               |
| Power and distribution transformers (500 KVA and under)...   | Units           | 967,321   | 147.1   | <sup>4</sup> 402,860 | 37.7              |
| 3617 - ELECTRICAL WELDING APPARATUS  |                 |           |         |                      |                   |
| Arc welding machines:  |                 |           |         |                      |                   |
| Alternating-current transformer arc welders.....   | do.             | 49,309    | 6.7     | 9,924                | 1.0               |
| Direct-current arc welders, complete units only:   |                 |           |         |                      |                   |
| Engine driven.....   | do.             | 13,821    | 10.9    | 2,255                | 1.9               |
| Motor driven.....  | do.             | 17,442    | 7.3     | 13,070               | 3.7               |
| Spot welders (including single electrode, multielectrode, and gun type).....   | do.             | 7,990     | 11.4    | <sup>4</sup> 4,302   | <sup>4</sup> 3.5  |
| Arc welding and resistance welder electrodes.....  | M lbs.          | 383,873   | 47.3    | (n)                  | 10.7              |
| 3621 - ELECTRICAL APPLIANCES   |                 |           |         |                      |                   |
| Electric fans (including air circulators), desk and wall bracket.....  | M units         | 3,387     | 28.4    | 1,502                | 5.8               |
| Electric water heaters, household type--storage (for permanent installation).....  | do.             | 983       | 59.4    | 82                   | 3.3               |
| Dry shavers (electric razors).....   | do.             | 2,500     | 22.0    | (d)                  | (d)               |
| Household type cooking and heating appliances:   |                 |           |         |                      |                   |
| Coffee percolators, urns, and makers (complete units)...   | do.             | 2,963     | 13.9    | 1,802                | 3.6               |
| Roasters.....  | do.             | 410       | 7.7     | 153                  | 1.7               |
| Toasters:  |                 |           |         |                      |                   |
| Automatic.....   | do.             | 2,840     | 25.5    | 960                  | 6.1               |
| Nonautomatic.....  | do.             | 2,179     | 5.5     | 1,477                | 1.8               |
| Waffle irons:.....   | do.             | 1,867     | 10.7    | 708                  | 2.1               |
| Air space heaters (portable room heaters):   |                 |           |         |                      |                   |
| Fan forced and convector types.....  | do.             | 964       | 8.9     | 195                  | 0.5               |
| Radiant type, other than fan forced, including units with both convection and radiant characteristics....  | do.             | 886       | 4.7     | 330                  | 0.5               |
| Electric irons, standard household other than steam, automatic type (thermostat controlled heat).....  | do.             | 8,495     | 46.3    | 2,340                | 6.6               |
| ✓ Domestic electric ranges.....  | do.             | 1,210     | 132.2   | 275                  | 18.8              |
| 3651 - ELECTRIC LAMPS  |                 |           |         |                      |                   |
| Large incandescent lamps:  |                 |           |         |                      |                   |
| Photoflood and photoenlarger.....  | do.             | 3,577     | 0.8     | 1,866                | 0.3               |
| General lighting, infrared heat and drying, and other large incandescent.....  | do.             | 864,811   | 95.8    | 518,300              | 58.8              |
| Automotive miniature incandescent lamps.....   | do.             | 273,821   | 24.3    | 136,553              | 7.2               |
| Christmas tree lamps (all types).....  | do.             | 273,498   | 9.7     | <sup>4</sup> 127,433 | <sup>4</sup> 3.4  |
| 3661 - RADIOS AND RELATED PRODUCTS   |                 |           |         |                      |                   |
| Socket-powered home radio receivers, AM and FM.....  | do.             | 10,656    | 182.6   | 6,891                | 95.8              |
| Battery-powered and portable radio receivers.....  | do.             | 3,336     | 72.7    | 1,365                | 16.1              |
| Automobile radios (broadcast receivers only).....  | do.             | 3,428     | 102.6   | 1,583                | 27.4              |
| Radio-phonograph combinations, except television sets (including sets with built-in recorders).....  | do.             | 3,415     | 312.2   | 475                  | 17.2              |
| Receiving set chassis, for sale separately.....  | do.             | 100       | 5.7     | <sup>4</sup> 424     | 6.6               |
| Mechanical reproduction phonographs (with spring or electric motor).....   | do.             | 317       | 4.3     | <sup>4</sup> 166     | 1.7               |
| Record players, including record players with automatic changing devices.....  | do.             | 1,269     | 20.5    | <sup>4</sup> 250     | 1.8               |
| Commercial radio receivers (including aircraft and shipboard).....   | do.             | 122       | 19.4    | <sup>4</sup> 41      | 2.9               |
| 3662 - ELECTRONIC TUBES  |                 |           |         |                      |                   |
| Radio receiving-type tubes (except cathode ray tubes)....  | do.             | 209,468   | \$89.3  | 109,521              | 32.9              |

For footnotes, see end of table.

## INDEXES OF PRODUCTION

QUANTITY AND VALUE OF PRODUCTS USED IN CONSTRUCTING INDEXES OF PHYSICAL VOLUME OF PRODUCTION FOR MANUFACTURING INDUSTRIES: 1947 AND 1939<sup>1</sup>—Continued

(Money figures in millions of dollars)

| Industry and product  | Unit of measure | 1947     |         | 1939     |        |
|---|-----------------|----------|---------|----------|--------|
|   |                 | Quantity | Value   | Quantity | Value  |
| 3663 - PHONOGRAPH RECORDS   |                 |          |         |          |        |
| Disc records, 78 r.p.m., not including electrical transcriptions.....   | M units         | 349,913  | \$102.6 | p60,619  | \$16.0 |
| Electrical transcriptions, 33-1/3 r.p.m.....  | do.             | 3,823    | 4.4     | p1,224   | 2.0    |
| 3691 - STORAGE BATTERIES  |                 |          |         |          |        |
| Automotive type (S.L.I.) storage batteries.....   | do.             | 31,248   | 231.7   | a17,732  | 64.8   |
| 3717 AND 3713 - MOTOR VEHICLES, PARTS, AND TRUCK AND BUS BODIES   |                 |          |         |          |        |
| Passenger cars, by 24 makes, complete vehicles, knocked-down or assembled.....  | Units           | (d)      | (d)     | (d)      | (d)    |
| Trucks and truck tractors, knocked-down or assembled, basic chassis - gross vehicle weight:   |                 |          |         |          |        |
| 5,000 lbs. and less.....  | Units           | 375,191  | 249,273 | (n)      | ...    |
| 5,001 - 10,000 lbs.....   | do.             | 184,757  | 147,522 | (n)      | ...    |
| 10,001 - 14,000 lbs.....  | do.             | 257,711  | 229,835 | (n)      | ...    |
| 14,001 - 16,000 lbs.....  | do.             | 293,439  | 331,887 | (n)      | ...    |
| 16,001 - 19,500 lbs.....  | do.             | 42,054   | 75,338  | (n)      | ...    |
| 19,501 - 26,000 lbs.....  | do.             | 43,703   | 113,132 | (n)      | ...    |
| Over 26,000 lbs.....  | do.             | 27,018   | 135,098 | (n)      | ...    |
| Motor coaches (excluding trolley buses).....  | do.             | 19,052   | 226,916 | (d)      | ...    |
| Value of truck bodies and other equipment billed with basic chassis, truck and bus bodies for sale separately to other than vehicle manufacturers for mounting on new chassis, and estimated value of bus bodies produced on purchased chassis..... | ...             | ...      | 516,181 | ...      | (n)    |
| Fire department vehicles.....   | do.             | 1,981    | 16.2    | 955      | a5.6   |
| Ambulances, hearses, and undertakers' wagons.....   | do.             | 3,592    | 15.0    | 2,840    | a6.2   |
| Replacement sales (domestic).....   | do.             | (n)      | (n)     | (n)      | (n)    |
| Parts sales for export.....   | do.             | (n)      | (n)     | (n)      | (n)    |
| 3716 - AUTOMOBILE TRAILERS  |                 |          |         |          |        |
| Trailer coaches (housing types only).....   | do.             | 76,372   | 121.8   | 11,782   | 7.5    |
| 3741 - LOCOMOTIVES AND PARTS  |                 |          |         |          |        |
| Locomotives, new:   |                 |          |         |          |        |
| Railroad road-service and switching types:  |                 |          |         |          |        |
| Steam, except turbine.....  | Tons            | 63,686   | 53.2    | (n)      | 13.3   |
| Straight-electric.....  | do.             | 3,990    | 4.6     | (n)      | 4.9    |
| Diesel-electric.....  | do.             | 198,981  | 227.5   | (n)      | 21.8   |
| Industrial and mining types:  |                 |          |         |          |        |
| Diesel-electric and Diesel-mechanical.....  | Units           | 580      | 6.8     | 75       | 0.7    |
| Electric (storage battery, trolley, and third rail)...  | do.             | 732      | 8.4     | 289      | 1.5    |
| Steam and gasoline-mechanical.....  | do.             | 64       | 0.4     | 86       | 0.4    |
| 3742 - RAILROAD AND STREET CARS   |                 |          |         |          |        |
| Passenger-train cars, new:  |                 |          |         |          |        |
| Coach and coach combination.....  | do.             | 473      | 41.6    | (d)      | (d)    |
| Baggage, express, and nonpassenger combination.....   | do.             | 222      | 9.3     | (d)      | (d)    |
| Sleeping and sleeping combination.....  | do.             | (d)      | (d)     | (d)      | (d)    |
| Club, lounge, parlor, observation, and combination....  | do.             | (d)      | (d)     | (d)      | (d)    |
| Dining and dining combination.....  | do.             | 79       | 8.6     | (d)      | (d)    |
| Freight-train cars and industrial rail cars:  |                 |          |         |          |        |
| Box.....  | do.             | 51,203   | 198.2   | 12,123   | 33.5   |
| Hopper (coal, coke, cement, etc.).....  | do.             | 18,766   | 66.9    | 7,564    | 17.4   |
| Gondola.....  | do.             | 9,631    | 25.4    | 3,525    | 8.8    |
| Refrigerator.....   | do.             | 6,015    | 46.2    | (d)      | (d)    |
| Flat.....   | do.             | 1,074    | 3.9     | 846      | 1.8    |
| Caboose.....  | do.             | 162      | 1.1     | 130      | 0.4    |
| Stock.....  | do.             | (d)      | (d)     | (d)      | (d)    |
| Tank.....   | do.             | (d)      | (d)     | (d)      | (d)    |
| Other.....  | do.             | (d)      | (d)     | (d)      | (d)    |
| Trackless trolley cars.....   | do.             | 1,163    | 17.8    | 143      | 1.7    |
| 3751 - MOTORCYCLES AND BICYCLES   |                 |          |         |          |        |
| Bicycles, complete.....   | M units         | 2,875    | 82.9    | 1,253    | 22.5   |
| Motor scooters.....   | do.             | 87       | 12.5    | (d)      | (d)    |
| Motorcycles.....  | do.             | (d)      | (d)     | (d)      | (d)    |
| Motorbikes.....   | do.             | (d)      | (d)     | (d)      | (d)    |
| 3799 - TRANSPORTATION EQUIPMENT, N.E.C.   |                 |          |         |          |        |
| Farm wagons, complete with boxes.....   | Units           | 25,650   | 4.0     | p8,908   | p0.7   |
| Farm wagon gears, without boxes.....  | do.             | 123,325  | 12.6    | p21,812  | p1.1   |
| Farm wagon truck gears, without boxes.....  | do.             | 68,661   | 6.7     | a21,416  | a0.6   |
| Farm truck and wagon boxes and racks.....   | do.             | 49,937   | 3.7     | 531,038  | 50.6   |
| Farm trailers.....  | do.             | 24,125   | 2.6     | 54,551   | 50.5   |
| Wheelbarrows.....   | do.             | 651,279  | 6.8     | 454,594  | 2.0    |

For footnotes, see end of table.

## APPENDIX A

63

QUANTITY AND VALUE OF PRODUCTS USED IN CONSTRUCTING INDEXES OF PHYSICAL VOLUME OF PRODUCTION FOR MANUFACTURING INDUSTRIES: 1947 AND 1939<sup>1</sup>--Continued

(Money figures in millions of dollars)

| Industry and product   | Unit of measure       | 1947       |       | 1939       |       |
|--|-----------------------|------------|-------|------------|-------|
|  |                       | Quantity   | Value | Quantity   | Value |
| <b>3861 - PHOTOGRAPHIC EQUIPMENT</b>   |                       |            |       |            |       |
| Motion picture cameras:  |                       |            |       |            |       |
| 35 mm.....   | do.                   | 841        | 1.8   | (d)        | (d)   |
| Other than 35 mm.....  | do.                   | 325,130    | 20.5  | (d)        | (d)   |
| Motion picture projectors, other than 35 mm.....   | do.                   | 308,391    | 37.5  | 134,515    | 6.3   |
| Still cameras, hand type:  |                       |            |       |            |       |
| Variable focus with adjustable shutter speeds.....                                       | do.                   | 724,760    | 22.9  | (d)        | (d)   |
| Fixed focus and/or time and single shutter speed.....                                    | do.                   | 5,562,158  | 16.4  | (d)        | (d)   |
| Motion picture film.....   | M TSFSM <sup>11</sup> | (d)        | (d)   | (d)        | (d)   |
| Still picture black and white amateur type roll films....                                | do.                   | (d)        | (d)   | (d)        | (d)   |
| X-ray film.....  | do.                   | 102,134    | 31.5  | (n)        | 10.2  |
| Sheet film, pack film, and graphic arts film.....  | do.                   | 61,349     | 19.8  | (d)        | (d)   |
| Photographic blueprint type paper and cloth.....   | M TSFSM <sup>11</sup> | 852,101    | \$5.9 | P451,119   | \$3.3 |
| Photographic (sensitized) paper and cloth; silver halide, Van Dyke, and Diazo types..... | do.                   | 1,744,406  | 51.7  | P601,109   | 17.9  |
| <b>3871 - WATCHES AND CLOCKS</b>   |                       |            |       |            |       |
| Electric alarm clocks.....   | Units                 | 4,036,633  | 13.2  | 929,336    | 2.1   |
| Electric clocks, other than alarm.....   | do.                   | 6,205,167  | 24.7  | 2,162,916  | 5.1   |
| Spring wound alarm clocks.....   | do.                   | 14,717,550 | 27.7  | 10,070,666 | 8.9   |
| Automobile clocks, including manual and electro-magnet wound.....                        | do.                   | 2,924,524  | 13.0  | 1,559,672  | 3.4   |
| Clock movements complete, for timepiece use.....   | do.                   | 1,740,899  | 3.7   | 416,959    | 0.4   |
| Jeweled lever escapement type watches:   |                       |            |       |            |       |
| Men's wrist.....   | do.                   | 3,048,071  | 67.8  | 2,048,275  | 19.0  |
| Women's wrist.....   | do.                   | 4,013,373  | 93.2  | 1,405,626  | 19.0  |
| Pocket.....  | do.                   | 194,003    | 5.0   | 131,983    | 2.2   |
| Jeweled and non-jeweled pin lever escapement watches:                                    |                       |            |       |            |       |
| Wrist.....   | do.                   | 4,282,940  | 17.9  | 2,007,252  | 3.1   |
| Pocket.....  | do.                   | 4,918,151  | 7.1   | 6,888,287  | 4.5   |
| <b>3872 - WATCHCASES</b>   |                       |            |       |            |       |
| Watchcases.....  | do.                   | 12,965,128 | 38.6  | 45,761,436 | 48.1  |
| <b>3931 - PIANOS</b>   |                       |            |       |            |       |
| Vertical, upright, or console pianos.....  | do.                   | 143,110    | 47.4  | 95,205     | 13.3  |
| Grand pianos, six feet and under in length.....  | do.                   | 4,051      | 3.9   | 15,589     | 4.5   |
| Grand pianos, over six feet in length.....   | do.                   | 232        | 0.3   | 451        | 0.2   |
| <b>3942 - DOLLS</b>  |                       |            |       |            |       |
| Dolls, except rubber.....  | M units               | 17,154     | 21.3  | 11,495     | 9.4   |
| Stuffed toy animals.....   | do.                   | 9,123      | 11.7  | P5,722     | 3.9   |
| <b>3943 - CHILDREN'S VEHICLES</b>  |                       |            |       |            |       |
| Baby carriages and strollers.....  | do.                   | 1,034      | 20.3  | 587        | 4.8   |
| Baby walkers.....  | do.                   | 810        | 3.9   | 511        | 1.3   |
| Velocipedes and tricycles.....   | do.                   | 4,257      | 32.0  | 1,259      | 4.3   |
| Scoters.....   | do.                   | 1,130      | 2.4   | 589        | 0.9   |
| Children's wagons (coaster, express, and other).....                                     | do.                   | 2,625      | 12.5  | 2,398      | 3.0   |
| Slads.....   | do.                   | 1,770      | 4.6   | 908        | 1.0   |
| <b>3949 - SPORTING AND ATHLETIC GOODS</b>  |                       |            |       |            |       |
| Fishing tackle:  |                       |            |       |            |       |
| Wood and bamboo fishing rods.....  | do.                   | 954        | 6.1   | 4998       | 1.8   |
| Metal fishing rods.....  | do.                   | 2,895      | 10.5  | 1,204      | 1.6   |
| Fishing reels.....   | do.                   | 5,227      | 16.8  | 2,595      | 3.6   |
| Golf, tennis, and baseball equipment; footballs, etc.:                                   |                       |            |       |            |       |
| Golf balls.....  | M doz.                | 2,407      | 13.4  | 2,882      | 5.6   |
| Golf clubs.....  | M units               | 3,868      | 17.1  | 2,856      | 6.6   |
| Tennis balls.....  | M doz.                | 671        | 2.5   | 609        | 1.5   |
| Tennis racket frames, sold separately.....   | M units               | 310        | 0.8   | 253        | 0.7   |
| Tennis rackets, complete.....  | do.                   | 357        | 1.1   | 687        | 1.4   |
| Baseballs.....   | M doz.                | 654        | 6.4   | 537        | 2.0   |
| Soft or indoor type baseballs.....   | do.                   | 405        | 3.8   | 311        | 1.3   |
| Baseball mitts and gloves.....   | do.                   | 182        | 8.2   | 96         | 1.6   |
| Footballs.....   | do.                   | 308        | 7.0   | 216        | 2.0   |
| Basketballs.....   | do.                   | 90         | 5.1   | 42         | 1.2   |

For footnotes, see end of table.

## INDEXES OF PRODUCTION

QUANTITY AND VALUE OF PRODUCTS USED IN CONSTRUCTING INDEXES OF PHYSICAL VOLUME OF PRODUCTION FOR MANUFACTURING INDUSTRIES: 1947 AND 1939<sup>1</sup>--Continued

(Money figures in millions of dollars)

| Industry and product                          | Unit of measure | 1947     |       | 1939     |       |
|---|-----------------|----------|-------|----------|-------|
|   |                 | Quantity | Value | Quantity | Value |
| 3949 - SPORTING AND ATHLETIC GOODS--Continued |                 |          |       |          |       |
| Other inflated athletic balls.....            | do.             | 72       | 1.6   | 19       | 0.2   |
| Roller skates.....                            | M prs.          | (n)      | 10.0  | 43,810   | 3.6   |
| 3951 - PENS AND MECHANICAL PENCILS            |                 |          |       |          |       |
| Fountain pens, all types, complete.....       | M units         | 67,368   | 86.9  | 29,852   | 12.2  |
| Fountain pen desk sets.....                   | M sets          | 707      | 2.3   | 489      | 0.7   |
| Mechanical pencils.....                       | M units         | 70,404   | 28.2  | 43,353   | 6.0   |
| 3952 - LEAD PENCILS AND CRAYONS               |                 |          |       |          |       |
| Black lead pencils.....                       | M gross         | 9,677    | 26.1  | 5,223    | 7.5   |
| Other pencils (indelible, colored, etc.)..... | do.             | 1,213    | 5.1   | 569      | 1.7   |
| 3963 - BUTTONS                                |                 |          |       |          |       |
| Buttons:                                      |                 |          |       |          |       |
| Metal.....                                    | M gross         | 8,083    | \$6.7 | 6,966    | \$3.2 |
| Casein and casein compound.....               | do.             | 7,124    | 5.2   | 13,828   | 3.1   |
| Other plastics.....                           | do.             | 40,746   | 10.3  | 23,072   | 6.9   |
| Fresh water pearl or shell.....               | do.             | 8,254    | 8.2   | 11,238   | 3.0   |
| Ocean pearl or shell.....                     | do.             | 5,087    | 7.9   | 9,131    | 5.3   |
| Vegetable ivory.....                          | do.             | 778      | 0.8   | 2,702    | 1.5   |
| 3983 - MATCHES                                |                 |          |       |          |       |
| Matches:                                      |                 |          |       |          |       |
| In boxes of over 100 matches.....             | Mil. matches    | 182,343  | 19.1  | 179,914  | 9.5   |
| In boxes of not over 100 matches:             |                 |          |       |          |       |
| Strike anywhere.....                          | do.             | 25,191   | 3.3   | 52,720   | 3.0   |
| Strike on box.....                            | do.             | 54,823   | 7.1   | 33,861   | 3.2   |
| In books, and other.....                      | do.             | 234,081  | 26.9  | 153,212  | 9.9   |
| 1951 - SMALL ARMS                             |                 |          |       |          |       |
| Pistols and revolvers.....                    | Units           | 247,814  | 48.3  | 90,447   | 1.6   |
| Rifles:                                       |                 |          |       |          |       |
| Repeating (center and rim fire).....          | do.             | 796,836  | 416.6 | 359,583  | 4.0   |
| Single shot (center and rim fire).....        | do.             | 420,908  | 44.0  | 263,229  | 0.9   |
| Shotguns:                                     |                 |          |       |          |       |
| Single barrel:                                |                 |          |       |          |       |
| Single shot.....                              | do.             | 303,167  | 43.4  | (d)      | (d)   |
| Repeating.....                                | do.             | (d)      | (d)   | (d)      | (d)   |
| Double barrel.....                            | do.             | (d)      | (d)   | 497,441  | 41.7  |

<sup>a</sup>Adjusted or partly estimated; see Appendix C.

<sup>d</sup>Withheld to avoid approximately disclosing data for individual companies.

<sup>n</sup>Not published, since the figure used represents a rough estimate; see Appendix C.

<sup>p</sup>Not previously published or not published in the 1947 Census of Manufactures volumes.

<sup>r</sup>Revised after publication of the 1947 Census of Manufactures volumes issued in 1950.

<sup>s</sup>Less than \$50,000 or 500 units.

<sup>1</sup>All statistics, except as otherwise indicated, are taken from the 1947 Census of Manufactures, Volume II, Statistics by Industry.

<sup>2</sup>Represents value added by manufacture; see Appendix C.

<sup>3</sup>Source: United States Department of Agriculture publications.

<sup>4</sup>Source: Sixteenth Census of the United States, Manufactures 1939, Volume II, Reports by Industries.

<sup>5</sup>Source: Bureau of the Census, Facts for Industry series or similar publications.

<sup>6</sup>Quantity figures represent total consumption of paper and board in making the indicated products.

<sup>7</sup>Source: Bureau of the Census foreign trade statistics.

<sup>8</sup>Source: United States Tariff Commission published and unpublished figures.

<sup>9</sup>Based on reports of the Commissioner of Internal Revenue.

<sup>10</sup>Source: United States Department of the Interior, Bureau of Mines, Minerals Yearbook.

<sup>11</sup>TSFSM represents "Total square feet of sensitized material."

## APPENDIX B

### GENERAL STATISTICS FOR INDUSTRY GROUPS AND INDUSTRIES USED IN CONSTRUCTING THE INDEXES

In this appendix are shown the industry figures for value of products and average number of employees used in constructing the "adjusted" industry and industry-group indexes, respectively, and the value added data used for combining industry indexes into the group and all-manufacturing indexes. Most of the statistics are as published in the 1947 Census of Manufactures volumes issued in 1950. However, the figures shown include a number of adjustments to increase the comparability of the figures

for 1939 and 1947. Such adjusted figures are indicated by footnotes and described in appendix C.

The appendix includes the first complete publication of 1939 figures for "All employees" on the classification basis used for 1947. These 1939 employment figures were adjusted to the 1947 classification basis, partly by estimate, as indicated in the accompanying footnotes.

## INDEXES OF PRODUCTION

GENERAL STATISTICS FOR INDUSTRY GROUPS AND FOR INDUSTRIES USED IN CONSTRUCTING INDEXES OF PHYSICAL VOLUME OF PRODUCTION  
FOR MANUFACTURING INDUSTRIES: 1947 AND 1939<sup>1</sup>

(Money figures in millions of dollars; number of employees in thousands)

| No.  | Industry group and industry<br>Title     | Code <sup>2</sup> | 1947  |                                    |                                 | 1939   |                                    |                                 |
|------|--|-------------------|---|------------------------------------|---------------------------------|--|------------------------------------|---------------------------------|
|      |  |                   | All employees<br>(average number<br>for the year) | Value added by<br>manufac-<br>ture | Value of<br>products<br>shipped | All employees<br>(average number<br>for the year) <sup>3</sup> | Value added by<br>manufac-<br>ture | Value of<br>products<br>shipped |
|      | ALL INDUSTRIES, TOTAL.....               | P                 | 14,280.5  | \$74,427.6                         | n.p.                            | 9,561.4  | \$24,411.6                         | n.p.                            |
| 20   | FOOD AND KINDRED PRODUCTS.....           | P                 | 1,451.9   | 9,053.0                            | n.p.                            | 1,097.8  | 3,521.0                            | n.p.                            |
| 201  | Meat products:                           |                   |   |                                    |                                 |  |                                    |                                 |
| 2011 | Meat packing, wholesale.....             | P                 | 252.7   | 1,212.5                            | a\$8,721.2                      | 186.9  | 467.7                              | a\$2,442.0                      |
| 2013 | Prepared meats.....                      |                   |   |                                    |                                 |  |                                    |                                 |
| 2015 | Poultry dressing, wholesale.....         | NP                | 21.7  | 68.2                               | 481.9                           | 16.1   | 22.1                               | a118.7                          |
| 202  | Dairy products:                          |                   |   |                                    |                                 |  |                                    |                                 |
| 2021 | Creamery butter.....                     | P                 | a25.3   | a132.0                             | a1,037.0                        | 28.8   | 73.5                               | a477.5                          |
| 2022 | Natural cheese.....                      | P                 | a13.0   | a67.0                              | a484.0                          | 6.2  | 16.8                               | a105.9                          |
| 2023 | Concentrated milk.....                   | P                 | a18.3   | a164.0                             | a812.0                          | 12.4   | 46.2                               | a200.9                          |
| 2024 | Ice cream and ices.....                  | P                 | a50.2   | a325.0                             | a870.0                          | 35.3   | 138.3                              | a272.7                          |
| 2025 | Special dairy products.....              | P                 | a8.3  | a54.0                              | a327.0                          | 3.1  | 7.2                                | a57.5                           |
| 4029 | Plastic cream and bulk products.....     | N                 | a5.2  | a35.0                              | a175.0                          | ...  | ...                                | ...                             |
| 203  | Canned and preserved foods:              |                   |   |                                    |                                 |  |                                    |                                 |
| 2031 | Canned sea food.....                     | P                 | 20.2  | 96.8                               | 226.5                           | 16.9   | 25.4                               | 65.5                            |
| 2032 | Cured fish.....                          | P                 | 2.4   | 9.9                                | 31.1                            | 2.3  | 4.6                                | 15.6                            |
| 2033 | Canning and preserving, except fish..... | P                 | 136.0   | 609.9                              | 1,640.8                         | 104.7  | 227.4                              | a565.3                          |
| 2034 | Dehydrated fruits and vegetables.....    | NP                | 4.0   | 18.2                               | 51.1                            | a1.8   | a3.2                               | a13.0                           |
| 2035 | Pickles and sauces.....                  | P                 | 21.7  | 122.4                              | 364.9                           | 15.7   | 41.1                               | a117.6                          |
| 2037 | Frozen foods.....                        | N                 | a14.1   | a48.0                              | n.a.                            | 3.6  | 4.6                                | 13.0                            |
| 204  | Grain-mill products:                     |                   |   |                                    |                                 |  |                                    |                                 |
| 2041 | Flour and meal <sup>4</sup> .....        | P                 | 42.5  | 433.8                              | 2,587.1                         | a36.4  | a144.9                             | a645.7                          |
| 2042 | Prepared animal feeds.....               | N                 | 55.3  | 394.2                              | 2,130.3                         | a24.9  | a102.1                             | a414.9                          |
| 2043 | Cereal preparations.....                 | P                 | 11.3  | 130.2                              | 284.7                           | 9.0  | 70.3                               | a127.4                          |
| 2044 | Rice cleaning and polishing.....         | P                 | 4.1   | 43.4                               | 224.7                           | 3.2  | 8.6                                | 42.4                            |
| 2045 | Blended and prepared flour.....          | ( <sup>4</sup> )  | ( <sup>4</sup> )                                  | ( <sup>4</sup> )                   | ( <sup>4</sup> )                | ( <sup>4</sup> )   | ( <sup>4</sup> )                   | ( <sup>4</sup> )                |
| 205  | Bakery products:                         |                   |   |                                    |                                 |  |                                    |                                 |
| 2051 | Bread and other bakery products.....     | P                 | 233.3   | 1,100.8                            | 2,416.9                         | 217.0  | 573.8                              | 1,065.3                         |
| 2052 | Biscuit, crackers, and pretzels.....     | P                 | 46.1  | 265.0                              | 540.2                           | 35.9   | 118.7                              | 200.8                           |
| 206  | Sugar:                                   |                   |   |                                    |                                 |  |                                    |                                 |
| 2061 | Raw cane sugar.....                      | P                 | 4.6   | 17.7                               | 60.1                            | 5.3  | 10.5                               | 32.6                            |
| 2062 | Cane-sugar refining.....                 | P                 | 17.4  | 98.1                               | 818.4                           | 16.8   | 56.0                               | 345.0                           |
| 2063 | Beet sugar.....                          | P                 | 13.4  | 118.0                              | a305.5                          | 12.3   | 49.4                               | 117.0                           |
| 207  | Confectionery and related products:      |                   |   |                                    |                                 |  |                                    |                                 |
| 2071 | Confectionery products.....              | P                 | 75.2  | 413.9                              | 944.9                           | 61.1   | 127.0                              | a291.5                          |
| 2072 | Chocolate and cocoa products.....        | P                 | 9.6   | 98.3                               | 349.9                           | 8.8  | 35.6                               | 99.0                            |
| 2073 | Chewing gum.....                         | N                 | 6.9   | 74.9                               | 148.3                           | 3.7  | 43.2                               | 60.8                            |
| 208  | Beverage industries:                     |                   |   |                                    |                                 |  |                                    |                                 |
| 2081 | Bottled soft drinks.....                 | P                 | 79.4  | 420.7                              | 748.2                           | 55.0   | 211.8                              | a362.5                          |
| 2082 | Malt liquors.....                        | P                 | 82.5  | 808.9                              | 1,317.9                         | 61.2   | 363.2                              | a522.4                          |
| 2083 | Malt.....                                | P                 | 2.5   | 53.9                               | 256.2                           | 1.9  | 19.2                               | 58.5                            |
| 2084 | Wines and brandy.....                    | N                 | 7.7   | 95.0                               | n.p.                            | 3.9  | 15.0                               | n.p.                            |
| 2085 | Distilled liquors, except brandy.....    | P                 | 30.4  | 472.4                              | 870.2                           | a14.1  | a99.8                              | n.a.                            |
| 209  | Miscellaneous food preparations:         |                   |   |                                    |                                 |  |                                    |                                 |
| 2091 | Leavening compounds.....                 | P                 | 3.1   | 46.5                               | 72.3                            | 4.0  | 17.3                               | 31.8                            |
| 2092 | Shortening and cooking oils.....         | P                 | 8.0   | 162.1                              | 884.7                           | 6.5  | 33.1                               | 191.9                           |
| 2093 | Oleomargarine.....                       | P                 | 2.6   | 43.8                               | 214.6                           | 1.7  | 12.4                               | 34.1                            |
| 2094 | Corn products.....                       | P                 | 12.3  | 127.1                              | a428.8                          | a8.4   | a49.0                              | a107.0                          |
| 2095 | Flavorings.....                          | P                 | 11.7  | 158.3                              | 313.6                           | 7.0  | 89.7                               | a139.2                          |
| 2096 | Vinegar and cider.....                   | P                 | 1.0   | 3.5                                | 8.6                             | 1.3  | 3.2                                | a7.4                            |
| 2097 | Manufactured ice.....                    | P                 | 46.5  | 226.6                              | 273.4                           | 37.2   | 104.2                              | a129.6                          |
| 2098 | Macaroni and spaghetti.....              | P                 | 8.0   | 42.0                               | 112.1                           | 8.1  | 19.2                               | 46.2                            |
| 2099 | { Liquid, frozen, and dried eggs.....    | N                 | 9.8   | 32.2                               | 253.4                           | 2.1  | 3.4                                | 20.3                            |
|      |  | N                 | a33.6   | a208.8                             | n.a.                            | 17.2   | 62.3                               | n.a.                            |
| 21   | TOBACCO MANUFACTURES <sup>5</sup> .....  | P                 | 85.9  | 569.1                              | n.p.                            | 96.1   | 350.1                              | n.p.                            |
| 2111 | Cigarettes <sup>6</sup> .....            | P                 | 38.8  | 426.0                              | 1,272.0                         | 41.8   | 268.6                              | 584.5                           |
| 2121 | Cigars.....                              | P                 | 47.1  | 143.1                              | 311.4                           | 54.3   | 81.5                               | 148.6                           |
| 2131 | Chewing and smoking tobacco.....         | ( <sup>6</sup> )  | ( <sup>6</sup> )                                  | ( <sup>6</sup> )                   | ( <sup>6</sup> )                | ( <sup>6</sup> )   | ( <sup>6</sup> )                   | ( <sup>6</sup> )                |

For footnotes, see end of table.

GENERAL STATISTICS FOR INDUSTRY GROUPS AND FOR INDUSTRIES USED IN CONSTRUCTING INDEXES OF PHYSICAL VOLUME OF PRODUCTION FOR MANUFACTURING INDUSTRIES: 1947 AND 1939<sup>1</sup>--Continued

(Money figures in millions of dollars; number of employees in thousands)

| No.  | Industry group and industry<br>Title               | Code <sup>2</sup> | 1947  |                            |                           | 1939   |                            |                           |
|------|--|-------------------|---|----------------------------|---------------------------|--|----------------------------|---------------------------|
|      |  |                   | All employees (average number for the year) | Value added by manufacture | Value of products shipped | All employees (average number for the year) <sup>3</sup> | Value added by manufacture | Value of products shipped |
| 22   | TEXTILE MILL PRODUCTS.....                         | P                 | 1,233.8                                     | \$5,340.7                  | n.p.                      | 1,145.2  | \$1,789.7                  | n.p.                      |
| 221  | Woolen and worsted manufactures:                   |                   |   |                            |                           |  |                            |                           |
| 2211 | Scouring and combing plants.....                   | P                 | 180.1                                       | 803.6                      | a\$1,380.6                | 161.1  | 284.6                      | n.a.                      |
| 2212 | Yarn mills, wool, except carpet.....               |                   |   |                            |                           |  |                            |                           |
| 2213 | Woolen and worsted fabrics.....                    |                   |   |                            |                           |  |                            |                           |
| 2216 | Finishing wool textiles.....                       |                   |   |                            |                           |  |                            |                           |
| 222  | Yarn and thread mills, except wool:                |                   |   |                            |                           |  |                            |                           |
| 2222 | Yarn throwing mills.....                           | NP                | 14.9  | 46.0                       | 64.2                      | 27.2   | 29.4                       | \$76.1                    |
| 2223 | Thread mills.....                                  | P                 | 14.7  | 67.4                       | 154.3                     | 16.0   | 27.1                       | 56.3                      |
| 2224 | Yarn mills, cotton system.....                     | P                 | 92.3  | 326.8                      | 769.4                     | 65.1   | 73.4                       | 169.4                     |
| 2225 | Yarn mills, silk system.....                       | N                 | 1.8   | 6.9                        | 12.5                      | 3.1  | 4.5                        | 11.3                      |
| 223  | Cotton and rayon broad-woven fabrics:              |                   |   |                            |                           |  |                            |                           |
| 2233 | Cotton broad-woven fabrics.....                    | P                 | 357.4                                       | 1,562.3                    | 3,294.6                   | a315.2   | a417.6                     | a809.0                    |
| 2234 | Rayon and related broad-woven fabrics.....         | P                 | 97.6  | 488.0                      | 1,002.9                   | 83.5   | 115.0                      | 314.9                     |
| 2241 | Narrow fabric mills.....                           | N                 | 27.7  | 108.2                      | 210.9                     | 27.9   | 47.3                       | 86.6                      |
| 225  | Knitting mills:                                    |                   |   |                            |                           |  |                            |                           |
| 2251 | Full-fashioned hosiery mills.....                  | P                 | 70.0  | 319.4                      | a450.1                    | 103.9  | 156.0                      | a277.8                    |
| 2252 | Seamless hosiery mills.....                        | P                 | 64.8  | 163.8                      | a311.2                    | 65.4   | 72.1                       | a137.2                    |
| 2253 | Knit outerwear mills.....                          | P                 | 34.8  | 145.7                      | a298.9                    | 27.2   | 46.7                       | a100.7                    |
| 2254 | Knit underwear mills.....                          | P                 | 40.6  | 134.4                      | a291.5                    | 41.2   | 50.1                       | a108.8                    |
| 2255 | Knit glove mills.....                              | N                 | 5.2   | 14.7                       | 26.5                      | 5.8  | 7.4                        | 12.4                      |
| 2256 | Knit-fabric mills.....                             | P                 | 14.2  | 72.3                       | a194.7                    | 10.8   | 21.4                       | a59.5                     |
| 2259 | Knitting mills, n.e.c.....                         | N                 | 1.0   | 4.3                        | 10.6                      | 1.7  | 3.3                        | 8.4                       |
| 2261 | Finishing textiles, except wool.....               | N                 | 78.0  | 359.3                      | 531.4                     | 68.5   | 130.7                      | n.a.                      |
| 227  | Carpets and rugs:                                  |                   |   |                            |                           |  |                            |                           |
| 2271 | Wool carpets, rugs, and carpet yarn.....           | P                 | 40.1  | 217.0                      | n.p.                      | 32.5   | 87.4                       | n.p.                      |
| 2273 | Carpets and rugs, n.e.c.....                       | N                 | 7.1   | 31.0                       | 55.6                      | 3.6  | 5.4                        | 9.8                       |
| 2274 | Hard-surface floor coverings.....                  | P                 | 10.1  | 83.3                       | a176.8                    | 8.3  | 41.5                       | 69.9                      |
| 228  | Hats (except cloth and millinery):                 |                   |   |                            |                           |  |                            |                           |
| 2281 | Fur-felt hats and hat bodies.....                  | P                 | 13.0  | 61.5                       | a105.2                    | 16.4   | 31.4                       | a54.1                     |
| 2282 | Wool-felt hats and hat bodies.....                 | P                 | 4.5   | 13.9                       | a25.4                     | 4.9  | 8.2                        | a16.0                     |
| 2283 | Straw hats.....                                    | N                 | 2.4   | 8.6                        | 18.2                      | 3.2  | 4.9                        | 9.7                       |
| 2284 | Hatters' fur.....                                  | P                 | 1.5   | 8.0                        | 23.8                      | 2.1  | 3.7                        | 11.0                      |
| 229  | Miscellaneous textile goods:                       |                   |   |                            |                           |  |                            |                           |
| 2291 | Felt goods, n.e.c.....                             | P                 | 4.7   | 24.9                       | 59.8                      | 3.8  | 10.5                       | 23.6                      |
| 2292 | Lace goods.....                                    | P                 | 8.6   | 44.9                       | a71.0                     | 8.3  | 15.4                       | 24.1                      |
| 2293 | Paddings and upholstery filling.....               | P                 | 8.2   | 44.4                       | 109.6                     | 5.3  | 13.3                       | 30.2                      |
| 2294 | Processed textile waste.....                       | P                 | 5.8   | 22.6                       | 57.3                      | 5.7  | 10.5                       | 33.0                      |
| 2295 | Coated fabrics, except rubberized.....             | P                 | 8.7   | 51.2                       | 157.1                     | 7.4  | 28.3                       | 63.2                      |
| 2297 | Jute (except felt), and linen goods.....           | P                 | 5.3   | 21.3                       | 48.9                      | 5.9  | 12.1                       | 23.2                      |
| 2298 | Cordage and twine.....                             | P                 | 16.0  | 72.0                       | a175.2                    | 14.2   | 30.5                       | 59.8                      |
| 2299 | Textile goods, n.e.c.....                          | N                 | 2.7   | 13.0                       | 19.4                      | ...  | ...                        | ...                       |
| 23   | APPAREL AND RELATED PRODUCTS.....                  | P                 | 1,081.9                                     | 4,443.0                    | n.p.                      | 871.2  | 1,418.4                    | n.p.                      |
| 231  | Men's and boys' suits and coats:                   |                   |   |                            |                           |  |                            |                           |
| 2311 | Men's and boys' suits and coats <sup>7</sup> ..... | P                 | 198.7                                       | 838.0                      | a1,579.9                  | 165.9  | 280.2                      | a576.1                    |
| 2312 | Suit and coat findings <sup>7</sup> .....          |                   |   |                            |                           |  |                            |                           |
| 232  | Men's and boys' furnishings:                       |                   |   |                            |                           |  |                            |                           |
| 2321 | Men's dress shirts and nightwear.....              | P                 | 94.3  | 292.7                      | a636.5                    | 75.0   | 83.7                       | a183.1                    |
| 2322 | Men's and boys' underwear.....                     | P                 | 7.3   | 20.3                       | a45.2                     | 6.9  | 6.4                        | a15.8                     |
| 2323 | Men's and boys' neckwear.....                      | P                 | 10.7  | 50.7                       | a109.4                    | 11.4   | 19.8                       | a45.5                     |
| 2325 | Men's and boys' cloth hats and caps.....           | P                 | 5.5   | 20.7                       | a37.1                     | 3.9  | 5.9                        | a11.5                     |
| 2326 | Hat and cap materials.....                         | N                 | 1.1   | 5.6                        | 12.3                      | 0.9  | 1.7                        | 4.7                       |
| 2327 | Separate trousers.....                             | ( <sup>7</sup> )  | ( <sup>7</sup> )                            | ( <sup>7</sup> )           | ( <sup>7</sup> )          | ( <sup>7</sup> )   | ( <sup>7</sup> )           | ( <sup>7</sup> )          |
| 2328 | Work shirts.....                                   | P                 | 12.1  | 33.2                       | a85.7                     | 14.3   | 14.3                       | a35.1                     |
| 2329 | Men's and boys' clothing, n.e.c.....               | P                 | 74.1  | 216.9                      | a532.7                    | 67.1   | 77.5                       | a193.9                    |
| 233  | Women's and misses' outerwear:                     |                   |   |                            |                           |  |                            |                           |
| 2331 | Blouses and waists.....                            | NP                | 32.8  | 123.6                      | a232.9                    | a13.7  | a21.1                      | a46.9                     |
| 2333 | Dresses, unit price.....                           | P                 | 182.0                                       | 762.6                      | a1,451.1                  | 162.1  | 266.9                      | a545.8                    |
| 2334 | Dresses, dozen price.....                          |                   |   |                            |                           |  |                            |                           |
| 2335 | Women's suits and coats.....                       | P                 | 82.6  | 476.6                      | a936.0                    | 52.4   | 117.4                      | a278.7                    |
| 2336 | Women's skirts.....                                |                   |   |                            |                           |  |                            |                           |
| 2338 | Women's neckwear and scarfs.....                   | N                 | 2.8   | 16.8                       | 51.1                      | 2.4  | 4.7                        | 11.9                      |
| 2339 | Women's outerwear, n.e.c.....                      | N                 | 13.3  | 48.1                       | 100.6                     | 10.5   | 15.9                       | 37.2                      |

For footnotes, see end of table.

## INDEXES OF PRODUCTION

GENERAL STATISTICS FOR INDUSTRY GROUPS AND FOR INDUSTRIES USED IN CONSTRUCTING INDEXES OF PHYSICAL VOLUME OF PRODUCTION  
FOR MANUFACTURING INDUSTRIES: 1947 AND 1939<sup>1</sup>—Continued

(Money figures in millions of dollars; number of employees in thousands)

| No.  | Industry group and industry<br>Title               | Code <sup>2</sup> | 1947   |                                       |                                 | 1939   |                                       |                                 |
|------|--|-------------------|--|---------------------------------------|---------------------------------|--|---------------------------------------|---------------------------------|
|      |  |                   | All employees<br>(average number<br>for the<br>year) | Value<br>added by<br>manufac-<br>ture | Value of<br>products<br>shipped | All employees<br>(average<br>number<br>for the<br>year) <sup>3</sup> | Value<br>added by<br>manufac-<br>ture | Value of<br>products<br>shipped |
| 23   | APPAREL AND RELATED PRODUCTS—Continued             |                   |  |                                       |                                 |  |                                       |                                 |
| 234  | Women's and children's undergarments:              |                   |  |                                       |                                 |  |                                       |                                 |
| 2341 | Women's and children's underwear.....              | P                 | 57.3   | \$227.2                               | <sup>a</sup> \$530.8            | 44.1   | \$59.0                                | <sup>a</sup> \$155.1            |
| 2342 | Corsets and allied garments.....                   | N                 | 37.2   | 160.7                                 | 284.1                           | 23.0   | 44.3                                  | 84.4                            |
| 2351 | Millinery.....                                     | N                 | 20.9   | 100.7                                 | 177.5                           | 28.9   | 56.6                                  | 103.9                           |
| 236  | Children's outerwear:                              |                   |  |                                       |                                 |  |                                       |                                 |
| 2361 | Children's dresses.....                            | NP                | 22.4   | 76.5                                  | <sup>a</sup> 153.5              | 16.7   | 25.5                                  | <sup>a</sup> 46.7               |
| 2363 | Children's coats.....                              | N                 | 12.4   | 58.4                                  | 135.2                           | 4.3  | 9.8                                   | 27.6                            |
| 2369 | Children's outerwear, n.e.c.....                   | N                 | 13.3   | 43.4                                  | 92.7                            | 7.4  | 10.4                                  | 23.0                            |
| 2371 | Fur goods.....                                     | P                 | 16.2   | 122.8                                 | <sup>a</sup> 353.0              | 17.3   | 60.3                                  | <sup>a</sup> 166.2              |
| 238  | Miscellaneous apparel and accessories:             |                   |  |                                       |                                 |  |                                       |                                 |
| 2381 | Fabric and combination dress gloves.....           | N                 | 5.1  | 13.3                                  | 28.4                            | 4.3  | 4.7                                   | 8.8                             |
| 2382 | Fabric and combination work gloves.....            | P                 | 11.0   | 35.0                                  | <sup>a</sup> 76.7               | 9.4  | 10.5                                  | <sup>a</sup> 22.4               |
| 2383 | Suspenders and garters.....                        | P                 | 1.7  | 6.8                                   | <sup>a</sup> 14.5               | 3.2  | 6.6                                   | <sup>a</sup> 15.4               |
| 2384 | Robes and dressing gowns.....                      | P                 | 10.9   | 42.6                                  | <sup>a</sup> 91.8               | 6.8  | 11.7                                  | <sup>a</sup> 30.1               |
| 2385 | Waterproof outer garments.....                     | N                 | 8.3  | 32.0                                  | 77.0                            | 2.8  | 4.3                                   | 11.6                            |
| 2386 | Leather and sheep-lined clothing.....              | P                 | 4.3  | 18.8                                  | <sup>a</sup> 40.4               | 5.4  | 8.4                                   | <sup>a</sup> 22.0               |
| 2387 | Belts.....   | P                 | 9.2  | 38.0                                  | <sup>a</sup> 67.9               | 5.2  | 9.2                                   | <sup>a</sup> 19.0               |
| 2388 | Handkerchiefs.....                                 | P                 | 4.6  | 20.7                                  | <sup>a</sup> 49.4               | 5.4  | 7.6                                   | <sup>a</sup> 20.4               |
| 2389 | Apparel, n.e.c.....                                | N                 | 2.2  | 7.9                                   | 13.3                            | 1.1  | 2.2                                   | 3.8                             |
| 239  | Miscellaneous fabricated textiles:                 |                   |  |                                       |                                 |  |                                       |                                 |
| 2391 | Curtains and draperies.....                        | P                 | 8.0  | 34.9                                  | 109.6                           | 8.7  | 13.7                                  | 46.5                            |
| 2392 | Housefurnishings, n.e.c.....                       | N                 | 40.2   | 156.4                                 | 504.1                           | <sup>a</sup> 41.0  | <sup>a</sup> 62.5                     | <sup>a</sup> 176.9              |
| 2393 | Textile bags.....                                  | N                 | 13.9   | 66.3                                  | 356.2                           | 13.9   | 27.9                                  | 121.7                           |
| 2394 | Canvas products.....                               | N                 | 10.6   | 41.4                                  | 90.8                            | 6.0  | 11.4                                  | 24.4                            |
| 2395 | Tucking, pleating, and hemstitching.....           | N                 | 5.9  | 21.3                                  | 25.2                            | 4.9  | 8.4                                   | 9.6                             |
| 2396 | Trimnings and art goods.....                       | N                 | 15.0   | 65.1                                  | 130.0                           | 6.8  | 13.5                                  | 31.3                            |
| 2397 | Schiffli-machine embroideries.....                 | N                 | 5.7  | 31.7                                  | 55.5                            | 4.2  | 8.0                                   | 14.1                            |
| 2398 | Embroideries, except Schiffli-machine.....         | N                 | 9.8  | 34.5                                  | 44.4                            | 5.3  | 7.6                                   | 9.9                             |
| 2399 | Fabricated textile products, n.e.c.....            | N                 | 18.5   | 80.8                                  | 193.5                           | 8.6  | 18.8                                  | 36.6                            |
| 24   | LUMBER AND PRODUCTS, EXCEPT FURNITURE.....         | P                 | 635.8  | 2,497.3                               | n.p.                            | 508.4  | 789.3                                 | n.p.                            |
| 242  | Lumber and timber basic products:                  |                   |  |                                       |                                 |  |                                       |                                 |
| 2421 | Sawmills and planing mills, general.....           | P                 | 380.5  | 1,476.5                               | 2,500.7                         | <sup>a</sup> 310.4   | <sup>a</sup> 454.0                    | n.a.                            |
| 2422 | Veneer mills.....                                  | N                 | 10.5   | 36.9                                  | 67.4                            | 8.4  | 11.9                                  | 20.6                            |
| 2423 | Shingle mills.....                                 | P                 | 2.4  | 15.5                                  | 26.3                            | 4.1  | 7.0                                   | 13.3                            |
| 2424 | Cooperage stock mills.....                         | N                 | 12.3   | 27.2                                  | 55.1                            | 9.2  | 9.0                                   | 15.5                            |
| 2425 | Excelsior mills.....                               | P                 | 1.2  | 4.5                                   | 7.5                             | 1.0  | 1.6                                   | 3.0                             |
| 243  | Millwork and related products:                     |                   |  |                                       |                                 |  |                                       |                                 |
| 2431 | Millwork plants.....                               | N                 | 57.6   | 256.4                                 | 526.5                           | 50.3   | 103.4                                 | 217.0                           |
| 2432 | Plywood plants.....                                | P                 | 26.5   | 146.1                                 | 264.5                           | 14.3   | 26.7                                  | <sup>a</sup> 49.0               |
| 2433 | Prefabricated wood products.....                   | N                 | 10.2   | 40.3                                  | 106.9                           | 2.1  | 3.6                                   | 8.8                             |
| 244  | Wooden containers:                                 |                   |  |                                       |                                 |  |                                       |                                 |
| 2441 | Fruit and vegetable baskets.....                   | N                 | 9.1  | 19.3                                  | 30.6                            | 9.7  | 9.8                                   | 16.3                            |
| 2442 | Rattan and willow ware, n.e.c.....                 | N                 | 1.1  | 3.6                                   | 7.2                             | 1.6  | 2.2                                   | 3.9                             |
| 2443 | Cigar boxes.....                                   | N                 | 1.9  | 4.7                                   | 8.1                             | 3.3  | 3.8                                   | 6.3                             |
| 2444 | Wooden boxes (except cigar boxes).....             | N                 | 47.8   | 174.5                                 | 365.3                           | 40.4   | 57.7                                  | 113.2                           |
| 2445 | Cooperage.....                                     | P                 | 9.2  | 31.4                                  | 106.4                           | 8.1  | 13.9                                  | 38.3                            |
| 249  | Miscellaneous wood products:                       |                   |  |                                       |                                 |  |                                       |                                 |
| 2491 | Wood preserving.....                               | N                 | 16.2   | 92.0                                  | 304.0                           | 12.6   | 28.8                                  | 106.3                           |
| 2492 | Lasts and related products.....                    | P                 | 2.0  | 8.9                                   | 13.1                            | 1.8  | 4.6                                   | <sup>a</sup> 6.4                |
| 2493 | Mirror and picture frames.....                     | N                 | 3.8  | 15.5                                  | 25.6                            | 4.0  | 7.7                                   | 13.2                            |
| 2499 | Wood products, n.e.c.....                          | N                 | 43.5   | 144.0                                 | 276.9                           | 27.1   | 43.6                                  | 77.7                            |
| 25   | FURNITURE AND FIXTURES.....                        | ( <sup>8</sup> )  | 322.6  | 1,377.6                               | n.p.                            | 225.2  | 417.8                                 | n.p.                            |
| 251  | Household furniture:                               |                   |  |                                       |                                 |  |                                       |                                 |
| 2511 | Wood house furniture, except upholstered.....      | N                 | 132.7  | 492.7                                 | 905.3                           | 95.7   | 147.1                                 | 278.1                           |
| 2512 | Household furniture, upholstered.....              | N                 | 44.8   | 192.4                                 | 381.1                           | 37.8   | 67.7                                  | 136.0                           |
| 2513 | Reed and rattan furniture.....                     | N                 | 0.8  | 3.7                                   | 6.4                             | 1.1  | 1.9                                   | 3.5                             |
| 2514 | Metal household furniture, except upholstered..... | N                 | 19.5   | 94.5                                  | 190.2                           | 8.7  | 19.6                                  | 40.0                            |
| 2515 | Mattresses and bedsprings.....                     | P                 | 30.3   | 146.0                                 | 331.1                           | 23.1   | 52.2                                  | <sup>a</sup> 111.7              |
| 2519 | Household furniture, n.e.c.....                    | N                 | 0.9  | 4.0                                   | 7.6                             | ...  | ...                                   | ...                             |
| 252  | Office furniture:                                  |                   |  |                                       |                                 |  |                                       |                                 |
| 2521 | Wood office furniture.....                         | N                 | 6.6  | 26.8                                  | 48.5                            | 5.1  | 7.3                                   | 13.3                            |
| 2522 | Metal office furniture.....                        | N                 | 14.7   | 80.9                                  | 128.4                           | 9.1  | 23.1                                  | 38.5                            |

For footnotes, see end of table.

APPENDIX B

GENERAL STATISTICS FOR INDUSTRY GROUPS AND FOR INDUSTRIES USED IN CONSTRUCTING INDEXES OF PHYSICAL VOLUME OF PRODUCTION FOR MANUFACTURING INDUSTRIES: 1947 AND 1939<sup>1</sup>--Continued

(Money figures in millions of dollars; number of employees in thousands)

| No.  | Industry group and industry<br>Title         | Code <sup>2</sup> | 1947  |                            |                           | 1939   |                            |                           |
|------|--|-------------------|---|----------------------------|---------------------------|--|----------------------------|---------------------------|
|      |  |                   | All employees (average number for the year) | Value added by manufacture | Value of products shipped | All employees (average number for the year) <sup>3</sup> | Value added by manufacture | Value of products shipped |
| 25   | FURNITURE AND FIXTURES--Continued            |                   |   |                            |                           |  |                            |                           |
| 253  | Public-building and professional furniture:  |                   |   |                            |                           |  |                            |                           |
| 2531 | Public-building furniture.....               | N                 | 8.9   | \$37.6                     | \$65.4                    | 7.1  | \$15.2                     | \$26.7                    |
| 2532 | Professional furniture.....                  | N                 | 5.6   | 27.5                       | 44.6                      | 3.6  | 7.9                        | 14.0                      |
| 2541 | Partitions and fixtures.....                 | N                 | 27.7  | 136.8                      | 244.4                     | 19.2   | 43.9                       | 76.9                      |
| 256  | Screens, shades, and blinds:                 |                   |   |                            |                           |  |                            |                           |
| 2561 | Window and door screens.....                 | N                 | 9.5   | 44.4                       | 91.1                      | 3.6  | 7.4                        | 15.2                      |
| 2562 | Window shades.....                           | N                 | 6.8   | 34.8                       | 81.5                      | 4.1  | 11.7                       | 27.1                      |
| 2563 | Venetian blinds.....                         | N                 | 9.7   | 37.1                       | 83.8                      | 7.0  | 12.8                       | 26.9                      |
| 259  | Miscellaneous furniture and fixtures:        |                   |   |                            |                           |  |                            |                           |
| 2591 | Restaurant furniture.....                    | N                 | 3.4   | 15.2                       | 26.2                      | ...  | ...                        | ...                       |
| 2599 | Furniture and fixtures, n.e.c.....           | N                 | 0.7   | 3.2                        | 5.4                       | ...  | ...                        | ...                       |
| 26   | PAPER AND ALLIED PRODUCTS.....               | P                 | 449.9                                       | 2,874.9                    | n.p.                      | 322.9  | 878.9                      | n.p.                      |
| 261  | Pulp, paper, and paperboard:                 |                   |   |                            |                           |  |                            |                           |
| 2611 | Pulp mills.....                              | P                 | 50.3  | 415.9                      | 939.6                     | 30.6   | 82.1                       | 226.9                     |
| 2612 | Paper and board mills.....                   | P                 | 148.1                                       | 1,050.1                    | 2,812.0                   | <sup>a</sup> 100.5                                       | <sup>a</sup> 323.2         | <sup>a</sup> 864.9        |
| 2641 | Paper coating and glazing.....               |                   |   |                            |                           |  |                            |                           |
| 2651 | Envelopes.....                               |                   |   |                            |                           |  |                            |                           |
| 2661 | Paper bags.....                              |                   |   |                            |                           |  |                            |                           |
| 267  | Paperboard containers and boxes:             |                   |   |                            |                           |  |                            |                           |
| 2671 | Paperboard boxes.....                        |                   |   |                            |                           |  |                            |                           |
| 2674 | Fiber cans, tubes, drums, etc.....           | P                 | 251.5                                       | 1,408.9                    | 3,299.8                   | <sup>a</sup> 191.8                                       | <sup>a</sup> 473.6         | <sup>a</sup> 1,039.6      |
| 269  | Pulp goods and miscellaneous paper products: |                   |   |                            |                           |  |                            |                           |
| 2691 | Die-cut paper and board.....                 |                   |   |                            |                           |  |                            |                           |
| 2693 | Wallpaper.....                               |                   |   |                            |                           |  |                            |                           |
| 2694 | Pulp goods, pressed and molded.....          |                   |   |                            |                           |  |                            |                           |
| 2699 | Converted paper products, n.e.c.....         |                   |   |                            |                           |  |                            |                           |
| 27   | PRINTING AND PUBLISHING INDUSTRIES.....      | P                 | 715.4                                       | 4,269.4                    | n.p.                      | 552.3  | 1,765.3                    | n.p.                      |
| 2711 | Newspapers.....                              |                   |   |                            |                           |  |                            |                           |
| 2721 | Periodicals.....                             |                   |   |                            |                           |  |                            |                           |
| 273  | Books:                                       |                   |   |                            |                           |  |                            |                           |
| 2731 | Books: publishing and printing.....          |                   |   |                            |                           |  |                            |                           |
| 2732 | Book printing.....                           |                   |   |                            |                           |  |                            |                           |
| 2741 | Miscellaneous publishing.....                |                   |   |                            |                           |  |                            |                           |
| 2751 | Commercial printing.....                     |                   |   |                            |                           |  |                            |                           |
| 2761 | Lithographing.....                           |                   |   |                            |                           |  |                            |                           |
| 2771 | Greeting cards.....                          | P                 | 715.4                                       | 4,269.4                    | n.p.                      | 552.3  | 1,765.3                    | n.p.                      |
| 278  | Bookbinding and related industries:          |                   |   |                            |                           |  |                            |                           |
| 2781 | Bookbinding.....                             |                   |   |                            |                           |  |                            |                           |
| 2782 | Blankbook making and paper ruling.....       |                   |   |                            |                           |  |                            |                           |
| 2783 | Loose-leaf binders and devices.....          |                   |   |                            |                           |  |                            |                           |
| 2789 | Miscellaneous bookbinding work.....          |                   |   |                            |                           |  |                            |                           |
| 279  | Printing trades service industries:          |                   |   |                            |                           |  |                            |                           |
| 2791 | Typesetting.....                             |                   |   |                            |                           |  |                            |                           |
| 2792 | Engraving and plate printing.....            |                   |   |                            |                           |  |                            |                           |
| 2793 | Photoengraving.....                          |                   |   |                            |                           |  |                            |                           |
| 2794 | Electrotyping and stereotyping.....          |                   |   |                            |                           |  |                            |                           |
| 28   | CHEMICALS AND ALLIED PRODUCTS.....           | P                 | 632.7                                       | 5,412.0                    | n.p.                      | 386.5  | 1,820.6                    | n.p.                      |
| 281  | Industrial inorganic chemicals:              |                   |   |                            |                           |  |                            |                           |
| 2812 | Alkalies and chlorine.....                   | P                 | 19.9  | 113.9                      | 208.6                     | 14.5   | 68.2                       | 101.9                     |
| 2819 | Inorganic chemicals, n.e.c.....              | P                 | 45.5  | 340.8                      | 672.6                     | 31.8   | 165.5                      | 302.2                     |
| 282  | Industrial organic chemicals:                |                   |   |                            |                           |  |                            |                           |
| 2821 | Cyclic (coal-tar) crudes.....                | P                 | 2.0   | 17.1                       | 60.6                      | 1.9  | 11.4                       | 32.8                      |
| 2823 | Plastics materials.....                      | P                 | 37.0  | 297.7                      | 718.7                     | (d)  | (d)                        | (d)                       |
| 2824 | Synthetic rubber.....                        | P                 | 71.9  | 447.9                      | <sup>a</sup> 710.5        | (d)  | (d)                        | (d)                       |
| 2825 | Synthetic fibers.....                        | P                 | 10.4  | 74.7                       | 136.4                     | 8.3  | 44.2                       | 71.1                      |
| 2826 | Explosives.....                              | P                 | 85.0  | 714.0                      | 1,445.2                   | 31.0   | 212.8                      | 376.6                     |
| 2829 | Organic chemicals, n.e.c.....                | P                 |   |                            |                           |  |                            |                           |

For footnotes, see end of table.

## INDEXES OF PRODUCTION

GENERAL STATISTICS FOR INDUSTRY GROUPS AND FOR INDUSTRIES USED IN CONSTRUCTING INDEXES OF PHYSICAL VOLUME OF PRODUCTION  
FOR MANUFACTURING INDUSTRIES: 1947 AND 1939<sup>1</sup>--Continued

(Money figures in millions of dollars; production workers in thousands)

| No.  | Industry group and industry<br>Title       | Code <sup>2</sup> | 1947   |                                 |                           | 1939  |                                 |                           |
|------|--|-------------------|--|---------------------------------|---------------------------|---|---------------------------------|---------------------------|
|      |  |                   | All employees<br>(average number for the year) | Value added by manufac-<br>ture | Value of products shipped | All employees<br>(average number for the year) <sup>3</sup> | Value added by manufac-<br>ture | Value of products shipped |
| 28   | CHEMICALS AND ALLIED PRODUCTS--Continued   |                   |  |                                 |                           |   |                                 |                           |
| 283  | Drugs and medicines:                       |                   |  |                                 |                           |   |                                 |                           |
| 2831 | Biological products.....                   | N                 | 3.2  | \$19.9                          | \$38.8                    | 4.0   | \$12.0                          | \$19.4                    |
| 2832 | Botanical products.....                    | NN                | 0.7  | 9.0                             | 16.4                      | 1.1   | 4.4                             | 7.7                       |
| 2833 | Medicinal chemicals.....                   | N                 | 12.4   | 110.5                           | 201.8                     | 2.5   | 10.7                            | 21.0                      |
| 2834 | Pharmaceutical preparations.....           | N                 | 65.6   | 609.1                           | 941.7                     | 35.4  | 233.5                           | 338.2                     |
| 284  | Soap and related products:                 |                   |  |                                 |                           |   |                                 |                           |
| 2841 | Soap and glycerin.....                     | P                 | 27.7   | 450.7                           | <sup>a</sup> 1,091.1      | 20.2  | 141.6                           | 302.6                     |
| 2842 | Cleaning and polishing preparations.....   | N                 | 15.4   | 135.1                           | 261.6                     | 10.0  | 52.1                            | 89.8                      |
| 2843 | Sulfonated oils and assistants.....        | P                 | 2.0  | 20.2                            | 51.5                      | 1.2   | 7.3                             | 17.8                      |
| 285  | Paints and allied products:                |                   |  |                                 |                           |   |                                 |                           |
| 2851 | Paints and varnishes.....                  | P                 | 53.4   | 469.6                           | 1,248.8                   | 37.4  | 185.7                           | 427.1                     |
| 2852 | Inorganic color pigments.....              | P                 | 13.1   | 94.7                            | 270.0                     | 7.6   | 38.4                            | 79.4                      |
| 2853 | Whiting and fillers.....                   | P                 | 1.2  | 9.0                             | 18.8                      | 0.5   | 1.7                             | 3.7                       |
| 286  | Gum and wood chemicals:                    |                   |  |                                 |                           |   |                                 |                           |
| 2861 | Hardwood distillation.....                 | P                 | 1.9  | 7.5                             | 13.7                      | 2.1   | 2.9                             | 6.8                       |
| 2862 | Softwood distillation.....                 | P                 | 4.6  | 46.1                            | 73.0                      | 2.9   | 7.6                             | 14.1                      |
| 2863 | Gum naval stores.....                      | P                 | 40.7   | 42.8                            | 40.8                      | 1.9   | 4.0                             | 17.4                      |
| 2865 | Natural tanning and dyeing materials.....  | P                 | 1.4  | 6.8                             | 18.3                      | 1.9   | 6.3                             | 12.3                      |
| 287  | Fertilizers:                               |                   |  |                                 |                           |   |                                 |                           |
| 2871 | Fertilizers.....                           | P                 | 31.9   | 186.6                           | <sup>a</sup> 456.8        | 24.2  | 57.2                            | <sup>a</sup> 153.1        |
| 2872 | Fertilizers (mixing only).....             |                   |  |                                 |                           |   |                                 |                           |
| 288  | Vegetable and animal oils:                 |                   |  |                                 |                           |   |                                 |                           |
| 2881 | Cottonseed oil mills.....                  | P                 | 14.4   | 104.6                           | 518.1                     | <sup>a</sup> 16.4   | <sup>a</sup> 30.8               | <sup>a</sup> 161.4        |
| 2882 | Linseed oil mills.....                     | P                 | 1.6  | 42.2                            | 192.2                     | 2.4   | 11.6                            | 68.0                      |
| 2883 | Soybean oil mills.....                     | P                 | 6.5  | 105.3                           | 585.7                     | <sup>a</sup> 2.6  | <sup>a</sup> 13.0               | <sup>a</sup> 53.0         |
| 2884 | Vegetable oil mills, n.e.c.....            | N                 | 5.0  | 77.5                            | 334.2                     | 1.2   | 3.7                             | 19.2                      |
| 2885 | Marine animal oils.....                    | N                 | 1.9  | 15.0                            | 31.3                      | 1.9   | 6.2                             | 20.2                      |
| 2886 | Grease and tallow.....                     | P                 | 12.5   | 118.8                           | 304.5                     | 6.5   | 20.1                            | 58.2                      |
| 2887 | Fatty acids.....                           | N                 | 1.3  | 17.2                            | 68.1                      | 0.7   | 2.8                             | 9.5                       |
| 2889 | Animal oils, n.e.c.....                    | N                 | 0.2  | 1.8                             | 11.7                      | 0.05  | 0.2                             | 0.7                       |
| 289  | Miscellaneous chemical products:           |                   |  |                                 |                           |   |                                 |                           |
| 2891 | Printing ink.....                          | P                 | 6.0  | 51.9                            | 115.7                     | 4.2   | 23.3                            | 47.2                      |
| 2892 | Essential oils.....                        | N                 | 1.2  | 14.5                            | 35.7                      | 0.5   | 4.9                             | 12.3                      |
| 2893 | Toilet preparations.....                   | N                 | 26.0   | 226.9                           | 371.9                     | 15.6  | 89.0                            | 147.5                     |
| 2894 | Glue and gelatin.....                      | P                 | 5.4  | 45.3                            | <sup>a</sup> 99.7         | 4.0   | 15.5                            | <sup>a</sup> 33.9         |
| 2895 | Carbon black.....                          | P                 | 3.2  | 45.0                            | <sup>a</sup> 73.3         | 1.9   | 8.5                             | 14.6                      |
| 2896 | Compressed and liquefied gases.....        | P                 | 9.0  | <sup>a</sup> 113.6              | <sup>a</sup> 140.2        | 6.4   | 39.8                            | 53.4                      |
| 2897 | Insecticides and fungicides.....           | N                 | 4.6  | 30.1                            | 73.1                      | 1.3   | 3.8                             | 9.2                       |
| 2898 | Salt.....                                  | P                 | 4.8  | 25.2                            | 46.1                      | 4.6   | 18.0                            | 27.5                      |
| 2899 | Chemical products, n.e.c.....              | N                 | 22.2   | 193.4                           | 393.2                     | 9.9   | 53.4                            | 100.2                     |
| 29   | PETROLEUM AND COAL PRODUCTS.....           | P                 | 212.0  | 2,015.4                         | n.p.                      | 144.8   | 560.5                           | n.p.                      |
| 2911 | Petroleum refining <sup>9</sup> .....      | P                 | 152.1  | 1,563.9                         | <sup>a</sup> 6,130.2      | 105.3   | <sup>a</sup> 409.9              | <sup>a</sup> 2,328.9      |
| 293  | Coke and byproducts:                       |                   |  |                                 |                           |   |                                 |                           |
| 2931 | Beehive coke ovens.....                    | P                 | 3.1  | 21.7                            | 70.2                      | <sup>a</sup> 1.1  | <sup>a</sup> 1.8                | <sup>a</sup> 6.5          |
| 2932 | Byproduct coke ovens.....                  | P                 | 35.8   | 256.6                           | 970.6                     | 24.1  | 84.5                            | 342.2                     |
| 295  | Paving and roofing materials:              |                   |  |                                 |                           |   |                                 |                           |
| 2951 | Paving mixtures and blocks.....            | N                 | 2.7  | 22.8                            | 50.2                      | 3.2   | 13.7                            | 32.8                      |
| 2952 | Roofing felts and coatings.....            | P                 | 16.6   | 132.9                           | 338.5                     | 10.4  | 48.1                            | 110.4                     |
| 299  | Miscellaneous petroleum and coal products: |                   |  |                                 |                           |   |                                 |                           |
| 2991 | Fuel briquets and packaged fuel.....       | P                 | 1.2  | 9.1                             | 32.9                      | <sup>a</sup> 0.7  | <sup>a</sup> 2.5                | <sup>a</sup> 7.7          |
| 2992 | Lubricants, n.e.c.....                     | ( <sup>9</sup> )  | ( <sup>9</sup> )                               | ( <sup>9</sup> )                | ( <sup>9</sup> )          | ( <sup>9</sup> )  | ( <sup>9</sup> )                | ( <sup>9</sup> )          |
| 2999 | Petroleum and coal products, n.e.c.....    | N                 | 0.5  | 8.4                             | 15.2                      | ...   | ...                             | ...                       |
| 30   | RUBBER PRODUCTS.....                       | P                 | 259.1  | 1,302.9                         | n.p.                      | 149.1   | 405.2                           | n.p.                      |
| 3011 | Tires and inner tubes.....                 | P                 | 115.7  | 650.2                           | 1,547.0                   | 67.2  | 231.4                           | 580.9                     |
| 3021 | Rubber footwear.....                       | P                 | 28.1   | 121.0                           | <sup>a</sup> 201.6        | 18.1  | 29.2                            | 50.0                      |
| 3031 | Reclaimed rubber.....                      | P                 | 2.1  | 9.6                             | <sup>a</sup> 17.7         | 1.3   | 3.9                             | 6.9                       |
| 3099 | Rubber industries, n.e.c.....              | P                 | 113.2  | 522.1                           | <sup>a</sup> 963.3        | <sup>a</sup> 62.5   | <sup>a</sup> 140.7              | <sup>a</sup> 262.5        |

For footnotes, see end of table.

APPENDIX B

GENERAL STATISTICS FOR INDUSTRY GROUPS AND FOR INDUSTRIES USED IN CONSTRUCTING INDEXES OF PHYSICAL VOLUME OF PRODUCTION FOR MANUFACTURING INDUSTRIES: 1947 AND 1939<sup>1</sup>—Continued

(Money figures in millions of dollars; number of employees in thousands)

| Industry group and industry |   | Code <sup>2</sup> | 1947  |                            |                           | 1939   |                            |                           |
|-----------------------------|---|-------------------|---|----------------------------|---------------------------|--|----------------------------|---------------------------|
|                             |   |                   | All employees (average number for the year) | Value added by manufacture | Value of products shipped | All employees (average number for the year) <sup>3</sup> | Value added by manufacture | Value of products shipped |
| No.                         | Title   |                   |   |                            |                           |  |                            |                           |
| 31                          | LEATHER AND LEATHER PRODUCTS.....                 | P                 | 383.3                                       | \$1,532.8                  | n.p.                      | 359.4  | \$583.0                    | n.p.                      |
| 3111                        | Leather tanning and finishing.....                | P                 | 53.2  | 403.8                      | <sup>a</sup> \$1,034.5    | 51.6   | 117.4                      | <sup>a</sup> \$328.8      |
| 3121                        | Industrial leather belting.....                   | N                 | 5.0   | 28.4                       | 57.4                      | 3.1  | 10.8                       | 24.4                      |
| 3131                        | Footwear cut stock.....                           | P                 | 22.1  | 87.3                       | 294.3                     | 21.3   | 38.9                       | 129.4                     |
| 314                         | Footwear (except rubber):                         |                   |   |                            |                           |  |                            |                           |
| 3141                        | Footwear, except rubber.....                      | P                 | 229.3                                       | 746.0                      | 1,717.0                   | 225.4  | 330.1                      | 699.3                     |
| 3142                        | House slippers.....                               | N                 | 11.0  | 39.5                       | 77.0                      | 11.1   | 16.1                       | 35.3                      |
| 315                         | Leather gloves and mittens:                       |                   |   |                            |                           |  |                            |                           |
| 3151                        | Leather dress gloves.....                         | P                 | 9.0   | 24.0                       | 47.3                      | 8.6  | 9.8                        | 20.1                      |
| 3152                        | Leather work gloves.....                          | P                 | 2.6   | 7.9                        | 15.5                      | 2.0  | 2.7                        | 5.6                       |
| 3161                        | Luggage.....                                      | P                 | 16.1  | 68.1                       | 134.2                     | 9.9  | 17.4                       | 36.6                      |
| 317                         | Handbags and small leather goods:                 |                   |   |                            |                           |  |                            |                           |
| 3171                        | Handbags and purses.....                          | P                 | 20.3  | 76.6                       | 161.9                     | 15.7   | 22.9                       | 55.8                      |
| 3172                        | Small leather goods.....                          | N                 | 5.6   | 19.5                       | 37.6                      | 4.4  | 7.0                        | 14.3                      |
| 319                         | Miscellaneous leather goods:                      |                   |   |                            |                           |  |                            |                           |
| 3192                        | Saddlery, harness, and whips.....                 | N                 | 2.9   | 9.4                        | 20.5                      | 3.4  | 5.2                        | 12.1                      |
| 3199                        | Leather goods, n.e.c.....                         | N                 | 6.2   | 22.3                       | 41.0                      | 2.9  | 4.7                        | 8.9                       |
| 32                          | STONE, CLAY, AND GLASS PRODUCTS.....              | P                 | 462.1                                       | 2,306.5                    | n.p.                      | 311.5  | 848.6                      | n.p.                      |
| 3211                        | Flat glass.....                                   | P                 | 27.2  | 173.8                      | 242.8                     | 18.6   | 68.5                       | 102.4                     |
| 322                         | Pressed and blown glassware:                      |                   |   |                            |                           |  |                            |                           |
| 3221                        | Glass containers.....                             | P                 | 47.1  | 252.1                      | <sup>a</sup> 444.0        | 29.4   | 98.4                       | 158.3                     |
| 3229                        | Pressed and blown glassware, n.e.c.....           | P                 | 42.2  | 169.4                      | <sup>a</sup> 239.3        | 31.3   | 70.3                       | 97.3                      |
| 3231                        | Products of purchased glass.....                  | N                 | 22.4  | 118.1                      | 199.8                     | 12.2   | 23.4                       | 49.9                      |
| 3241                        | Cement, hydraulic.....                            | P                 | 35.7  | 247.9                      | 408.9                     | 24.5   | 115.2                      | 192.6                     |
| 325                         | Structural clay products:                         |                   |   |                            |                           |  |                            |                           |
| 3251                        | Brick and hollow tile.....                        | P                 | 29.6  | 110.9                      | <sup>a</sup> 148.5        | 33.0   | 55.7                       | 78.2                      |
| 3253                        | Floor and wall tile.....                          | P                 | 6.8   | 31.2                       | <sup>a</sup> 41.9         | 6.4  | 12.5                       | 17.7                      |
| 3254                        | Sewer pipe.....                                   | P                 | 9.1   | 38.4                       | <sup>a</sup> 50.1         | 7.1  | 13.7                       | 18.3                      |
| 3255                        | Clay refractories.....                            | P                 | 18.0  | 76.1                       | <sup>a</sup> 111.4        | 13.7   | 29.0                       | 42.2                      |
| 3259                        | Structural clay products, n.e.c.....              | P                 | 5.7   | 23.9                       | <sup>a</sup> 30.6         | 3.9  | 7.3                        | 9.4                       |
| 326                         | Pottery and related products:                     |                   |   |                            |                           |  |                            |                           |
| 3261                        | Vitreous plumbing fixtures.....                   | P                 | 7.8   | 45.7                       | 68.1                      | 5.1  | 15.0                       | 22.0                      |
| 3262                        | Vitreous-china food utensils.....                 | N                 | 11.1  | 35.2                       | 43.2                      | 4.8  | 7.7                        | 9.4                       |
| 3263                        | Earthenware food utensils.....                    | N                 | 16.7  | 54.8                       | 72.1                      | 12.8   | 19.6                       | 27.8                      |
| 3264                        | Porcelain electrical supplies.....                | N                 | 11.5  | 52.8                       | 71.5                      | 6.9  | 13.7                       | 20.8                      |
| 3265                        | China decorating for the trade.....               | N                 | 1.0   | 5.1                        | 8.4                       | 0.5  | 1.2                        | 2.3                       |
| 3269                        | Pottery products, n.e.c.....                      | N                 | 9.7   | 31.1                       | 39.9                      | 7.0  | 12.8                       | 16.6                      |
| 327                         | Concrete and plaster products:                    |                   |   |                            |                           |  |                            |                           |
| 3271                        | Concrete products.....                            | P                 | 46.8  | 202.8                      | 329.7                     | <sup>a</sup> 17.7  | <sup>a</sup> 46.7          | <sup>a</sup> 77.5         |
| 3272                        | Gypsum products.....                              | P                 | 7.5   | 67.9                       | 127.5                     | 5.9  | 29.5                       | 46.2                      |
| 3274                        | Lime.....   | P                 | 7.0   | 39.3                       | 72.8                      | 7.8  | 18.6                       | <sup>a</sup> 35.5         |
| 3275                        | Mineral wool.....                                 | N                 | 8.9   | 36.8                       | 73.1                      | 2.2  | 4.5                        | 7.9                       |
| 3281                        | Cut-stone and stone products.....                 | N                 | 9.9   | 45.9                       | 67.3                      | 14.5   | 37.1                       | 57.3                      |
| 329                         | Miscellaneous nonmetallic mineral products:       |                   |   |                            |                           |  |                            |                           |
| 3291                        | Abrasive products.....                            | NP                | 20.8  | 126.7                      | 223.4                     | 11.3   | 44.8                       | 71.3                      |
| 3292                        | Asbestos products.....                            | NP                | 21.5  | 112.6                      | 204.7                     | 12.7   | 38.5                       | 63.9                      |
| 3293                        | Gaskets and asbestos insulating.....              | N                 | 13.0  | 65.3                       | 118.2                     | 7.5  | 19.6                       | 37.2                      |
| 3294                        | Graphite: ground or blended.....                  | N                 | 0.9   | 4.9                        | 9.0                       | 0.1  | 0.4                        | 1.3                       |
| 3295                        | Minerals: ground or treated.....                  | N                 | 8.0   | 51.1                       | 81.5                      | 6.2  | 23.0                       | 36.7                      |
| 3296                        | Sand-lime products.....                           | P                 | 0.3   | 1.2                        | 1.7                       | 0.4  | 1.3                        | 1.9                       |
| 3297                        | Nonclay refractories.....                         | P                 | 10.3  | 58.0                       | <sup>a</sup> 93.8         | <sup>a</sup> 5.3   | <sup>a</sup> 14.4          | <sup>a</sup> 24.9         |
| 3298                        | Statuary and art goods.....                       | N                 | 2.0   | 7.4                        | 10.0                      | 1.2  | 2.5                        | 3.4                       |
| 3299                        | Nonmetallic mineral products, n.e.c.....          | N                 | 3.6   | 20.1                       | 40.6                      | 1.5  | 3.7                        | 6.4                       |
| 33                          | PRIMARY METAL INDUSTRIES.....                     | P                 | 1,157.3                                     | 5,765.5                    | n.p.                      | 771.8  | 2,173.7                    | n.p.                      |
| 331                         | Blast furnaces and steel mills:                   |                   |   |                            |                           |  |                            |                           |
| 3311                        | Blast furnaces <sup>10</sup> .....                | P                 | 46.6  | 383.6                      | 1,864.8                   | 25.9   | 103.0                      | 591.8                     |
| 3312                        | Steel works and rolling mills <sup>11</sup> ..... | P                 | 536.1                                       | 2,504.0                    | n.p.                      | 431.4  | 1,213.8                    | n.p.                      |
| 3313                        | Electrometallurgical products.....                | ( <sup>10</sup> ) | ( <sup>10</sup> )                           | ( <sup>10</sup> )          | ( <sup>10</sup> )         | ( <sup>10</sup> )  | ( <sup>10</sup> )          | ( <sup>10</sup> )         |

For footnotes, see end of table.

## INDEXES OF PRODUCTION

GENERAL STATISTICS FOR INDUSTRY GROUPS AND FOR INDUSTRIES USED IN CONSTRUCTING INDEXES OF PHYSICAL VOLUME OF PRODUCTION FOR MANUFACTURING INDUSTRIES: 1947 AND 1939<sup>1</sup>---Continued

(Money figures in millions of dollars; number of employees in thousands)

| No.  | Industry group and industry<br>Title      | Code <sup>2</sup> | 1947   |                                    |                                 | 1939  |                                    |                                 |
|------|---|-------------------|--|------------------------------------|---------------------------------|---|------------------------------------|---------------------------------|
|      |   |                   | All employees<br>(average number for the year) | Value added by<br>manufac-<br>ture | Value of<br>products<br>shipped | All employees<br>(average number for the year) <sup>3</sup> | Value added by<br>manufac-<br>ture | Value of<br>products<br>shipped |
| 33   | PRIMARY METAL INDUSTRIES--Continued       |                   |  |                                    |                                 |   |                                    |                                 |
| 332  | Iron and steel foundries:                 |                   |  |                                    |                                 |   |                                    |                                 |
| 3321 | Gray-iron foundries.....                  | P                 | 173.8  | \$732.6                            | <sup>a</sup> \$1,201.2          | 84.4  | \$169.3                            | <sup>a</sup> \$279.7            |
| 3322 | Malleable-iron foundries.....             | P                 | 29.9   | 121.7                              | 184.4                           | <sup>a</sup> 22.7   | <sup>a</sup> 40.4                  | <sup>a</sup> 60.3               |
| 3323 | Steel foundries.....                      | P                 | 63.7   | 267.2                              | 413.1                           | 35.6  | 90.2                               | 135.5                           |
| 333  | Primary nonferrous metals:                |                   |  |                                    |                                 |   |                                    |                                 |
| 3331 | Primary copper.....                       | P                 | 42.8   | 325.6                              | n.p.                            | 32.9  | 137.0                              | n.p.                            |
| 3332 | Primary lead.....                         |                   |  |                                    |                                 |   |                                    |                                 |
| 3333 | Primary zinc.....                         |                   |  |                                    |                                 |   |                                    |                                 |
| 3334 | Primary aluminum.....                     |                   |  |                                    |                                 |   |                                    |                                 |
| 3339 | Primary nonferrous metals, n.e.c.....     |                   |  |                                    |                                 |   |                                    |                                 |
| 3341 | Secondary nonferrous metals.....          | N                 | 18.4   | 119.7                              | 724.0                           | 10.6  | 41.4                               | 253.6                           |
| 335  | Nonferrous metal rolling and drawing:     |                   |  |                                    |                                 |   |                                    |                                 |
| 3351 | Copper rolling and drawing.....           | NP                | 53.9   | 302.6                              | 1,063.7                         | 40.9  | 135.6                              | 350.1                           |
| 3352 | Aluminum rolling and drawing.....         | N                 | 27.4   | 150.7                              | 404.8                           | 12.1  | 34.3                               | 115.3                           |
| 3359 | Nonferrous metal rolling, n.e.c.....      | N                 | 7.6  | 50.1                               | 193.1                           | 3.4   | 15.2                               | 34.0                            |
| 3361 | Nonferrous foundries.....                 | P                 | 65.3   | 295.8                              | 562.1                           | 28.5  | 67.6                               | 132.7                           |
| 339  | Miscellaneous primary metal industries:   |                   |  |                                    |                                 |   |                                    |                                 |
| 3391 | Iron and steel forgings.....              | N                 | 36.7   | 197.1                              | 370.1                           | 17.4  | 49.4                               | 98.0                            |
| 3392 | Wire drawing.....                         | N                 | 55.1   | 314.8                              | 912.1                           | 26.0  | 76.5                               | 176.5                           |
| 3393 | Welded and heavy-riveted pipe.....        | (11)              | (11)   | (11)                               | (11)                            | (11)  | (11)                               | (11)                            |
| 3399 | Primary metal industries, n.e.c.....      | (11)              | (11)   | (11)                               | (11)                            | (11)  | (11)                               | (11)                            |
| 34   | FABRICATED METAL PRODUCTS.....            | P                 | 971.3  | 4,921.4                            | n.p.                            | 550.2   | 1,396.4                            | n.p.                            |
| 3411 | Tin cans and other tinware.....           | P                 | 46.9   | 232.0                              | 679.9                           | 35.0  | 116.2                              | 358.8                           |
| 342  | Cutlery, hand tools, and hardware:        |                   |  |                                    |                                 |   |                                    |                                 |
| 3421 | Cutlery.....                              | P                 | 20.2   | 104.8                              | 142.6                           | 12.3  | 28.4                               | 42.8                            |
| 3422 | Edge tools.....                           | N                 | 8.8  | 40.5                               | 62.4                            | 5.9   | 13.2                               | 18.8                            |
| 3423 | Hand tools, n.e.c.....                    | N                 | 35.7   | 174.5                              | 272.5                           | 18.3  | 46.1                               | 72.1                            |
| 3424 | Files.....                                | P                 | 4.4  | 19.1                               | 24.5                            | 3.7   | 8.8                                | 11.3                            |
| 3425 | Hand saws and saw blades.....             | N                 | 8.4  | 43.0                               | 70.4                            | 4.9   | 11.7                               | 18.5                            |
| 3429 | Hardware, n.e.c.....                      | N                 | 76.5   | 346.5                              | 578.3                           | 46.4  | 100.8                              | 167.4                           |
| 343  | Heating and plumbing equipment:           |                   |  |                                    |                                 |   |                                    |                                 |
| 3431 | Metal plumbing fixtures.....              | N                 | 34.1   | 155.9                              | 291.9                           | 26.5  | 66.7                               | 112.4                           |
| 3432 | Oil burners.....                          | P                 | 6.3  | 44.4                               | 106.8                           | 2.9   | 8.4                                | 18.8                            |
| 3439 | Heating and cooking apparatus, n.e.c..... | P                 | 110.5  | 589.2                              | 1,134.1                         | 65.7  | 169.7                              | 297.8                           |
| 344  | Structural metal products:                |                   |  |                                    |                                 |   |                                    |                                 |
| 3441 | Structural and ornamental products.....   | P                 | 79.7   | 440.7                              | 864.4                           | 46.4  | 116.9                              | <sup>a</sup> 281.3              |
| 3442 | Metal doors, sash, and trim.....          | P                 | 21.1   | 117.6                              | 206.1                           | 10.0  | 27.4                               | 45.1                            |
| 3443 | Boiler shop products.....                 | P                 | 69.0   | 358.8                              | 704.5                           | <sup>a</sup> 27.6   | <sup>a</sup> 77.6                  | <sup>a</sup> 152.7              |
| 3444 | Sheet-metal work.....                     | N                 | 42.6   | 226.4                              | 424.3                           | <sup>a</sup> 23.5   | <sup>a</sup> 62.9                  | <sup>a</sup> 131.4              |
| 346  | Metal stamping and coating:               |                   |  |                                    |                                 |   |                                    |                                 |
| 3461 | Vitreous-enameled products.....           | N                 | 12.2   | 45.1                               | 74.4                            | 12.5  | 23.9                               | 44.2                            |
| 3463 | Metal stampings.....                      | N                 | 132.0  | 642.5                              | 1,164.3                         | <sup>a</sup> 68.2   | <sup>a</sup> 167.4                 | <sup>a</sup> 324.8              |
| 3465 | Enameling and lacquering.....             | N                 | 4.0  | 16.6                               | 23.9                            | 2.1   | 4.5                                | 6.9                             |
| 3466 | Galvanizing.....                          | N                 | 3.1  | 15.3                               | 27.1                            | 1.5   | 3.7                                | 6.2                             |
| 3467 | Engraving on metal.....                   | N                 | 3.4  | 16.3                               | 20.5                            | 1.7   | 4.2                                | 5.9                             |
| 3468 | Plating and polishing.....                | N                 | 28.2   | 125.4                              | 176.5                           | 9.7   | 20.9                               | 28.2                            |
| 3471 | Lighting fixtures.....                    | N                 | 47.6   | 247.6                              | 474.8                           | 25.7  | 64.7                               | 124.6                           |
| 348  | Fabricated wire products:                 |                   |  |                                    |                                 |   |                                    |                                 |
| 3481 | Nails and spikes.....                     | NP                | 3.8  | 15.7                               | 30.0                            | 3.0   | 7.1                                | 12.9                            |
| 3489 | Wirework, n.e.c.....                      | P                 | 56.8   | 266.4                              | 464.6                           | 35.9  | 83.9                               | 158.8                           |
| 349  | Other fabricated metal products:          |                   |  |                                    |                                 |   |                                    |                                 |
| 3491 | Metal barrels, drums, and pails.....      | P                 | 10.9   | 64.1                               | 173.1                           | 7.0   | 16.8                               | 49.2                            |
| 3492 | Safes and vaults.....                     | N                 | 3.8  | 19.4                               | 29.2                            | 1.6   | 3.7                                | 6.1                             |
| 3493 | Steel springs.....                        | P                 | 7.8  | 45.9                               | 92.6                            | 3.6   | 10.2                               | 23.0                            |
| 3494 | Bolts, nuts, washers, and rivets.....     | P                 | 49.2   | 285.5                              | 463.8                           | 24.8  | 64.0                               | 114.6                           |
| 3495 | Screw-machine products.....               | N                 | 28.5   | 143.9                              | 220.5                           | 12.7  | 31.7                               | 52.6                            |
| 3496 | Collapsible tubes.....                    | N                 | 3.9  | 16.9                               | 27.0                            | 2.2   | 4.5                                | 9.5                             |
| 3497 | Metal foil.....                           | N                 | 4.3  | 21.4                               | 54.6                            | 2.7   | 11.1                               | 24.3                            |
| 3499 | Fabricated metal products, n.e.c.....     | N                 | 7.6  | 40.0                               | 73.2                            | 6.2   | 19.3                               | 32.4                            |

For footnotes, see end of table.

APPENDIX B

GENERAL STATISTICS FOR INDUSTRY GROUPS AND FOR INDUSTRIES USED IN CONSTRUCTING INDEXES OF PHYSICAL VOLUME OF PRODUCTION FOR MANUFACTURING INDUSTRIES: 1947 AND 1939<sup>1</sup>--Continued

(Money figures in millions of dollars; number of employees in thousands)

| Industry group and industry |   | Code <sup>2</sup> | 1947  |                            |                           | 1939   |                            |                           |
|-----------------------------|---|-------------------|---|----------------------------|---------------------------|--|----------------------------|---------------------------|
|                             |   |                   | All employees (average number for the year) | Value added by manufacture | Value of products shipped | All employees (average number for the year) <sup>3</sup> | Value added by manufacture | Value of products shipped |
| No.                         | Title                                       |                   |   |                            |                           |  |                            |                           |
| 35                          | MACHINERY (EXCEPT ELECTRICAL).....          | P                 | 1,545.4                                     | \$7,812.6                  | n.p.                      | 701.5  | \$2,032.9                  | n.p.                      |
| 351                         | Engines and turbines:                       |                   |   |                            |                           |  |                            |                           |
| 3511                        | Steam engines and turbines.....             | N                 | 21.5  | 80.9                       | \$129.9                   | 810.0  | <sup>a</sup> 26.8          | <sup>a</sup> \$61.8       |
| 3519                        | Internal-combustion engines.....            | P                 | 71.4  | 327.2                      | 683.5                     | 821.0  | <sup>a</sup> 60.7          | <sup>a</sup> 117.7        |
| 352                         | Tractors and farm machinery:                |                   |   |                            |                           |  |                            |                           |
| 3521                        | Tractors.....                               | P                 | 77.3  | 332.1                      | 890.8                     | 38.8   | 116.7                      | 244.3                     |
| 3522                        | Farm machinery (except tractors).....       | P                 | 94.1  | 421.7                      | 888.6                     | <sup>a</sup> 39.9  | <sup>a</sup> 103.3         | <sup>a</sup> 193.0        |
| 353                         | Construction and mining machinery:          |                   |   |                            |                           |  |                            |                           |
| 3531                        | Construction and mining machinery.....      | NP                | 84.7  | 470.1                      | 926.7                     | 32.7   | 101.2                      | 182.9                     |
| 3532                        | Oil-field machinery and tools.....          | N                 | 29.2  | 171.3                      | 288.9                     | 16.9   | 58.1                       | 89.6                      |
| 354                         | Metalworking machinery:                     |                   |   |                            |                           |  |                            |                           |
| 3541                        | Machine tools.....                          | P                 | 70.7  | 348.0                      | 501.9                     | 47.7   | 155.9                      | 221.3                     |
| 3542                        | Metalworking machinery, n.e.c.....          | N                 | 55.0  | 302.8                      | 520.2                     | 23.9   | 73.4                       | 113.7                     |
| 3543                        | Cutting tools, jigs, fixtures, etc.....     | N                 | 88.9  | 480.4                      | 623.8                     | 32.3   | 96.9                       | 129.5                     |
| 355                         | Special-industry machinery, n.e.c.:         |                   |   |                            |                           |  |                            |                           |
| 3551                        | Food-products machinery.....                | N                 | 36.8  | 191.2                      | 326.4                     | <sup>a</sup> 19.4  | <sup>a</sup> 55.7          | <sup>a</sup> 87.3         |
| 3552                        | Textile machinery.....                      | NP                | 53.6  | 256.4                      | 403.4                     | 27.2   | 62.0                       | 96.9                      |
| 3553                        | Woodworking machinery.....                  | N                 | 15.6  | 86.4                       | 145.3                     | 5.1  | 12.7                       | 20.5                      |
| 3554                        | Paper-industries machinery.....             | N                 | 17.1  | 81.4                       | 151.1                     | 7.5  | 20.2                       | 33.2                      |
| 3555                        | Printing-trades machinery.....              | NP                | 24.8  | 131.6                      | 198.8                     | 13.4   | 41.1                       | 56.6                      |
| 3559                        | Special-industry machinery, n.e.c.....      | N                 | 68.1  | 348.6                      | 551.0                     | 28.4   | 73.6                       | 112.8                     |
| 356                         | General industrial machinery:               |                   |   |                            |                           |  |                            |                           |
| 3561                        | Pumps and compressors.....                  | NP                | 54.7  | 282.5                      | 552.5                     | <sup>a</sup> 28.2  | <sup>a</sup> 83.8          | <sup>a</sup> 139.7        |
| 3562                        | Elevators and escalators.....               | P                 | 10.2  | 68.6                       | 101.8                     | 5.3  | 16.9                       | 26.8                      |
| 3563                        | Conveyors.....                              | N                 | 24.6  | 143.5                      | 248.4                     | <sup>a</sup> 8.1   | <sup>a</sup> 22.3          | <sup>a</sup> 39.1         |
| 3564                        | Blowers and fans.....                       | N                 | 14.8  | 84.4                       | 140.7                     | 5.7  | 17.5                       | 29.6                      |
| 3565                        | Industrial trucks and tractors.....         | N                 | 14.0  | 81.8                       | 162.6                     | 5.0  | 13.2                       | 30.4                      |
| 3566                        | Power-transmission equipment.....           | N                 | 54.3  | 283.6                      | 431.8                     | 22.5   | 68.5                       | 109.3                     |
| 3567                        | Industrial furnaces and ovens.....          | N                 | 6.3   | 39.0                       | 75.4                      | 1.7  | 7.8                        | 15.0                      |
| 3568                        | Mechanical stokers.....                     | P                 | 4.1   | 22.2                       | 38.8                      | 5.3  | 15.4                       | 25.6                      |
| 3569                        | General industrial machinery, n.e.c.....    | N                 | 34.3  | 183.6                      | 315.4                     | 16.8   | 55.1                       | 87.1                      |
| 357                         | Office and store machines:                  |                   |   |                            |                           |  |                            |                           |
| 3571                        | Computing and related machines.....         | P                 | 46.4  | 231.2                      | 293.5                     | 20.1   | <sup>a</sup> 62.2          | <sup>a</sup> 72.6         |
| 3572                        | Typewriters.....                            | P                 | 26.6  | 121.4                      | 153.9                     | 19.8   | 29.1                       | 39.9                      |
| 3576                        | Scales and balances.....                    | N                 | 6.5   | 34.8                       | 54.5                      | 3.8  | 9.4                        | 14.4                      |
| 3579                        | Office and store machines, n.e.c.....       | N                 | 18.3  | 116.5                      | 175.8                     | 9.1  | 35.7                       | 53.4                      |
| 358                         | Service and household machines:             |                   |   |                            |                           |  |                            |                           |
| 3581                        | Domestic laundry equipment.....             | P                 | 28.4  | 161.8                      | 442.3                     | 9.6  | 25.2                       | 61.6                      |
| 3582                        | Laundry and dry-cleaning machinery.....     | N                 | 9.1   | 54.3                       | 94.4                      | 3.8  | 13.4                       | 22.4                      |
| 3583                        | Sewing machines.....                        | P                 | 15.3  | 68.7                       | 97.0                      | 9.6  | 21.1                       | 29.7                      |
| 3584                        | Vacuum cleaners.....                        | P                 | 14.9  | 91.0                       | 160.2                     | 5.0  | <sup>a</sup> 20.4          | <sup>a</sup> 29.5         |
| 3585                        | Refrigeration machinery.....                | P                 | 129.3                                       | 597.5                      | n.p.                      | 48.5   | 147.0                      | n.p.                      |
| 3586                        | Measuring and dispensing pumps.....         | P                 | 12.1  | 66.2                       | 125.1                     | 7.4  | 25.3                       | 44.3                      |
| 3589                        | Service and household machines, n.e.c.....  | N                 | 11.2  | 66.2                       | 130.9                     | 1.9  | 8.5                        | 15.7                      |
| 359                         | Miscellaneous machinery parts:              |                   |   |                            |                           |  |                            |                           |
| 3591                        | Valves and fittings, except plumbers'.....  | N                 | 80.1  | 393.9                      | 637.5                     | 41.4   | 107.5                      | 164.9                     |
| 3592                        | Fabricated pipe and fittings.....           | N                 | 10.6  | 58.8                       | 116.0                     | 3.6  | 10.8                       | 23.0                      |
| 3593                        | Ball and roller bearings.....               | N                 | 52.2  | 259.1                      | 365.6                     | 23.7   | 77.5                       | 105.5                     |
| 3599                        | Machine shops.....                          | N                 | 58.2  | 271.9                      | 410.3                     | <sup>a</sup> 31.4  | <sup>a</sup> 81.0          | <sup>a</sup> 129.1        |
| 36                          | ELECTRICAL MACHINERY.....                   | P                 | 801.4                                       | 3,893.9                    | n.p.                      | 321.5  | 930.7                      | n.p.                      |
| 361                         | Electrical industrial apparatus:            |                   |   |                            |                           |  |                            |                           |
| 3611                        | Wiring devices and supplies.....            | N                 | 38.4  | 213.6                      | 378.1                     | 17.3   | 48.0                       | 91.4                      |
| 3612                        | Carbon and graphite products.....           | N                 | 7.8   | 40.2                       | 68.7                      | 4.1  | 11.7                       | 18.4                      |
| 3613                        | Electrical measuring instruments.....       | P                 | 20.9  | 103.9                      | 153.4                     | 9.3  | 29.7                       | 41.8                      |
| 3614                        | Motors and generators.....                  | P                 | 163.6                                       | 764.8                      | 1,364.2                   | <sup>a</sup> 69.0  | <sup>a</sup> 187.8         | <sup>a</sup> 299.6        |
| 3615                        | Transformers.....                           | P                 | 72.3  | 395.2                      | 628.3                     | 20.1   | 71.8                       | 111.3                     |
| 3616                        | Electrical control apparatus.....           | N                 | 7.3   | 57.3                       | 103.7                     | 2.3  | 10.3                       | 20.7                      |
| 3617                        | Electrical welding apparatus.....           | P                 | 11.0  | 41.3                       | 74.8                      | 1.3  | 3.7                        | 6.2                       |
| 3619                        | Electrical industrial apparatus, n.e.c..... | N                 |   |                            |                           |  |                            |                           |
| 3621                        | Electrical appliances.....                  | P                 | 44.4  | 236.2                      | 466.0                     | 17.1   | 42.2                       | 84.8                      |
| 3631                        | Insulated wire and cable.....               | N                 | 21.3  | 103.7                      | 301.1                     | 19.2   | 50.3                       | 120.4                     |
| 3641                        | Engine electrical equipment.....            | N                 | 43.9  | 196.4                      | 353.3                     | 20.4   | 66.1                       | 106.6                     |
| 3651                        | Electric lamps.....                         | P                 | 23.8  | 120.3                      | 203.2                     | 11.6   | 56.3                       | 84.8                      |

For footnotes, see end of table.

## INDEXES OF PRODUCTION

GENERAL STATISTICS FOR INDUSTRY GROUPS AND FOR INDUSTRIES USED IN CONSTRUCTING INDEXES OF PHYSICAL VOLUME OF PRODUCTION  
FOR MANUFACTURING INDUSTRIES: 1947 AND 1939<sup>1</sup>--Continued

(Money figures in millions of dollars; number of employees in thousands)

| No.  | Industry group and industry<br>Title   | Code <sup>2</sup> | 1947  |                                       |                                 | 1939  |                                       |                                 |
|------|--|-------------------|---|---------------------------------------|---------------------------------|---|---------------------------------------|---------------------------------|
|      |  |                   | All employees<br>(average number<br>for the year) | Value<br>added by<br>manufac-<br>ture | Value of<br>products<br>shipped | All employees<br>(average<br>number<br>for the year) <sup>3</sup> | Value<br>added by<br>manufac-<br>ture | Value of<br>products<br>shipped |
| 36   | ELECTRICAL MACHINERY--Continued        |                   |   |                                       |                                 |   |                                       |                                 |
| 366  | Communication equipment:               |                   |   |                                       |                                 |   |                                       |                                 |
| 3661 | Radios and related products.....       | P                 | 178.6   | \$773.2                               | n.p.                            | <sup>a</sup> 55.2   | <sup>3</sup> \$113.3                  | n.p.                            |
| 3362 | Electronic tubes.....                  | P                 | 27.7  | 94.0                                  | \$124.5                         | <sup>a</sup> 18.3   | <sup>4</sup> 29.9                     | <sup>4</sup> \$46.0             |
| 3663 | Phonograph records.....                | P                 | 10.0  | 75.7                                  | 110.2                           | <sup>b</sup> 2.3  | <sup>5</sup> 12.6                     | <sup>5</sup> 18.4               |
| 3664 | Telephone and telegraph equipment..... | N                 | 76.1  | 384.4                                 | 689.2                           | 20.1  | 98.7                                  | 121.3                           |
| 3669 | Communication equipment, n.e.c.....    | N                 | 11.0  | 46.8                                  | 69.6                            | 4.0   | 12.9                                  | 18.8                            |
| 369  | Miscellaneous electrical products:     |                   |   |                                       |                                 |   |                                       |                                 |
| 3691 | Storage batteries.....                 | P                 | 16.6  | 114.2                                 | 297.7                           | 11.9  | 35.8                                  | 84.8                            |
| 3692 | Primary batteries (dry and wet).....   | NP                | 10.3  | 45.3                                  | 85.0                            | 6.8   | 18.6                                  | 32.8                            |
| 3693 | X-ray and therapeutic apparatus.....   | N                 | 7.7   | 38.6                                  | 59.5                            | 2.9   | 12.1                                  | 17.7                            |
| 3699 | Electrical products, n.e.c.....        | N                 | 8.7   | 48.8                                  | 91.2                            | 8.3   | 18.9                                  | 30.8                            |
| 37   | TRANSPORTATION EQUIPMENT.....          | P                 | 1,181.7   | 5,869.2                               | n.p.                            | 632.8   | 1,764.8                               | n.p.                            |
| 371  | Motor vehicles and equipment:          |                   |   |                                       |                                 |   |                                       |                                 |
| 3717 | Motor vehicles and parts.....          | P                 | 679.8   | 3,704.8                               | n.p.                            | <sup>a</sup> 444.5  | <sup>a1</sup> 2,799.9                 | n.p.                            |
| 3713 | Truck and bus bodies.....              | NP                | 12.0  | 65.3                                  | 150.9                           | 4.6   | 13.6                                  | 36.0                            |
| 3715 | Truck trailers.....                    | P                 | 9.3   | 49.0                                  | 135.0                           | 1.8   | 3.3                                   | 8.4                             |
| 372  | Aircraft and parts:                    |                   |   |                                       |                                 |   |                                       |                                 |
| 3721 | Aircraft.....                          | NP                | 146.6   | 606.0                                 | n.p.                            | 45.0  | 112.3                                 | n.p.                            |
| 3722 | Aircraft engines.....                  | N                 | 50.3  | 251.2                                 | 463.4                           | 12.4  | 50.9                                  | 82.2                            |
| 3723 | Aircraft propellers.....               | N                 | 7.4   | 26.7                                  | n.p.                            | 6.8   | 20.6                                  | n.p.                            |
| 3729 | Aircraft equipment, n.e.c.....         | N                 | 15.3  | 70.7                                  | 106.5                           |   |                                       |                                 |
| 373  | Ships and boats:                       |                   |   |                                       |                                 |   |                                       |                                 |
| 3731 | Ship building and repairing.....       | N                 | 130.2   | 517.5                                 | 798.9                           | 78.1  | 179.9                                 | 338.3                           |
| 3732 | Boat building and repairing.....       | N                 | 19.5  | 69.1                                  | 118.0                           |   |                                       |                                 |
| 374  | Railroad equipment:                    |                   |   |                                       |                                 |   |                                       |                                 |
| 3741 | Locomotives and parts.....             | P                 | 30.3  | 142.5                                 | 354.7                           | 9.0   | 23.4                                  | 51.4                            |
| 3742 | Railroad and street cars.....          | P                 | 60.8  | 273.1                                 | 725.8                           | 20.8  | 58.8                                  | 144.3                           |
| 3751 | Motorcycles and bicycles.....          | P                 | 15.6  | 72.8                                  | 163.7                           | 8.3   | 19.0                                  | 43.1                            |
| 3799 | Transportation equipment, n.e.c.....   | P                 | 4.6   | 20.5                                  | 46.8                            | 1.5   | 3.1                                   | 6.3                             |
| 38   | INSTRUMENTS AND RELATED PRODUCTS.....  | ( <sup>6</sup> )  | 232.1   | 1,080.2                               | n.p.                            | 114.3   | 333.4                                 | n.p.                            |
| 3811 | Scientific instruments.....            | N                 | 20.4  | 83.0                                  | 126.7                           | 9.6   | 30.6                                  | 42.3                            |
| 3821 | Mechanical measuring instruments.....  | N                 | 53.2  | 245.1                                 | 376.5                           | 19.9  | 59.5                                  | 89.4                            |
| 3831 | Optical instruments and lenses.....    | N                 | 6.5   | 26.7                                  | 36.1                            | 3.0   | 7.2                                   | 8.7                             |
| 384  | Medical instruments and supplies:      |                   |   |                                       |                                 |   |                                       |                                 |
| 3841 | Surgical and medical instruments.....  | N                 | 7.0   | 30.2                                  | 45.1                            | 2.6   | 7.2                                   | 10.1                            |
| 3842 | Surgical appliances and supplies.....  | N                 | 22.3  | 111.5                                 | 251.4                           | 13.1  | 39.1                                  | 79.4                            |
| 3843 | Dental equipment and supplies.....     | N                 | 9.1   | 42.9                                  | 71.1                            | 5.7   | 18.3                                  | 31.5                            |
| 3851 | Ophthalmic goods.....                  | N                 | 22.5  | 81.5                                  | 120.3                           | 13.5  | 30.7                                  | 45.0                            |
| 3861 | Photographic equipment.....            | P                 | 50.9  | 264.8                                 | 440.1                           | 23.2  | 87.8                                  | 133.1                           |
| 387  | Watches and clocks:                    |                   |   |                                       |                                 |   |                                       |                                 |
| 3871 | Watches and clocks.....                | P                 | 34.6  | 169.5                                 | 341.2                           | 20.6  | 47.2                                  | 81.5                            |
| 3872 | Watchcases.....                        | P                 | 5.6   | 25.0                                  | 44.5                            | 3.1   | 5.8                                   | 9.8                             |
| 39   | MISCELLANEOUS MANUFACTURES.....        | ( <sup>6</sup> )  | 464.9   | 2,090.2                               | n.p.                            | 298.9   | 631.3                                 | n.p.                            |
| 391  | Jewelry and silverware:                |                   |   |                                       |                                 |   |                                       |                                 |
| 3911 | Jewelry (precious metal).....          | N                 | 25.6  | 140.5                                 | 248.2                           | 15.1  | 36.8                                  | 71.4                            |
| 3912 | Jewelers' findings.....                | N                 | 6.1   | 29.7                                  | 73.5                            | 3.4   | 8.0                                   | 22.5                            |
| 3913 | Lapidary work.....                     | N                 | 1.7   | 10.9                                  | 30.3                            | 0.3   | 1.4                                   | 5.1                             |
| 3914 | Silverware and plated ware.....        | N                 | 21.5  | 121.8                                 | 219.1                           | 16.0  | 39.6                                  | 66.0                            |
| 393  | Musical instruments and parts:         |                   |   |                                       |                                 |   |                                       |                                 |
| 3931 | Pianos.....                            | P                 | 7.0   | 31.1                                  | 55.1                            | 6.0   | 10.4                                  | 20.5                            |
| 3932 | Organs.....                            | N                 | 4.5   | 18.1                                  | n.p.                            | 2.8   | 5.0                                   | n.p.                            |
| 3933 | Piano and organ parts.....             | N                 | 5.4   | 22.1                                  | 31.4                            | 4.1   | 8.1                                   | 11.6                            |
| 3939 | Musical instruments, n.e.c.....        | N                 |   |                                       |                                 |   |                                       |                                 |
| 394  | Toys and sporting goods:               |                   |   |                                       |                                 |   |                                       |                                 |
| 3941 | Games and toys, n.e.c.....             | N                 | 27.1  | 105.4                                 | 181.9                           | 16.1  | 27.4                                  | 49.1                            |
| 3942 | Dolls.....                             | P                 | 9.8   | 37.6                                  | 69.8                            | <sup>a</sup> 6.2  | <sup>a</sup> 9.9                      | <sup>a</sup> 20.5               |
| 3943 | Children's vehicles.....               | P                 | 8.8   | 44.2                                  | 85.8                            | 5.0   | 9.2                                   | 19.1                            |
| 3949 | Sporting and athletic goods.....       | P                 | 29.8  | 107.5                                 | 202.5                           | 16.6  | 38.1                                  | 64.8                            |

For footnotes, see end of table.

GENERAL STATISTICS FOR INDUSTRY GROUPS AND FOR INDUSTRIES USED IN CONSTRUCTING INDEXES OF PHYSICAL VOLUME OF PRODUCTION FOR MANUFACTURING INDUSTRIES: 1947 AND 1939<sup>1</sup>--Continued

(Money figures in millions of dollars; number of employees in thousands)

| No.  | Industry group and industry<br>Title    | Code <sup>2</sup> | 1947  |                            |                           | 1939   |                            |                           |
|------|---|-------------------|---|----------------------------|---------------------------|--|----------------------------|---------------------------|
|      |   |                   | All employees (average number for the year) | Value added by manufacture | Value of products shipped | All employees (average number for the year) <sup>3</sup> | Value added by manufacture | Value of products shipped |
| 39   | MISCELLANEOUS MANUFACTURES--Continued   |                   |   |                            |                           |  |                            |                           |
| 395  | Office supplies:                        |                   |   |                            |                           |  |                            |                           |
| 3951 | Pens and mechanical pencils.....        | P                 | 15.6  | \$89.9                     | \$147.4                   | 6.3  | \$16.2                     | \$24.9                    |
| 3952 | Lead pencils and crayons.....           | P                 | 6.3   | 23.6                       | 45.0                      | 5.0  | 8.6                        | 15.9                      |
| 3953 | Hand stamps and stencils.....           | N                 | 4.7   | 20.0                       | 28.1                      | 3.3  | 7.6                        | 10.8                      |
| 3954 | Artists' materials.....                 | N                 | 1.4   | 6.0                        | 13.3                      | 0.6  | 2.1                        | 4.1                       |
| 3955 | Carbon paper and inked ribbons.....     | N                 | 3.7   | 23.6                       | 48.6                      | 3.0  | 10.6                       | 20.8                      |
| 396  | Costume jewelry and notions:            |                   |   |                            |                           |  |                            |                           |
| 3961 | Costume jewelry.....                    | N                 | 25.4  | 107.2                      | 170.3                     | 14.4   | 23.4                       | 38.8                      |
| 3962 | Artificial flowers.....                 | N                 | 7.1   | 23.8                       | 39.5                      | 7.7  | 11.1                       | 18.5                      |
| 3963 | Buttons.....                            | P                 | 10.4  | 34.4                       | <sup>a</sup> 50.7         | 12.4   | 17.3                       | <sup>a</sup> 26.7         |
| 3964 | Needles, pins, and fasteners.....       | N                 | 23.0  | 97.3                       | 147.2                     | 14.5   | 27.3                       | 41.9                      |
| 3971 | Plastics products, n.e.c.....           | N                 | 60.1  | 289.6                      | 503.0                     | 18.0   | 40.2                       | 71.9                      |
| 399  | Miscellaneous manufactures:             |                   |   |                            |                           |  |                            |                           |
| 3981 | Brooms and brushes.....                 | N                 | 18.6  | 87.3                       | 179.8                     | 14.4   | 29.0                       | 60.3                      |
| 3982 | Cork products.....                      | N                 | 2.5   | 11.7                       | 30.1                      | 3.6  | 9.3                        | 17.7                      |
| 3983 | Matches.....                            | P                 | 7.4   | 31.3                       | 56.7                      | 5.9  | 11.5                       | 25.6                      |
| 3984 | Candles.....                            | N                 | 2.4   | 8.9                        | 17.9                      | 1.2  | 3.0                        | 6.3                       |
| 3985 | Fireworks and pyrotechnics.....         | N                 | 3.3   | 8.6                        | 15.2                      | 1.4  | 2.8                        | 4.6                       |
| 3986 | Jewelry and instrument cases.....       | N                 | 7.4   | 26.5                       | 45.1                      | 4.8  | 8.3                        | 13.7                      |
| 3987 | Lamp shades.....                        | N                 | 4.5   | 14.7                       | 27.5                      | 3.1  | 4.0                        | 8.4                       |
| 3988 | Morticians' goods.....                  | N                 | 22.4  | 92.4                       | 188.8                     | 16.6   | 38.5                       | 70.4                      |
| 3991 | Beauty and barber-shop equipment.....   | N                 | 4.1   | 17.8                       | 32.1                      | 2.5  | 6.3                        | 11.2                      |
| 3992 | Furs, dressed and dyed.....             | N                 | 6.8   | 43.0                       | 52.7                      | 5.9  | 17.0                       | 21.0                      |
| 3993 | Signs and advertising displays.....     | N                 | 28.9  | 130.5                      | 206.4                     | 23.4   | 55.1                       | 87.6                      |
| 3994 | Hair work.....                          | N                 | 1.2   | 4.4                        | 8.2                       | 0.4  | 0.7                        | 1.4                       |
| 3995 | Umbrellas, parasols, and canes.....     | N                 | 3.6   | 15.4                       | 34.3                      | 3.2  | 4.7                        | 11.5                      |
| 3996 | Tobacco pipes.....                      | N                 | 3.1   | 13.7                       | 19.3                      | 2.8  | 5.2                        | 7.5                       |
| 3997 | Soda-fountain and bar equipment.....    | N                 | 2.7   | 16.3                       | 31.5                      | 2.0  | 7.7                        | 13.7                      |
| 3998 | Models and patterns (except paper)..... | N                 | 1.9   | 8.6                        | 12.1                      | 1.4  | 4.1                        | 5.1                       |
| 1951 | Small arms (3989).....                  | P                 | 10.5  | 42.3                       | <sup>a</sup> 55.9         | 6.1  | 14.7                       | 17.7                      |
| 1961 | Small arms ammunition (3990).....       | N                 | 8.0   | 40.8                       | 77.7                      | 5.2  | 16.1                       | 29.1                      |
| 3999 | Miscellaneous products, n.e.c.....      | N                 | 20.6  | 91.7                       | 182.9                     | 18.2   | 35.0                       | 72.2                      |

<sup>a</sup>Adjusted or partly estimated; see Appendix C.<sup>a</sup>Adjusted figure withheld to avoid approximately disclosing data for individual companies; see Appendix C.

n.a. Not available.

n.p. Not published, since the figure contains too much duplication to be significant, or is otherwise unrepresentative of the value of output of the industry. For a detailed discussion of these cases, see the appropriate industry texts in the 1947 Census of Manufactures, Volume II, Statistics by Industry.

<sup>1</sup>All statistics, except as otherwise indicated, are taken from the 1947 Census of Manufactures, Volume II, Statistics by Industry.<sup>2</sup>P indicates that a production index was constructed and published; N indicates that an index was constructed but not published separately; N indicates that no index was constructed.<sup>3</sup>In the case of industries defined differently in 1947 than 1939, the 1939 figures for "All employees (average number for the year)" were partly estimated. These estimates are based on (a) the retabulated 1939 production-worker figures for each of the 1947 industry classifications, which are shown by 1939 industry classification components in Appendix D of the 1947 Census of Manufactures volumes, and (b) the 1939 ratio, for the component industries, of number of all employees to number of production workers. Thus, the new "Footwear (except rubber)" industry received 207.8 thousand and the new "House slippers" industry received 10.2 thousand of the 218.0 thousand production workers of establishments in the old 1939 Census classification "Footwear (except rubber)." The 1939 Census ratio of all employees to production workers for the latter industry was 1.0849. The 1939 estimates of number of all employees for the two new classifications were then obtained by multiplying the retabulated production-worker figures by this ratio (i.e., 207.8 x 1.0849 and 10.2 x 1.0849).<sup>4</sup>Figures for industry 2045 are included with those for industry 2041; see Appendix C.<sup>5</sup>Excludes data for industry 2141 - Tobacco stemming and redrying, which was not included in the 1939 Census of Manufactures.<sup>6</sup>Figures for industry 2131 are included with those of industry 2111; see Appendix C.<sup>7</sup>Figures for industry 2327 are included with the combined figures for industries 2311 and 2312; see Appendix C.<sup>8</sup>Only indexes for Major Groups 25, 38, and 39 combined were constructed.<sup>9</sup>Figures for industry 2992 are included with those for industry 2911; see Appendix C.<sup>10</sup>Figures for industry 3313 are included with those for industry 3311; see Appendix C.<sup>11</sup>Figures for industries 3393 and 3399 are included with those for industry 3312; see Appendix C.

## APPENDIX C

### NOTES ON THE CONSTRUCTION OF INDEXES FOR SPECIFIC INDUSTRIES AND INDUSTRY GROUPS

#### I. Published Industry Indexes

The standard methods used in constructing the census indexes have been discussed in the body of this report, together with the more general problems encountered. In the following notes, the specific departures from the use of standard methods and previously published Census of Manufactures data are outlined. The cases are noted where unpublished or noncensus data were used, and descriptions are given of how adjustments and estimates were made. Whenever a choice was available among the use of data for shipments, production, or some other measure of output, the statistics that were selected are specified if shipments data were not used for 1947, or production for 1939.

These notes are divided into three sections, the first dealing with industry indexes which are being published separately, the second considering those industry indexes which are not published separately but have been used in constructing the industry-group indexes, and the third discussing figures for industries for which no individual indexes were used.

The product detail used in constructing the published census industry indexes is shown in appendix A, together with the quantities and values for each product insofar as these can be published. The industry figures for value of products, value added, and average number of employees, used in constructing the "adjusted" industry and the industry-group indexes, appear in appendix B. Footnotes to the tables in these appendixes indicate the general sources of the data, the incidence of estimates, and the extent to which unpublished data were incorporated.

**2011-3—Meat packing (wholesale) and prepared meats.**—Combined indexes only were constructed for the two industries 2011—Meat packing, wholesale, and 2013—Prepared meats, since a very large portion of all prepared meats are made in the meat packing, wholesale, industry.

The 1947 quantity figures used represent "net shipments," that is, "gross shipments and interplant transfers" less "purchases and interplant receipts." For 1939 only "production" figures were available. The 1939 production figures for "Fresh beef," "Fresh veal," "Fresh lamb and mutton," "Fresh pork," "Variety meats," and "Pork, processed and cured (except cooked, boiled, or ready-to-eat)" were assumed to approximate "gross shipments and interplant transfers" and were adjusted to "net" on the basis of the ratio of "net" to "gross" for the same items in 1947.

Value added by manufacture per pound of meat product is much higher for prepared meats than for fresh meat. Hence unit values were particularly unsatisfactory as weights for developing the indexes. Instead, unit value-added weights were constructed for each product in 1947 on the basis of census data yielding the ratio of value added to value of shipments for plants primarily engaged in producing the particular product. These weights, as computed directly, required about a 10-percent adjustment to bring the corresponding estimate of total value added to the level of the industry value added, as published in the 1947 basic census volumes. Corresponding 1939 unit value-added weights were constructed, from the 1947 weights, by use of census data indicating the changes in delivered cost of animals slaughtered, and in unit values of meat products, between 1939 and 1947.

The 1947 and 1939 value of products, used in computing the coverage ratios, were adjusted to represent "net" value of products

of the two industries combined and to exclude meat products purchased for resale.

**Subgroup 202—Dairy products.**—Separate indexes were constructed for industries 2021—Creamery butter, 2022—Natural cheese, 2023—Concentrated milk, 2024—Ice cream and ices, and 2025—Special dairy products. The industry definitions for each of these classifications depart from those used in the 1947 Census of Manufactures, in order to maintain comparability with 1939 statistics. In censuses prior to 1947 the making of dairy products in establishments also engaged in fluid milk distribution was included. In accordance with the Standard Industrial Classification such operations were excluded from these industries for 1947. However, 1947 data for value of products and value added were obtained for them and published with the comparable data for earlier years in the Dairy Products chapter of the 1947 Census of Manufactures industry volume. Comparable 1947 figures for number of employees were partly estimated on the basis of value added per employee for the portion of each industry for which both figures were available. These figures were used in computing the "adjusted" industry and the industry group indexes. Also, in each of these industries, the 1939 value of products, used in computing the coverage ratio, was adjusted to exclude products purchased for resale without further processing.

The 1939 figures for the dairy products industries include certain plastic cream and bulk products operations which were included as a part of Census Industry 4020—Plastic cream and bulk products in 1947. No adjustments for these plants were made in the individual industry indexes, but figures for them were included in constructing the "adjusted" industry-group indexes.

**2022—Natural cheese.**—See notes above on subgroup 202. Census figures for "Other natural cheese" in 1947 represent "shipments and interplant transfers." These figures are not comparable with 1939 "production" statistics, since they exclude natural cheese made into process cheese in the producing establishment and such cheese represents a significant portion of the industry's production. Hence, a United States Department of Agriculture quantity figure, which includes this production, was used for 1947. The average unit value of shipments and interplant transfers, computed from 1947 census figures, was used to estimate the value of this production.

**2023—Concentrated milk.**—See notes above on subgroup 202. Census figures for "Bulk evaporated and condensed products" for 1947 and 1939 include evaporated milk shipped to other plants for canning, which would duplicate, in part, the statistics for "Canned milk" used in constructing the indexes. Hence, census quantity figures for these bulk products were replaced by the sums of United States Department of Agriculture figures for "Bulk condensed milk (sweetened)," "Bulk condensed milk (unsweetened)," and "Condensed and evaporated buttermilk," which exclude such interplant shipments. The corresponding total values were estimated on the basis of the average unit values of "Bulk evaporated and condensed products" as computed from census statistics.

**2031—Canned sea food.**—United States Fish and Wildlife Service figures (as reproduced in the 1947 basic census volumes) were used for 1947 and 1939. For weighting purposes, 1939 unit values for "Whiting (silver hake)" and "Anchovies" (which were

not packed in the United States in 1939) were constructed from the 1947 average unit values of these items, by means of a price index representing all other canned sea food.

**2033—Canning and preserving, except fish.**—Figures were included for "Canned soups" and "Canned poultry and other canned foods" for 1947 which could not be published separately, since they would have approximately disclosed data for individual companies. A figure for number of cases of canned poultry for 1939 was estimated from reported number of pounds, by assuming 24 pounds to a case.

The 1939 value of products, used in computing the coverage ratio, was adjusted to exclude products purchased for resale without further processing.

**2035—Pickles and sauces.**—Quantity figures for the following 1939 items were estimated from census value figures, on the basis of average unit values developed from a survey by the Office of Domestic Commerce, United States Department of Commerce: "Salad dressings, mayonnaise type," "Mayonnaise," "Sandwich spread (dressing base)," and "French and other dressings."

The 1939 value of products, used in computing the coverage ratio, was adjusted to exclude products purchased for resale without further processing.

**2041 and 2045—Flour and meal and blended and prepared flour.**—Since over two-thirds of all "Blended and prepared flour" was made in the "Flour and meal" industry in 1947, only combined indexes were constructed for the two industries.

The 1939 value of products, value added, and number of employees figures, used in computing the "adjusted" industry and industry-group indexes, respectively, were revised to exclude establishments primarily making animal feeds from grain, which were transferred to Industry 2042. The 1939 value of products was also adjusted to exclude products purchased for resale without further processing.

**2043—Cereal preparations.**—The 1939 value of products, used in computing the coverage ratio, was adjusted to exclude products purchased for resale without further processing.

**2051—Bread and other bakery products and 2052—Biscuit, crackers, and pretzels.**—The 1939 quantity and value figures published for the various products are not comparable with those for 1947, since they include the production of retail single-outlet bakeries which were not classified as manufacturing establishments in 1947. Quantities and values for each bakery product made in such establishments were estimated on the basis of special tabulations for a random sample of the 1939 reports for the establishments. These figures were subtracted from the published statistics.

**2061 and 2062—Raw cane sugar and cane sugar refining.**—For sugars, except "Raw cane sugar," 1939 values were revised to exclude estimated excise taxes.

**2063—Beet sugar.**—Production tonnages were partly estimated for "Granulated sugar shipped in consumer sizes and confectioners' powdered sugar" and for "Granulated sugar shipped in bulk and bulk containers" in 1947, on the basis of reported shipments tonnages for each of these products. The 1947 values for these sugars were estimated on the basis of the average unit value of shipments, and their 1939 values were adjusted to exclude estimated excise taxes.

A calculated 1947 figure for industry value of products was used in place of the published figure for value of shipments in computing the coverage ratio. This figure may be obtained as the sum of the published figures for cost of materials, etc., and value added.

**2071—Confectionery products.**—The 1939 quantity figure used for "Other confectionery, except nuts, for which quantity data are available" includes an estimate for "Glacé, candied, and crystallized fruits and nuts" and "Candied popcorn."

The 1939 value of products, used in computing the coverage ratio, was adjusted to exclude products purchased for resale without further processing.

**2072—Chocolate and cocoa products.**—Pounds of "Chocolate sirup" for 1939 were estimated from figures reported in gallons.

**2081—Bottled soft drinks.**—The 1939 value of products, used in computing the coverage ratio, was adjusted to exclude products purchased for resale without further processing.

**2082—Malt liquors.**—The quantity of malt liquors for 1939 was broken down between "Case goods" and "Barrels and kegs" on the basis of United States Bureau of Internal Revenue data. The 1939 average unit value for each of these items was estimated from the 1939 total value of malt liquors by assuming that the ratio of the unit values for these two items was the same in 1939 and 1947.

The 1939 value of products, used in computing the coverage ratio, was adjusted to exclude products purchased for resale without further processing.

**2085—Distilled liquors except brandy.**—For "Bottled liquors" the 1939 census covered only rectified liquors and the statistics are, therefore, not comparable to the 1947 basic census figures which include all types of bottled liquors. Using United States Bureau of Internal Revenue quantity figures for the two biennial periods July 1, 1938, through June 30, 1940, and July 1, 1946, through June 30, 1948, ratios of change in quantities bottled were developed and applied to the 1947 census figures, resulting in estimated 1939 quantity figures. The 1939 unit values were partly estimated, using 1939 census data for the unit price of rectified liquors and the 1947 price relationship between rectified liquors and other products.

Since only a portion of the industry, as defined in 1947, was covered in the 1939 census, no accurate coverage ratio could be developed for 1939, and only "unadjusted" indexes were constructed for the industry. The high coverage ratio for these indexes in 1947 (99.1), however, indicates that if "adjusted" indexes could have been constructed, they would have differed very little from the "unadjusted" indexes. Rough estimates of 1939 value added and number of employees figures for the industry were used in computing the industry group indexes.

**2091—Leavening compounds.**—The 1947 quantity figure used for "Baking powder" includes an estimate for "Baking powder, size of container not specified" based on its value and the average unit value of baking powder for which quantity was reported.

**2094—Corn products.**—Figures for crude corn oil were not used in constructing the index, since they would be largely duplicated in the refined corn-oil figures. In computing the coverage ratios for both years, the value of crude corn oil was subtracted from the total value of products of the industry. The 1939 value of products, value added, and number of employees figures used in computing the "adjusted" industry and the industry-group indexes were further revised for comparability with 1947 by re-tabulating certain 1939 data.

**2095—Flavorings.**—"Flavoring sirups" and "Beverage bases" were combined in 1947 for comparability with 1939. The 1939 quantities of these items and of "Flavoring concentrates," for which only value was reported, were estimated on the basis of average unit values of the amounts for which quantity was reported.

The 1939 value of products, used in computing the coverage ratio, was adjusted to exclude products purchased for resale without further processing.

**2096—Vinegar and cider.**—The 1939 value of products, used in computing the coverage ratio, was adjusted to exclude products purchased for resale without further processing.

**2097—Manufactured ice.**—The 1947 quantity figures used for "Manufactured ice" includes an estimate for "Ice, not specified by kind" based on its value and the average unit value of ice for which quantity was reported. The 1939 value of products, used in computing the coverage ratio, was adjusted to exclude products purchased for resale without further processing.

**2111 and 2131—Cigarettes and chewing and smoking tobacco.**—Combined indexes only were constructed for the two industries

"Cigarettes" and "Chewing and smoking tobacco," since certain companies submitted consolidated reports for the production of cigarettes and chewing and smoking tobacco at the same location in 1939, but furnished separate reports for the two activities for 1947.

For comparability with 1947, all 1939 value figures were adjusted to exclude excise taxes by subtracting United States Bureau of Internal Revenue totals for excise taxes paid on "Cigarettes" and on "Chewing and smoking tobacco and snuff." For this purpose, the average tax per pound was computed for "Chewing and smoking tobacco and snuff" and applied to each of the items: "Smoking tobacco," "Fine-cut smoking and chewing tobacco," "Scrap chewing tobacco," "Twist chewing tobacco," "Plug chewing tobacco," and "Snuff." For comparability with 1939, the 1947 quantity and value figures for these six classes of "Chewing and smoking tobacco and snuff" were adjusted to include "Other chewing and smoking tobacco and snuff products (snuff flour, chewing and smoking tobacco, not specified by kind, etc.)" by means of the ratio of total value of "Chewing and smoking tobacco and snuff" to the total value of these six classes for which separate data were reported.

**2121—Cigars.**—For comparability with 1947, the 1939 total value of "Cigars" was adjusted to exclude excise taxes by subtracting United States Bureau of Internal Revenue figures for total excise taxes paid on this item.

**221—Woolen and worsted manufactures.**—This subgroup includes industries 2211—Scouring and combing plants; 2212—Yarn mills, wool, except carpet; 2213—Woolen and worsted fabrics; and 2216—Finishing wool textiles. Since many establishments carry on several or all of these operations, more satisfactory indexes could be constructed for the subgroup as a whole than for the individual industries. Moreover, the scouring, combing, spinning, and weaving operations were included in the same industry in the 1939 census, and some consolidated reports were tabulated for 1939 which correspond to separate reports received for 1947. This reduced the comparability of the retabulated 1939 figures for the individual industries. For these reasons only combined indexes were calculated.

The indexes are made up of marketable commodities leaving the industry subgroup—four classes of woolen and worsted fabrics and three classes of knitting yarns. They exclude materials produced and consumed within the industry subgroup, but represent 98 percent of the value of "net" products of the subgroup in 1947. Data were not available to construct a comparable ratio for 1939 and only "unadjusted" indexes were constructed for the subgroup. However, the high 1947 coverage ratio indicates that if "adjusted" indexes could have been constructed, they would have differed very little from the "unadjusted" indexes.

Shipments of fabrics were measured in square yards. For 1947, square yards of each fabric shipped were estimated from data on linear yards shipped on the basis of the 1947 census ratio of square yards to linear yards produced.

**2224—Yarn mills, cotton system.**—Figures for 1947 represent "Shipments of sale yarn"; those for 1939 are "Production of yarns made for sale."

**2233—Cotton broad-woven fabrics.**—The indexes for this industry were computed from census data, supplemented by price information for some fabrics from the *Daily News Record* and other sources. The price information was used to break down the value figures on broad classes of fabrics into more detailed classes for which census quantity figures are available. Revised, or not previously published, quantity and value figures were used for several items. These revisions improved the comparability of the 1939 and 1947 census estimates by product class.

Separate indexes were constructed on the basis of quantity data measured in square yards and in pounds. "Cotton tire cords and tire fabrics," which were measured only in pounds, were included in both. The indexes based on data in pounds were

about 7 points higher than the corresponding indexes based on square yards. The final indexes for this industry were obtained by combining the weighted aggregates based on area and weight.

For comparison purposes, indexes based on quantity, measured in linear yards, also were constructed. These indexes were slightly lower than the corresponding indexes based on square yards.

The 1939 value of products, value added, and number of employees figures, used in computing the "adjusted" industry and the industry-group indexes, respectively, were adjusted to exclude fabricating departments of integrated plants which were reported separately in 1947. These fabricating departments were transferred to Industry 2392.

**2234—Rayon and related broad-woven fabrics.**—The quantity figures represent production of fabrics "Made from own materials" and "Made on commission." For 1947, the value of each fabric produced was estimated from the quantity data and the average unit value of "Shipments of unfinished goods." For use as a weighting factor, a 1939 unit value for "100 percent nylon fabrics" (which were not produced in 1939) was constructed by adjusting the 1947 average unit value for this item by a price index representing rayon, silk, and silk-mixture fabrics.

**Subgroup 225—Knitting mills.**—Separate indexes were constructed for each industry in this subgroup: 2251—Full-fashioned hosiery mills, 2252—Seamless hosiery mills, 2253—Knit outerwear mills, 2254—Knit underwear mills, and 2256—Knit-fabric mills. In order to arrive at unduplicated value of products for these industries, used in computing the coverage ratios, contract work done in an industry for the account of establishments classified in the same industry was excluded from value of products for both years. For industries whose receipts for contract work exceeded costs of contract work, contract costs were deducted from value of products as shown in the 1947 Census of Manufactures volumes. Where contract costs exceeded contract receipts, contract receipts were deducted from value of products. This adjustment is based on the assumption that contract costs and receipts, insofar as they balance, represent contract work done by and for the account of establishments in the industry, whereas an excess of costs or of receipts reflects contract work done by, or for the account of, establishments in other industries. This assumption may involve a slight overadjustment, since it is possible that in every case some portion of both contract costs and contract receipts for an industry represents work done by and for other industries.

**2251 and 2252—Full-fashioned hosiery mills and seamless hosiery mills.**—A considerable portion of the hosiery made in these industries is knit and shipped in the greige, but usually finished in other plants classified in the same industry. The quantity figures used for "Women's full-fashioned hosiery" and for "Women's seamless hosiery, except anklets," represent both hosiery knit and shipped as finished hosiery and hosiery knit and shipped in the greige. The value figures for these full-fashioned and seamless hosiery totals were estimated on the basis of the corresponding average unit value of hosiery knit and shipped as finished hosiery. The value of products figures for these industries, used in computing the coverage ratios, were correspondingly adjusted to reflect the above estimates of value of hosiery knit in one plant and finished in another. For 1947, it was further necessary to delete from the value of products the value of "Shipments of finished hosiery made from purchased greige goods" which approximately duplicated the above estimate of value of hosiery knit in one plant but finished in another.

**2271—Wool carpets, rugs, and carpet yarn.**—Quantity figures, in square yards, are available for production and shipments of the end products of this industry—wool carpets and rugs. However, statistics for the intermediate product of the industry—carpet and rug weaving yarns—were selected as a better measure of the industry's output, because of a significant increase in weight of carpet per unit area between 1939 and 1947. Production of these yarns, in pounds, was used to construct the index. Data

were not available to adjust for inventories, exports, and imports of these yarns. No coverage adjustment was made, but secondary products amounted to only about 3 percent of the total value of products of the industry in both years, and very few of the primary products of the industry were made outside the industry.

**2274—Hard-surface floor coverings.**—Square yards produced was used for 1947, with value estimated on the basis of the average unit value of shipments. A corresponding calculated 1947 figure for industry value of products was used in place of the published figure for value of shipments, in computing the coverage ratio. This figure may be obtained as the sum of the published figure for cost of materials, etc., and value added.

**2281—Fur-felt hats and hat bodies.**—To eliminate products produced and consumed within the industry, the data for "Men's and boys' fur-felt hat bodies made for sale as such" were not used in constructing the unadjusted indexes, and the 1939 and 1947 values for this item were subtracted from the value of products used in computing the coverage ratios. The figures used in the "unadjusted" index for "Hats manufactured complete" are not exactly comparable, since they represent "Men's, women's, and boys' hats" in 1939 and only "Men's and boys' hats" in 1947.

**2282—Wool-felt hats and hat bodies.**—To eliminate products produced and consumed within the industry, the data for "Men's and boys' wool-felt hat bodies made for sale as such" were not used in constructing the unadjusted indexes, and the 1939 and 1947 values for this item were subtracted from the value of products figures used in computing the coverage ratios. Similarly, the estimated cost of purchased women's and children's hat bodies made into hats within the industry was subtracted from the value of products for 1947. A comparable small adjustment for 1939 could not be made because of lack of suitable data.

**2292—Lace goods.**—Quantity of production was used for 1947 instead of quantity of shipments, with values estimated on the basis of the average unit value of shipments. A calculated 1947 figure for industry value of products was used in place of the published figure for value of shipments in computing the coverage ratio. This figure may be obtained as the sum of the published figures for cost of materials, etc., and value added.

**2298—Cordage and twine.**—Quantity of production was used for 1947 instead of quantity of shipments, with values estimated on the basis of the average unit value of shipments. A calculated 1947 figure for industry value of products was used in place of the published figure for value of shipments in computing the coverage ratio. This figure may be obtained as the sum of the published figures for cost of materials, etc., and value added.

**Major Group 23—Apparel and Related Products.**—*Contract work*—In order to arrive at unduplicated value of products, used in computing the coverage ratios, for the industry indexes in this major group, contract work done in an industry for the account of establishments classified in the same industry was excluded from value of products for both years (except for Industry 2391 as indicated below). For industries whose receipts for contract work exceeded costs of contract work, contract costs were deducted from value of products as shown in the 1947 basic Census of Manufactures volumes. Where contract costs exceeded contract receipts, contract receipts were deducted from value of products. This adjustment is based on the assumption that contract costs and receipts, insofar as they balance, represent contract work done by and for the account of establishments in the industry, whereas an excess of costs or of receipts reflects contract work done by, or for the account of, establishments in other industries. This assumption may involve a slight overadjustment, since it is possible that in every case some portion of both contract costs and contract receipts for an industry represents work done by and for other industries. In order to check the effect of this possible overadjustment, the adjusted indexes for the group were recomputed on the assumption that one-sixth of the contract adjustment represented work by or for other industries. In each case the resulting pairs of adjusted indexes differed by less than 2 points.

**"Garments cut" and "Garments made."**—For the following industries, figures for 1947 represent "Garments cut" and those for 1939 represent "Garments made":

2311-2 and 2327—Men's and boys' suits, coats, and separate trousers.

2321—Men's dress shirts and nightwear.

2322—Men's and boys' underwear.

2328—Work shirts.

2329—Men's and boys' clothing, n. e. c.

2333-4—Women's and misses' dresses.

2335-6—Women's suits, coats, and skirts.

2341—Women's and children's underwear.

**2311-2 and 2327—Men's and boys' suits, coats, and separate trousers.**—Establishments classified in the three industries, 2311—Men's and boys' suits and coats, 2312—Suit and coat findings, and 2327—Separate trousers, in 1947 were classified primarily in three differently defined industries in 1939. Hence, satisfactory separate indexes could not be constructed, and only indexes for the three industries combined were developed. The 1939 quantity figure used for "Men's and students' separate trousers (excluding uniform separate trousers)" represents a correction of the statistic as published in the 1947 basic census volumes.

**2325—Men's and boys' cloth hats and caps.**—The decline in the coverage ratio for the "unadjusted" indexes for this industry from 99.7 in 1939 to 60.2 in 1947 is due primarily to the large production of "uniform hats and caps" in 1947 and the negligible production of this item in 1939. Although quantity data for the production of "uniform hats and caps" are not available, the production trend for this item is reflected in the "adjusted" indexes.

**2333-4—Women's and misses' dresses.**—Establishments classified in the two industries, 2333—Dresses, unit price, and 2334—Dresses, dozen price, in 1947 were classified primarily in four differently defined industries in 1939. Hence, satisfactory separate indexes could not be constructed, and only indexes for the two industries combined were developed.

**2335-6—Women's suits, coats, and skirts.**—Establishments classified in the two subindustries, 2335—Women's suits and coats and 2336—Women's skirts, in 1947 were classified in two differently defined industries in 1939. Moreover, many establishments in each of these industries manufactured products of the other. For these reasons better indexes could be constructed for the two industries combined than for either of them separately, and only such combined industry indexes are shown.

**2341—Women's and children's underwear.**—The "unadjusted" indexes for this industry include four products which are also "primary" to industry 2254—Knit underwear mills, and were included in the "unadjusted" indexes for that industry. Figures for another such product, "Women's and misses' vests, panties, stepins, and bloomers, tuckstitch," however, were excluded in the "unadjusted" indexes for Industry 2341 and included only in the indexes for Industry 2254, since the major portion of this item is produced in the latter industry.

**2371—Fur goods.**—The sum of figures for 1939 representing "Fur coats (longer than hip length)" and "Fur capes" were treated as comparable to 1947 figures for "Fur coats and capes—32 inches or more in length." The 1939 quantity figure for "Fur capes" was estimated from the value figure by dividing by the 1939 average unit value of "Fur coats (longer than hip length)." Quantity figures for "Fur jackets, coats, and capes—less than 32 inches in length" were not used in constructing the indexes, since the 1939 figure did not appear comparable with the statistics for 1947.

**2382—Fabric and combination work gloves.**—Quantity of production was used for 1947 instead of quantity of shipments, with values estimated on the basis of the average unit value of shipments. A calculated 1947 figure for industry value of products was used in place of the published figure for value of shipments in computing the coverage ratio. This figure may be obtained as the sum of the published figures for the cost of materials, etc., and value added.

**2386—Leather and sheep-lined clothing.**—A 1947 figure for quantity of "Other than sheep-lined clothing" produced was estimated on the basis of unpublished quantity data for a portion of this item.

**2391—Curtains and draperies.**—No adjustment in the value of products of this industry was made for contract work performed by one establishment in the industry for other establishments in the same industry, since statistics on contract work performed in 1939 were not comparable with those for 1947. However, cost of contract and commission work for this industry in 1947 amounted to only 2.2 percent of the value of products.

**2421—Sawmills and planing mills, general.**—Certain census statistics for sawmill and planing mill products were not used in constructing the indexes (1) because of duplication between products, which could not be eliminated, and (2) because of some undercoverage of the industry in the 1939 census. Duplication occurs because figures for rough lumber include lumber shipped to separately operated planing mills, but such lumber appears again in the statistics for dressed lumber. Undercoverage occurred in 1939 because enumerators were unable to locate a considerable number of mills in the Eastern States; moreover, the 1939 data exclude all mills that sawed less than 50,000 board feet of lumber during the year, however, mills of this size sawed less than 1 percent of all lumber in 1947. For these reasons, the indexes are based on quantity of lumber cut, adjusted for 1939 census undercoverage by means of the United States Department of Agriculture's Forest Service estimates.

Census figures without adjustment were used for "Douglas fir" and "Ponderosa pine" lumber cut, since there was no undercoverage of these items in 1939. A Forest Service estimate was used for 1939 quantity of all other lumber cut. Unit values for "Douglas fir," "Ponderosa pine," and all other species in combination were computed from census data.

No coverage adjustment was made in the indexes for this industry, since the lumber consumed in the production of all primary and most secondary products of the industry—and approximately included above—was considered the best unduplicated measure of their production.

The 1939 value added and number of employees figures for the industry, used in computing the industry-group indexes, were adjusted roughly for the 1939 undercoverage discussed above.

**2425—Excelsior mills.**—No quantity figures were available for the production of "Excelsior pads and wrappers." However, the quantity of "Excelsior, baled or bulk" used in constructing the indexes represents excelsior shipped as such and also excelsior produced and consumed in the same plant in making pads and wrappers. The values for this item were estimated on the basis of the average unit value of shipments for each year.

**2432—Plywood plants.**—Figures for "Hardwood plywood" were not used in constructing the indexes, since the 1939 data were collected on a  $\frac{3}{8}$ -inch equivalent basis, whereas the 1947 data represented unadjusted face area.

The 1939 value of products, used in computing the coverage ratio, was adjusted to exclude products purchased for resale without further processing.

**2445—Cooperage.**—The 1947 figures for slack and tight cooperage exclude "Cooperage, not specified by type" for which no quantity figures were available. This item represents only 3 percent of the total value of cooperage and the coverage adjustment corrects for its omission. For 1939, quantity figures were not reported for parts of the output of three products; such quantities were estimated from value figures for this production on the basis of the average unit values of the parts of the output of each product for which quantities and values were reported.

**2492—Lasts and related products.**—The 1939 value of products, used in computing the coverage ratio, was adjusted to exclude products purchased for resale without further processing.

**2515—Mattresses and bedsprings.**—For 1939, quantity figures were not reported for parts of the output of each product; such

quantities were estimated from value figures for this production on the basis of the average unit values of the parts of the output of each product for which quantities and values were reported.

The 1939 value of products, used in computing the coverage ratio, was adjusted to exclude products purchased for resale without further processing.

**2611—Pulp mills.**—Quantity of production was used for 1947 instead of quantity of shipments, with values estimated on the basis of the average unit value of shipments.

**2612—Paper and board mills.**—Quantity of production was used for 1947 instead of quantity of shipments, with values estimated on the basis of the average unit value of shipments.

The 1939 reports received for 213 paper and board mills also covered paper-converting operations carried on at the same locations. The 1947 reports obtained for these paper and board mills excluded converting operations. These were reported separately and classified in the appropriate converting industry. For this reason, the published 1939 value of products, value added, and number of employees figures are not comparable with those for 1947. It was therefore necessary to construct comparable 1939 figures for use in computing the "adjusted" industry and the industry-group indexes, respectively, from various statistics published in the 1939 and 1947 basic census volumes. For example, a 1939 value of products figure was constructed from statistics published in the 1939 census volume, by subtracting, from the published value of products of the "Paper and paperboard mills" industry, the value of converted paper products made in that industry; adding the value of paper and paperboard produced for "use in same plant" in the industry; and adding the value of building board made in the "Wallboard (except gypsum and plasterboard)" industry.

**2641-99—Paper and board products.**—Satisfactory separate indexes could not be constructed for these industries, since paper-converting departments of 213 paper manufacturing mills were reported as part of the paper mills for 1939 but as separate establishments for 1947. Although it was possible to segregate 1939 data for the paper and board mills (see notes above on Industry 2612), only the total value of products of the paper-converting department was available and there was no way to allocate these departments to specific converted-paper products industries. Hence, only combined indexes were constructed for this group of industries.

Quantity data for production or shipments of individual converted-paper products were not collected in the censuses because the sizes and weights of most of the items produced are too diversified to permit standard measurements. Instead, data on the tonnage of paper and board consumed in the production of each type of converted-paper products were collected and used in the indexes. These tonnages were weighted by the value of shipments (production for 1939) per ton of paper and board consumed. For 1939, it was necessary to estimate parts of the tonnages consumed on the basis of the total value of products for each item and the average value of products per ton consumed for those establishments which reported paper consumption.

The fact that 1939 reports for paper and board mills also covered associated paper-converting operations which were reported separately in 1947, made it necessary to construct comparable 1939 value of products, value added, and number of employees figures, for use in computing the "adjusted" industry and the industry-group indexes, respectively, from various statistics published in the 1939 and 1947 basic census volumes. Thus, a comparable 1939 value of products figure was constructed as the sum of the value of products of the converted-paper products industries as published in the 1947 basic census volumes and the value of converted-paper products made in the "Paper and paperboard mills" industry as published in the 1939 census volumes.

**27—Printing and Publishing Industries.**—Since adequate quantity of production statistics are not available for this major industry group, approximate figures for consumption of paper by

these industries were used as a measure of production. Separate figures were developed for approximate consumption of "Newsprint" and "Coated and uncoated printing paper (except newsprint)." The ratios of the 1947 to the 1939 figures for these items yielded rough measures of physical volume of production for the Newspapers industry and for all other Printing and publishing industries, respectively. These ratios were combined by means of value-added weights into a production index for major group 27.

Census consumption figures were available for 1947, but not for 1939. In order to achieve comparability, for both years consumption was treated as approximately equivalent to total United States supply of printing paper, developed as production plus imports minus exports. The production figures used for paper were those shown in the Census of Manufactures for Industry Group 26; the imports and exports figures were those collected by the Bureau of the Census as part of its foreign trade statistics. These figures for United States supply, of course, differ from consumption of paper by the "Printing and publishing industries" to the extent that (1) paper was consumed in nonmanufacturing and other manufacturing industries and (2) changes occurred between beginning and end of year inventories. Data making it possible to adjust for these factors were not available; however, it is believed that they do not introduce serious biases. For example, the 1947 figure for consumption of paper in major group 27, shown in the basic census volumes, amounted to 95 percent of the United States supply for that year, as estimated in the manner described.

The production figures used for "Uncoated printing paper" represent the types of uncoated groundwood, book, and fine paper used in printing. For 1939, fine paper used in printing was partly estimated from the total production of fine paper by means of the ratio of this fine paper to this total in 1947.

"Coated printing paper" represents primarily book paper, but includes some groundwood and fine paper. The 1939 production figure was estimated by adding, to the census tonnage for off-machine-coated paper, estimates of the tonnage of paper that was machine coated and the tonnage of clay used in coating. The 1947 figure represents the sum of census data for tonnage of machine-coated paper and off-machine-coated paper. There were no imports or exports of this item in either year.

**2812—Alkalies and chlorine.**—The figures used for this industry, which represent "Shipments and interplant transfers" for 1947 and "Produced for sale and interplant transfer" for 1939, were selected as the best indicators of net production of the industry. "Total production" figures include large quantities produced and consumed in the same plant.

Figures were included for the following items which could not be published separately, since they would have approximately disclosed data for individual companies: "Potassium carbonate" for 1939 and 1947, "Electrolytic soda ash" for 1939 and 1947, "Monohydrate" for 1939 and 1947, and "Natural sodium carbonate" for 1939. Figures for "Modified soda" in 1939 which are approximately comparable with the 1947 statistics were taken from the 1939 Census of Manufactures volumes.

**2819—Inorganic chemicals, n. e. c.**—The figures used for this industry, which represent "Shipments and interplant transfers" for 1947 and "Produced for sale and interplant transfer" for 1939, were selected as the best indicators of net production of the industry. "Total production" figures include large quantities produced and consumed in the same plant.

Figures were included for the following items which could not be published separately, since they would have approximately disclosed data for individual companies: "Calcium hypochlorite" for 1939; "Bleaching powder and liquid lime bleach" for 1939; "Hydrochloric acid from chlorine" for 1939; "Hydrochloric acid, byproduct and other" for 1939; "Hydrocyanic acid" for 1939; "Sodium-aluminum sulfate" for 1939 and 1947; "Potassium-aluminum sulfate" for 1939; "Liquid aluminum chloride" for

1939 and 1947; "Crystal aluminum chloride" for 1939 and 1947; "Anhydrous aluminum chloride" for 1939; "Aluminum oxide" for 1939; "Ammonium sulfate" for 1939; "Calcium carbide" for 1947; "Potassium bichromate and chromate" for 1947; "Copper oxide (cupric and cuprous)" for 1939 and 1947; "Phosphorus" for 1939; "Phosphorus oxychloride" for 1939; "Sodium borate" for 1939; "Sodium meta-phosphate" for 1939; "Sodium sulfide (crystal)" for 1939 and 1947; and "Other sodium sulfides (including concentrated and liquid)" for 1939 and 1947. Figures for 1939, which are approximately comparable with 1947, were taken from 1939 census published or unpublished material, or partly estimated, for: "Sodium hypochlorite and other liquid sodium bleaching compounds," "Calcium arsenate," "Potassium bichromate and chromate," "Ferric chloride," "Lead arsenate," and "Sodium tungstate." The quantity of "Carbon (activated)" was estimated for 1947 on the basis of data reported by selected plants in the 1947 Census of Manufactures and in a Census monthly survey.

**2821—Cyclic (coal-tar) crudes.**—Only summary value data were obtained for "Cyclic (coal-tar) crudes" in the 1939 and 1947 censuses. Detailed product statistics for such items collected by the United States Tariff Commission were used in constructing the indexes. These product figures represent approximate production by tar distillers, as distinguished from coke ovens. The Tariff Commission statistics for 1947 provided this segregation, except for crude light oil; but for all 1939 items, and for "Crude light oil" in 1947, it was necessary to use United States Bureau of Mines coke-oven statistics to break down the Tariff Commission totals.

All "Xylene" was produced at coke ovens in 1939. For weighting purposes, the 1939 average unit value of this "Xylene" sold by coke ovens was used.

**2823-4—Plastics materials and synthetic rubber.**—In 1939, no establishments were engaged primarily in making synthetic rubber. However, synthetic rubber was produced by some establishments classified in the "Plastics materials" industry. For this reason, only combined indexes for the two industries were constructed.

For the following 1947 items, census quantity of production was used instead of quantity of shipments, with values estimated on the basis of the average unit value of shipments: "Nitrocellulose sheets, rods, and tubes" and "Other cellulose plastics materials." Census figures, which could not be published separately without approximately disclosing data for individual companies, were used for "Transparent wrapping materials (including cellophane)" in 1939 and 1947.

Since comparable 1939 and 1947 census commodity statistics for broad classes of synthetic resins were not available, United States Tariff Commission production and unit value of sales figures for 1939 and 1947 were used for "Nonbenzenoid synthetic resins" and for "Benzenoid synthetic resins." These figures include all resins used in making protective coatings and the 1939 data were adjusted for comparability with 1947 by classifying maleic-anhydride alkyd resins as "Nonbenzenoid" rather than "Benzenoid." United States Tariff Commission figures, which could not be published separately without approximately disclosing data for individual companies, were used for 1939 and 1947 figures for "Polyalkalene-sulfide and polychloroprene types of synthetic rubbers (neoprene, thiokol, etc.)" and for "Other synthetic rubbers." Since "Neoprene, thiokol, etc." were the only types of synthetic rubber produced commercially in 1939, a 1939 unit value for "Other synthetic rubber," suitable for weighting purposes, was constructed by adjusting the 1947 unit value of this item by means of a United States Bureau of Labor Statistics price index for "crude rubber."

The 1939 value of products, value added, and number of employees figures, used in computing the "adjusted" industry and the industry-group indexes, respectively, were adjusted to include establishments primarily engaged in producing transparent wrapping materials (principally cellophane). Such establishments were transferred from Industry 2825.

**2825—Synthetic fibers.**—Quantity of production was used for 1947 instead of quantity of shipments, with values estimated on the basis of the average unit value of shipments. Figures which could not be published separately, without approximately disclosing data for individual companies, were used for the following 1947 items: Acetate packaged rayon yarn "100 denier (88 to 112)" and "125 denier (113 to 137)"; Viscose and cuprammonium packaged rayon yarn "100 denier (88 to 112)," "125 denier (113 to 137)," "200 denier (163 to 249)," and "300 denier (250 to 374)"; "Nylon fibers"; and "Other synthetic fibers (except glass)"; and for the 1939 items: "Related cellulose products" and "Nylon fibers." Unpublished census statistics were used for all 1939 items.

For weighting purposes, 1939 values for "Nylon" and "Other synthetic fibers (except glass)"—only negligible quantities of which were produced in 1939—were constructed by adjusting the 1947 average unit values by a price index representing rayon products.

A calculated 1947 figure for industry value of products was used in place of the published figure for value of shipments in computing the coverage ratio. This figure may be obtained as the sum of published figures for cost of materials, etc., and value added. The 1939 value of products, value added, and number of employees figures, used in computing the "adjusted" industry and the industry-group indexes, respectively, were adjusted to exclude establishments primarily engaged in producing transparent wrapping materials (principally cellophane). Such establishments were transferred to Industries 2823-4.

**2826—Explosives.**—Census figures which could not be published separately, since they would have approximately disclosed data for individual companies, were used for "High explosives, permissibles" in 1947; and for "High explosives, except permissibles" and "Smokeless powder" in 1939 and 1947.

**2829—Organic chemicals, n. e. c.**—Since no quantity of products data were collected for these organic chemicals in the 1947 Census of Manufactures, the production indexes were constructed primarily from published and unpublished figures compiled by the United States Tariff Commission. The values of the product classes used by the Tariff Commission differ somewhat from those used by the Bureau of the Census; hence, the comparable Tariff Commission figures, in general, were used for both 1939 and 1947. Tariff Commission figures were not available, however, for "Carbon disulfide," "Cellulose acetate," and "Cellulose nitrate" in 1939, and census figures were used. The value figures for industrial ethyl alcohol represent published and unpublished census data. The quantity figures were derived from reports of the Commissioner of Internal Revenue, representing fiscal years ending June 30. The figures for "Pure industrial ethyl alcohol" were obtained by subtracting the total withdrawals for denaturation from the total production of industrial ethyl alcohol.

The value of items for which satisfactory 1939 and 1947 quantity data were available represented 66.8 and 77.7 percent, respectively, of the 1947 and 1939 value of products of the industry. (These are the coverage ratios shown in Chapter IV.) Instead of making the standard coverage adjustments for this industry on the basis of these ratios, separate adjustments were made for each of six groups of synthetic organic chemicals, by assuming the same average price changes for unrepresented items in each group as for those for which comparable quantity data were available. The groups of products for which such adjustments were made are "Cyclic (coal-tar) intermediates," "Cyclic (coal-tar) dyes," "Synthetic organic pigments, lakes, and toners," "Flavor and perfume materials," "Miscellaneous cyclic chemical products," and "Miscellaneous acyclic chemical products." For three groups of chemicals—"Rubber-processing chemicals," "Plasticizers," and "Industrial ethyl alcohol"—no adjustments were made, since comparable quantity data were available for all products in the group. The value of products for these nine groups amounted

to 94.1 percent of the value of products of the industry for 1947 and 97.9 percent for 1939. A further coverage adjustment was then made, on the basis of these ratios, for products not included in the nine groups. This method of adjustment yielded indexes between 11 and 15 points higher than would have been obtained if the indexes had been adjusted in the standard manner.

**2841—Soap and glycerin.**—For "Packaged washing powder," 1947 quantity of production was used instead of quantity of shipments, with its value estimated on the basis of average unit value of shipments. Quantity of production only was available for "Shaving cream lather—tube and jar" and "Shaving soap" for 1947 and the reported 1947 value of shipments figures were considered sufficiently comparable to measure the value of this production.

The 1939 quantity figure for "Crude glycerin" was converted from an 80 percent to a 100 percent basis for comparability with the 1947 figure.

A calculated 1947 figure for industry value of products was used in place of the published figure for value of shipments in computing the coverage ratio. This figure may be obtained as the sum of published figures for cost of materials, etc., and value added.

**2851—Paints and varnishes.**—Only summary value figures were collected in the 1947 Census of Manufactures for "Plastic texture paints" and "Cold water paints." Detailed 1939 and 1947 quantity and value figures for these items were taken from Census Facts for Industry releases based on a monthly survey.

For the following items, quantity of production was used instead of quantity of shipments for 1947, with values estimated on the basis of the average unit value of shipments: "Spirit varnishes, except shellac," "Natural resin varnish, except shellac," "Synthetic resin base varnish," "Drying japans and driers," "Baking japans," "Other varnishes, including mixtures," and "Bleached shellac."

A 1947 quantity figure for "Oil and water paints and stains, not specified by kind" was estimated from value data by using the average unit value of shipments for certain specified oil and alkyd vehicle-type paints. This item was included in the combined figure used for "Barn and roof, marine, metallic, and other" paints and varnishes.

**2852—Inorganic color pigments.**—Figures which could not be published separately without approximately disclosing data for individual companies were used for the following items: "Basic carbonate white-lead pigments, except white lead in oil" and "Sulfate white-lead pigments, except white lead in oil."

**2862—Softwood distillation.**—Figures for 1939 production of "Wood turpentine" were adjusted for comparability with 1947 by excluding the quantity produced by the wood-sulfate process.

**2863—Gum naval stores.**—Census data were not collected on the operation of fire stills in 1947, although both steam and fire stills were covered in 1939. Figures for the 1947 quantity of "Gum turpentine" and "Gum rosin" were adjusted to include fire stills, on the basis of United States Department of Agriculture data. The same average unit value was assumed for these products when made in fire stills as when made in other establishments.

A comparable adjustment to include fire stills was made in the 1947 value of products, value added, and number of employees figures used in computing the "adjusted" industry and the industry-group indexes, respectively.

**2865—Natural tanning and dyeing materials.**—Figures were included for the following items which could not be published separately since they would have approximately disclosed data for individual companies: "Wattle" for 1939 and 1947 and "Chrome tanning mixtures" for 1939. A 1939 quantity figure for "Natural dyestuffs extracts (solid basis)" was constructed from 1939 figures reported partly on a solid and partly on a liquid basis.

**287—Fertilizers.**—In the 1939 census, the two 1947 industry classifications 2871—Fertilizers and 2872—Fertilizers (mixing

only) were combined in a single industry. For this reason, it was found that better indexes could be constructed for the two industries together than for either industry separately, and only the combined indexes were calculated.

The figures for "Superphosphates" were adjusted to represent "straight goods" and to exclude superphosphates made into "mixed goods." Also, the 1939 figures were adjusted to include superphosphates produced and shipped by the Tennessee Valley Authority, which are included in the 1947 statistics. All superphosphate figures were further adjusted to a uniform 18 percent available phosphoric acid (A. P. A.) basis.

In order to approximate "net" value of products for the two industries in 1939 and 1947, for use in computing the coverage ratios, the value of superphosphates consumed in these industries in the manufacture of mixed goods was subtracted from the calculated "gross" value of products for the two industries. This calculated "gross" value of products for 1947 may be obtained as the sum of published figures for cost of materials, etc., and value added. The 1939 and 1947 value of products was further adjusted to exclude products purchased for resale without further processing.

**2881—Cottonseed oil mills.**—Quantity of production was used for 1947 instead of quantity of shipments, with values estimated on the basis of the average unit value of shipments.

The 1939 Census of Manufactures data for each product, and for the value of products, value added, and number of employees represented a crop year ending July 31. Corresponding calendar-year figures for quantity and value of products, and value added, were computed on the basis of monthly data collected by the Bureau of the Census.

**2882—Linseed oil mills.**—Quantity of production was used for 1947 instead of quantity of shipments, with values estimated on the basis of the average unit value of shipments.

**2883—Soybean oil mills.**—Quantity of production was used for 1947 instead of quantity of shipments, with values estimated on the basis of the average unit value of shipments.

The 1939 value of products, value added, and number of employees figures used in computing the "adjusted" industry and the industry-group indexes, respectively, were revised for comparability with 1947 by retabulating certain 1939 data.

**2886—Grease and tallow.**—For the following 1947 items, quantity of production was used instead of quantity of shipments, with values estimated on the basis of the average unit value of shipments: "Grease," "Tallow, edible," and "Tallow, inedible."

**2891—Printing ink.**—The total number of pounds of "Printing ink" for 1947 was partly estimated from value figures (for comparability with 1939) on the basis of the average unit values of selected inks for which quantity was reported in 1947.

**2894—Glue and gelatin.**—A calculated 1947 figure for industry value of products was used in place of the published figure for value of shipments in computing the coverage ratio. This figure may be obtained as the sum of the published figures for cost of materials, etc., and value added.

The 1939 value of products for the industry was adjusted to exclude products purchased for resale without further processing.

**2895—Carbon black.**—Quantity of production, instead of quantity of shipments, was used for "Bone black" in 1947, with the value estimated on the basis of the average unit value of shipments. A calculated 1947 figure for industry value of products was used in place of the published figure for value of shipments in computing the coverage ratio. This figure may be obtained as the sum of the published figures for cost of materials, etc., and value added.

**2896—Compressed and liquefied gases.**—The total value of oxygen for 1947 was estimated on the basis of average unit values for selected establishments. This adjustment was necessary since some companies, as a result of a change in marketing techniques, reported 1947 values in a manner which was not comparable with their 1939 reports and with the 1947 reports of other companies. A revised and partly estimated quantity figure for 1947 was used

for acetylene. The 1947 industry value of products and value added, used in computing the "adjusted" industry and the industry-group indexes, were correspondingly adjusted.

**2898—Salt.**—Four United States Bureau of Mines series for the production of evaporated salt, by methods of recovery, were used to represent this industry. Since the Bureau of Mines does not distinguish between "Salt in brine" produced for sale and the larger portion produced and consumed in the same plant (by plants classified in the chemical industries), no series representing salt in brine was included.

**2911 and 2992—Petroleum refining and Lubricants, n. e. c.**—Combined indexes only were constructed for industries 2911—Petroleum refining and 2992—Lubricants, n. e. c., since all major products of such separately operated lube plants are primarily produced in petroleum refineries.

Quantity data used for 1947 represent "net shipments," that is, "shipments and interplant transfers" less "receipts." These quantity figures appear to be most nearly comparable with the "production" data available for 1939. The value of net shipments was estimated by multiplying quantities by average unit values computed from figures for total shipments and interplant transfers.

For comparability with 1947, the 1939 figures for "Automotive and other gasoline" and "Lubricating oils and lubricating-oil base stocks" were adjusted to exclude excise taxes. The total adjustment was estimated on the basis of the ratio of excise taxes to total value of products as computed from 1939 census reports for over one-third of all refineries. The breakdown of this estimate between the two product classes was computed by use of the ratio of rough estimates of total excise tax paid on each class, computed by assuming a tax of 1 cent per gallon on gasoline and 4 cents per gallon on lube oils.

The 1939 quantity figure for "Lubricating oils and lubricating-oil base stocks" includes an estimate for "Lubricants (kind and quantity not reported)" and for other lubricating oils for which only value was reported. This quantity was estimated from total-value figures by means of the average unit value of lube oils for which quantity was reported.

The 1939 figure for "Lubricating greases" made in the petroleum-refining industry was converted from gallons to pounds, for comparability with 1947 and other 1939 data, by assuming 350 pounds per barrel of 42 gallons. The 1939 data for "Petroleum waxes" and "Petrolatum" were converted from gallons to pounds, for comparability with 1947, by assuming 280 pounds per barrel of 42 gallons.

Figures for "Unfinished oils" were not used in constructing the indexes, since they would duplicate the quantities appearing as finished oils.

The 1939 and 1947 value of products figures, used in computing the coverage ratios, were adjusted to represent value of approximate "net" production, excluding excise taxes. The 1939 value added figure, used in computing the industry-group indexes, was likewise adjusted to exclude excise taxes.

**2931—Beehive coke ovens.**—Quantity and value of products figures used for 1939 represent United States Bureau of Mines' statistics as reproduced in the 1947 basic census volumes. These figures are comparable with the 1947 census statistics. Since there was significant undercoverage of this industry in the 1939 census, for purposes of computing the "adjusted" industry and the industry-group indexes, respectively, adjusted 1939 figures for value of products, value added, and number of employees, based on Bureau of Mines data, were taken from a footnote in the 1947 basic census volumes.

**2932—Byproduct coke ovens.**—Since the United States Bureau of Mines compiles annual product statistics based on complete coverage of this industry, product data for only the major classes of products were collected in the 1947 census, and no product detail was obtained for 1939. The Bureau of Mines' figures,

which are closely comparable with census data, have been used for additional product detail.

In order to exclude data for quantities produced and consumed in the industry for fuel or in further manufacture, figures for "Shipments and interplant transfers" were used in preference to "Production." Except as indicated below, Bureau of Mines' figures for "Sales" were treated as comparable with census figures for "Shipments and interplant transfers": (1) For "Coke" and "Screenings and breeze" 1939 Bureau of Mines' "Production" was used, and from it was subtracted 1939 census data for the quantity of these items used as fuel in the industry (the census data were broken down between the two grades of coke by estimate); (2) the 1939 figures used for "Coke-oven gas" represent gas "Used in steel and affiliated plants," "Distributed through city mains," and "Sold for industrial use"; and (3) for "Crude tar" the 1939 statistics represent tar "Sold" and "Used by producer in open-hearth or affiliated plants."

The figures for "Ammonia sulfate," "Ammonia liquor," and "Creosote oil, distilled as such" in 1939 and 1947 are Bureau of Mines' statistics.

**2991—Fuel briquets and packaged fuel.**—Quantity and value of products figures used for 1939 are United States Bureau of Mines statistics as reproduced in the 1947 basic census volumes. These figures are approximately comparable with the 1947 census statistics, although they exclude a very small production of briquets from charcoal and other nonmineral fuels. Since there was significant undercoverage of this industry in the 1939 census, for purposes of computing the coverage ratio, the sum of Bureau of Mines' value figures for "Fuel briquets" and "Packaged fuel" was used to represent industry value of products, and a comparable adjustment was made in the 1939 value added and number of employees figures used in computing the industry-group indexes.

**3011—Tires and inner tubes.**—Available production figures for this industry represent number of units of "Passenger car," "Truck and bus," and "Airplane" tires and tubes. Since the composition of these classes in terms of size, weight, and quality of tire or tube changed significantly between 1939 and 1947, figures representing "consumption of natural, synthetic, and reclaimed rubber" by the industry were selected as a better measure of the industry's output. This item represents the principal raw material for all of the primary and most of the secondary products of the industry, hence the same ratio is shown to represent the "unadjusted" and the "adjusted" indexes.

This method of construction yielded an index about 10 points higher than the "adjusted" indexes which would have been obtained if available quantity and value of products data had been used.

**3021 and 3031—Rubber footwear and reclaimed rubber.**—Quantity of production, instead of quantity of shipments, was used for 1947, with values estimated on the basis of the average unit values of shipments. Corresponding calculated 1947 figures for value of products of these industries were used in place of the published figures for value of shipments in computing the coverage ratios. These figures may be obtained as the sum of the published figures for cost of materials, etc., and value added.

**3099—Rubber industries, n. e. c.**—For the following items quantity of production instead of quantity of shipments was used for 1947, with value estimated on the basis of the average unit value of shipments: "Rubber soles," "Rubber transmission V-belts for motor vehicles," "Molded rubber garden hose," "Water bottles, fountain syringes, and combinations," "Nipples and pacifiers," "Household gloves," and "Bathing caps." Production figures for 1939 were estimated for a portion of the "Rubber cement" and "Erasers (except pencil plugs)" for which no quantity was reported. These estimates were based on the total value of products for each item and the average unit value of these products for which quantity was reported.

A calculated 1947 figure for industry value of products was used in place of the published figure for value of shipments in computing the coverage ratio. This figure may be obtained as the sum of the published figures for cost of materials, etc., and value added. The corresponding 1939 value of products, value added, and number of employees figures, used in computing the industry-group indexes, were revised to exclude establishments primarily engaged in making rubber dolls, which were transferred to Industry 3942—Dolls.

**3111—Leather tanning and finishing.**—For 1939, values of leather "produced in contract factories on commission" were estimated from the quantities of these items and the average unit values of the corresponding items "produced in regular factories."

The 1939 and 1947 value of products, used in computing the coverage ratios, were adjusted to exclude the value of contract work done in the industry for the account of other establishments classified in this industry. For a discussion of this type of adjustment, see the statement above on Major Group 23.

**3152—Leather work gloves.**—A 1947 quantity figure was estimated for a small value of "Other and not specified by type" gloves and mittens on the basis of the average unit value of "Welders', all-grain, all-split, and grain and split" leather work gloves and mittens.

**Major Group 32—Stone, Clay, and Glass Products.**—For the following industries, quantity of production was used instead of quantity of shipments for 1947, with values estimated on the basis of the average unit value of shipments:

- 3211—Flat glass.
- 3221—Glass containers.
- 3229—Pressed and blown glassware, n. e. c.
- 3251—Brick and hollow tile.
- 3253—Floor and wall tile, except quarry tile.
- 3254—Sewer pipe.
- 3255—Clay refractories.
- 3259—Structural clay products, n. e. c.
- 3271—Concrete products.
- 3296—Sand-lime products.
- 3297—Nonclay refractories.

For each of the above industries, except 3211, 3271, and 3296, a corresponding calculated 1947 figure for industry value of products was used in place of the published figure for value of shipments in computing the coverage ratio. These figures may be obtained as the sum of the published figures for cost of materials, etc., and value added.

**3211—Flat glass.**—Figures were used for "Plate glass" in 1939 and 1947 which could not be published separately, since they would have approximately disclosed data for individual companies. A previously unpublished segregation of "rough" and "polished" wire glass for 1939 was used. For comparability with these figures, and to avoid duplication with the 1947 figure for "polished" wire glass, the data for "glass consumed in the plant where made in the manufacture of other products" were excluded from the 1947 figure used for "rough" wire glass.

**3221—Glass containers.**—For comparability with 1939, combined 1947 production figures for the following items were broken down on the basis of census figures for the quantity of each shipped: "Narrow-neck food containers," "Wide-mouth food containers," "Medicinal, health supplies, toiletries, and cosmetics containers," and "Chemical, household, and industrial containers."

**3229—Pressed and blown glassware, n. e. c.**—Published statistics for lantern globes were not used in constructing the indexes, since the quantity and unit value figures seemed unreliable.

**3241—Cement, hydraulic.**—For 1947, the aggregate quantity was used for "Portland cement shipped," "Natural, masonry-natural, and puzzolan cements shipped," and "Portland cement used in the production of masonry mortars." This aggregate is most nearly comparable with the quantity aggregate used for 1939, based on United States Bureau of Mines figures. No adjusted index was constructed for this industry, since the portion of value of products of the industry not covered by quantity data

represents primarily cost of containers, and less than one-tenth of one percent of the primary products of the industry was made in other industries.

**3251—Brick and hollow tile.**—The 1939 data for "Non-load-bearing and load-bearing structural tile" were reported in square feet, rather than in tons as in 1947. The figures for 1939 were converted to tons by means of data for number of tons per square foot for each of 22 size or type classes of this tile.

For comparability with 1939, separate 1947 figures were included for "Ceramic glazed" and "Salt glazed" brick which could not be published, since they would have approximately disclosed data for individual companies.

**3225—Clay refractories.**—The 1947 figures for "Fire-clay brick," and "High-alumina brick" include standards and special shapes. Separate consolidated figures were reported for special shapes in 1939, with quantity measured in tons rather than "M 9-inch equivalent." This 1939 consolidated figure for value of special shapes was broken down on the basis of the 1939 ratio of the total value of "Standard fire-clay brick" to the total value of "Standard high-alumina brick." Rough quantity figures were estimated for the brick equivalent of these special shapes by dividing the estimated total value of the two types of special shapes by the corresponding 1939 average unit values of standard shapes.

**3271—Concrete products.**—The 1939 figures for industry value of products, value added, and number of employees, as published in the 1947 basic census volumes, include the production of ready-mixed concrete at plants primarily engaged in producing precast concrete products. Such ready-mixed concrete activities were excluded in the 1947 census. For the purpose of computing the "adjusted" industry and the industry-group indexes, the value of this ready-mixed concrete and the corresponding estimated value added and number of employees were excluded. The 1939 value of products, also, was adjusted to exclude products purchased for resale without further processing.

**3272—Gypsum products.**—The quantity and value figures represent, primarily, United States Bureau of Mines statistics as reproduced in the 1947 basic census volumes.

**3274—Lime.**—For comparability with 1947, the 1939 industry value of products was adjusted to exclude the estimated value of crushed stone produced for sale as such at quarries associated with the lime establishments, and included in the retabulated 1939 figures as published in the 1947 basic census volumes.

**3297—Nonclay refractories.**—For comparability with 1947, the 1939 industry value of products, value added, and number of employees figures, used in computing the "adjusted" industry and the industry-group indexes, respectively, were adjusted to include dead-burned magnesite, on the basis of United States Bureau of Mines figures.

**3311 and 3313—Blast furnaces and electrometallurgical products.**—Combined indexes only were constructed for the two industries, "Blast furnaces" and "Electrometallurgical products," since these industries were combined in the 1939 census and statistics were not available by type of ferro-alloy segregated between production in blast furnaces and in electric furnaces.

The detailed quantity and value figures for products of these industries (except blast-furnace gas) shown in the census volumes and used in constructing the indexes were collected by the United States Bureau of Mines. Quantity of production figures were used for ferro-alloys in 1939 and 1947, with values estimated on the basis of the average unit value of shipments.

**3312, 3393, and 3399—Steel works and rolling mills, welded and heavy-riveted pipe, and primary metal industries, n. e. c.**—Only combined indexes for the three industries, 3312—Steel works and rolling mills, 3393—Welded and heavy-riveted pipe, and 3399—Primary metal industries, n. e. c. were constructed, since the ferrous products of industries 3393 and 3399 are also primary to 3312 and a large portion of the total production of these products (pipe, cold-rolled sheet and strip, and cold-finished bars) is made in steel works and rolling mills. Steel wire, production of

which was used in computing these indexes, is also primary to Industry 3392—Wire drawing, but Industry 3392 was not combined with the above industries in constructing the indexes, since steel products represented less than one-fourth of the industry's total value of products in 1947.

Commodity data for ingots and semifinished shapes, such as billets, skelp, and tube rounds, were not used, since over 95 percent of the production of these items is consumed in the three industries in making other mill shapes and forms. Separate data are not available for the remaining portion of these items, which is shipped primarily for use in forge shops and for export.

Census data on shipments and interplant transfers were used in obtaining the quantity figures. However, for some items which were used to a large extent to produce other mill shapes, the receipts by steel mills in 1947 were subtracted. Census data for shipments and interplant transfers minus receipts were used for the following items in 1947:

Plates—carbon steel.  
Hot rolled sheets—carbon and alloy steel.  
Hot rolled strip—carbon and alloy steel.  
Cold rolled sheets.  
Cold rolled strip.  
Black plate.  
Hot rolled bars—carbon steel.  
Hot rolled bars—alloy steel.  
Hot rolled bars—stainless steel.

Comparable census figures on receipts for 1939 are not available. Corresponding 1939 figures were estimated by using the percentage changes in net shipments from 1939 to 1947, developed from American Iron and Steel Institute figures for these items, to estimate 1939 quantities comparable to the 1947 census quantities.

No breakdown between carbon- and alloy-steel plate was obtained in the 1939 census. American Iron and Steel Institute production data were used to distribute the total tonnage by grade of steel.

Figures which could not be published separately, without approximately disclosing data for individual companies, were used for the following products:

Plates—carbon steel in 1947.  
Plates—alloy steel in 1947.  
Hot rolled sheets—galvanized in 1939.  
Hot rolled strip—galvanized in 1939.  
Carbon and alloy steel line pipe in 1939 and 1947.  
Carbon and alloy steel oil-country goods in 1939.  
Carbon and alloy steel standard and all other pipe and tubes in 1947.

Certain product data published in the 1939 census volumes, but not reproduced in the 1947 basic volumes, were used. Thus, the 1947 totals for "Mechanical and pressure tubing" were considered comparable to the 1939 figures for mechanical and boiler tubes. "Standard and all other pipe and tubes" for 1947 was treated as equivalent to "black," "galvanized," and "all other" pipe for 1939.

The 1939 unit values are based on reported data for quantities and values of shipments and of transfers to other plants of the same company. In the 1947 census, respondents reported the value of shipments to other companies for each mill shape but reported only the total value of interplant transfers for each establishment. This interplant transfer value was allocated to each product class (group of related mill shapes) for each establishment on the basis of values of commercial shipments for the establishment. These product class totals were summarized and published in the 1947 basic census volumes. In constructing the indexes, the product class interplant transfer values so obtained were further broken down among the individual mill shapes on the basis of the unit values of commercial shipments.

Some of the 1947 figures used for value of interplant transfers and for other quantity and value items represent revisions made after publication of the basic census volumes.

Unpublished census figures for value of products of the Steel works and rolling mills industry were used in computing the coverage ratios. Value of products figures for this industry were

not published in the basic 1947 Census of Manufactures volumes because of the extensive duplication resulting from the use of products of certain establishments as materials by others. The unpublished figures for this industry were combined with the figures for value of products of Industries 3393 and 3399, and were adjusted to approximately exclude the duplication.

**3321—Gray-iron foundries.**—The product figures used represent shipments and interplant transfers of gray-iron castings made in all industries. Castings made and consumed in the same plant were not included.

Since the 1939 and 1947 values reported for "Chilled iron railroad-car wheels, made on a conversion basis" do not represent the total value of the castings, the average unit values for these items were assumed to be the same as the average unit values for "Chilled iron railroad-car wheels, made from manufacturer-owned metal." For the purpose of computing the coverage ratios, the difference between this estimated and the reported total value for these items was added to the total value of products of the industry.

The 1939 quantity figure for "Cast-iron pipe and fittings" includes estimates for some fittings for which no quantity data were reported. These estimates are based on average unit values for similar fittings for which both quantity and value were reported.

**3322—Malleable-iron foundries.**—The product figures used represent shipments and interplant transfers of malleable-iron castings made in all industries. Castings made and consumed in the same plant were not included.

The 1939 value of products, value added, and number of employees figures, used in computing the "adjusted" industry and the industry-group indexes, respectively, were adjusted to include foundries of integrated plants which were reported separately in 1947. These foundries were transferred from Industry 3717—Motor vehicles and parts.

**3323—Steel foundries.**—The product used represents shipments and interplant transfers of steel castings made in all industries. Castings made and consumed in the same plant were not included. For 1947, the total values for "High alloy steel castings" and "Other steel castings" were estimated from the quantity figures and the average unit values of these items made in the foundry industries.

**333—Primary nonferrous metals.**—Combined indexes only were constructed for the five industries in this subgroup, 3331—Primary copper, 3332—Primary lead, 3333—Primary zinc, 3334—Primary aluminum, and 3339—Primary nonferrous metals, n. e. c., since these industries were combined in the 1939 census tabulations and satisfactory statistics for constructing separate indexes were not available.

The quantity of products statistics are from United States Bureau of Mines reports. Unit value added data were used as weights. These unit value added figures were constructed from special tabulations of the 1939 and 1947 census data for the various types of smelters and refineries.

The indexes based on the "primary products" of the industry subgroups are shown as the "unadjusted" indexes. Important secondary products of the subgroup are sulfuric acid and secondary copper, lead, and zinc. United States Bureau of Mines quantity figures representing the production of these items in smelters and refineries were used with unit value added estimates based on census data for the establishments producing such products. Indexes including these "secondary products" were constructed and then adjusted on the basis of the ratio of the total value of the primary and secondary items for which quantity data were used to the total value of products of the subgroup. The ratios were approximated from special retabulations of the census data.

**3361—Nonferrous foundries.**—The 1947 product figures used represent shipments and interplant transfers of castings, but do not include castings produced and consumed in the same plant. The 1939 figures for "Rough castings produced for sale as such" were treated as comparable with these 1947 figures. The 1939

figures for "Brass and bronze castings" were treated as comparable with "Copper-base alloy castings" in 1947.

**3411—Tin cans and other tinware.**—Since comparable 1939 and 1947 quantity of product figures were not available for most items, and no data were available by size of can, satisfactory indexes based on product data could not be constructed. Instead, the tonnage of "Tin plate, terneplate, black plate, and carbon-steel sheet and strip" consumed by the industry was used as a measure of production. This item represents the principal raw material for most of the primary and many of the secondary products of the industry, hence the same ratio is shown to represent the "unadjusted" and "adjusted" indexes. The 1939 tonnage was reduced by about 3 percent to exclude consumption by establishments which were classified in other industries in the 1947 census.

**3421—Cutlery.**—Quantity figures for "Pocket knives" were not published for 1939. Unpublished quantity data representing about 85 percent of the total value of this item were used. The remaining quantity was estimated on the basis of the average unit value of "Pocket knives" for which quantity was reported.

**3432—Oil burners.**—Figures for 1939 which could not be published separately, without approximately disclosing data for individual companies, were used for "Residential oil burners for central heating units, shipped separately" and for "Commercial and industrial oil burners, shipped separately."

**3439—Heating and cooking apparatus, n. e. c.**—Quantity figures were estimated for the portion of the value of products of each of the following items for which no quantity data were reported, on the basis of the average unit value of the portion of each item for which quantity was reported: "Cast-iron heating boilers" for 1939 and 1947; "Steel heating boilers" for 1947; "Warm-air furnaces" for 1939; and "Gas domestic heating stoves" for 1939. Unpublished and partly estimated 1939 quantity figures were used for "Gas burners for residential heating equipment, for sale separately" and "Unit heaters."

**3441—Structural and ornamental products.**—Quantity figures were estimated for a portion of the 1939 and 1947 values of each of the following items for which no quantity data were reported, on the basis of the average unit values of the portions of these items for which both quantity and value were reported: "Fabricated structural iron and steel for bridges," "Fabricated structural iron and steel for buildings," "Fabricated structural iron and steel for ships, boats, barges, and other structures," "Ornamental iron and steel grille work, stairs, staircases, fire escapes, and railings," "Ornamental iron and steel gratings, flooring, and other ornamental work," "Ornamental nonferrous metal work," and "Fabricated concrete reinforcing bars" (1939 only).

The 1939 value of products, used in computing the coverage ratio, was adjusted to exclude products purchased for resale without further processing.

**3442—Metal doors, sash, and trim.**—Since comparable 1939 and 1947 quantity of product figures were not available for most items, tonnage of "Steel-mill shapes and forms" consumed by the industry was used to measure production. This item represents the principal raw material for most of the primary and many of the secondary products of the industry, hence the same ratio is shown to represent the "unadjusted" and "adjusted" indexes. The 1939 tonnage used for "Steel-mill shapes and forms" consumed includes estimates for about 4 percent of the total for which only cost was reported, made on the basis of the average unit cost of the remaining portion. Separate estimates were made for each mill shape. Consumption figures for both years exclude "Carbon steel wire" and "All other carbon steel mill shapes and forms," since data for these items were not collected for 1939.

**3443—Boiler-shop products.**—Since comparable 1939 and 1947 quantity of product figures were available for less than 40 percent of the 1947 value of products of this industry, tonnage of "Steel-mill shapes and forms" consumed by the industry was used to measure production. This item represents the principal raw material for most of the primary and many of the secondary

products of the industry, hence the same ratio is shown to represent the "unadjusted" and "adjusted" indexes. The 1939 tonnage used for "Steel-mill shapes and forms" consumed includes estimates for about 13 percent of the total for which only cost was reported, made on the basis of the average unit cost of the remaining portion. Separate estimates were made for each mill shape. The 1939 published figures for quantity of steel consumed were also adjusted to exclude data for establishments which were classified in other industries in the 1947 census. Consumption figures for both years exclude "Carbon steel wire" and "All other carbon steel mill shapes and forms," since data for these items were not collected for 1939.

The 1939 value added and number of employees figures, used in constructing the industry-group indexes (and the corresponding value of products figure) were adjusted to exclude establishments which were classified in Industry 3522 in the 1947 census.

**3489—Wirework, n. e. c.**—Quantity was estimated for the portion of "Wire garment hangers" in 1939 for which only value was reported, on the basis of the average unit value of the remaining portion.

**3491—Metal barrels, drums, and pails.**—Since different commodity classifications were used for the products of this industry in 1939 and 1947, tonnage of "Steel-mill shapes and forms" consumed by the industry was used to measure production. This item represents the principal raw material for most of the primary and many of the secondary products of the industry, hence the same ratio is shown to represent the "unadjusted" and "adjusted" indexes. Consumption figures for both years exclude carbon-steel bars, bar shapes, structural shapes, and wire, since data for these items were not collected for 1939.

**3493—Steel springs.**—Quantity figures were estimated for a portion of the 1939 value of "Leaf springs" and "Helical springs, hot wound," on the basis of the average unit value of the portions of these items for which both quantity and value were reported.

**3494—Bolts, nuts, washers, and rivets.**—Quantity figures were estimated for a portion of the 1939 and 1947 values of each of the following items, on the basis of the average unit values of the portions of these items for which both quantity and value were reported: "Ferrous bolts, nuts, rods, lag screws, and studs," "Ferrous and nonferrous metal cap and set screws," "Ferrous machine screws and stove bolts," "Nonferrous metal machine screws and stove bolts," "Ferrous and nonferrous sheet metal and tapping screws," "Ferrous wood and drive screws," "Nonferrous-metal wood and drive screws" (1939 only), and "Ferrous rivets."

No "adjusted" indexes were constructed for this industry, since the 1939 and 1947 published totals for value of products of the industry were not considered sufficiently comparable. A number of integrated operations, for which separate reports for the bolt and nut departments were received for 1947, were reported on a combined basis for 1939.

**3519—Internal-combustion engines.**—The product statistics used for 1939 and 1947 represent shipments (or production for sale) and interplant transfers of internal-combustion engines (except automotive and aircraft), by horsepower rating. The 1947 quantity data used include "interplant transfers" of "Gasoline and other carburetor engines, except outboard" and "Diesel and semi-Diesel engines," by horsepower rating, which could not be published separately without approximately disclosing data for individual companies. The unit values of these "interplant transfers" were estimated on the basis of the average unit values of shipments for each item.

Data on value of engines, by horsepower rating, were not collected in the 1939 Census of Manufactures. Such values were estimated from the 1939 total value for "Gasoline and other carburetor engines, except outboard," "Outboard engines," and "Diesel and semi-Diesel engines," respectively, by assuming that the relation between unit values for each type of engine with different horsepower ratings was the same for 1939 and 1947. Revised and partly estimated figures were used for the quantity of

outboard motors for 1939. The value figures for 1939 were also adjusted to exclude the value of parts which several large producers had included with the value of complete engines.

The 1939 value of products, value added, and number of employees figures, used in computing the "adjusted" industry and the industry-group indexes, respectively, were revised to include five large establishments which made the same type of products in 1939 and 1947 but had been classified in Industries 3599 and 3717 for 1939.

**3522—Farm machinery (except tractors).**—The detailed 1947 product statistics for all items, except windmills, were collected by the Bureau of the Census in an annual survey and reproduced in the 1947 basic census volumes. The data for "Windmill heads" and "Windmill towers" were taken from a Census Facts for Industry release based on another annual census survey.

The 1939 and 1947 quantity data for "End-gate and truck-body lime spreaders" and "Laying batteries" were not considered sufficiently comparable for use in constructing the indexes.

The 1939 value of products, value added, and number of employees figures, used in computing the "adjusted" industry and the industry-group indexes, respectively, were revised to include 24 establishments which made the same type of products in 1939 and 1947 but had been classified in Industries 3443, 3444, 3463, 3551, 3561, and 3563 for 1939.

**3541—Machine tools.**—The quantity figures for "Bench type" and "Floor and pedestal type" "Sensitive drilling machines" were reported in "number of spindles" for 1947 and "number of machines" for 1939. The 1939 figures for "multiple-spindle" machines were reduced to "number of spindles" by assuming an average of six spindles per machine; these estimates were then added to the corresponding numbers of "single-spindle" machines. Partly estimated and unpublished quantity data were also used for the following items: "Surface grinding machines" in 1947; "Bench, floor, and snag grinders" in 1939; "Polishing and buffing machines" in 1939; "Sawing and cut-off machines" in 1947; "Tapping machines" in 1947; and "Pipe threading machines" in 1939. Statistics for "Radial drilling machines" were not used in constructing the index, since the quantity figures for 1939 and 1947 did not appear sufficiently comparable.

**3562—Elevators and escalators.**—Quantity figures for 1939 were estimated for the portion of the value of "Electric passenger elevators" and "Freight elevators," for which no quantity was reported, on the basis of the average unit value of these two types of elevators for which quantity was reported. The 1939 totals for "Electric passenger elevators" were then adjusted for comparability with 1947 by excluding low-cost elevators, which were not classified as passenger elevators for 1947.

**3568—Mechanical stokers.**—Value figures, by class of stoker, for 1947 were partly estimated on the basis of unpublished 1947 Census of Manufactures quantity and value data.

**3571—Computing and related machines.**—The 1939 value figures published in the basic census volumes were somewhat overstated relative to 1947, since a substantial portion of the industry reported delivered values for 1939 rather than factory values as for 1947. The 1939 value figures for the companies involved were revised to represent value f. o. b. plant for each product, and comparable revisions were made in the industry value of products and value added used in computing the "adjusted" industry and the industry-group indexes, respectively.

Figures were used for "Cash registers" in 1939 and 1947 which could not be published separately without approximately disclosing data for individual companies.

**3581—Domestic laundry equipment.**—Figures which could not be published separately, without approximately disclosing data for individual companies, were used for the following items: "Standard-size nonautomatic electrically driven washing machines" in 1947 and "Mechanical driers" in 1939. Partly estimated data were used for the quantity of "Mechanical ironers" in 1939.

**3583—Sewing machines.**—Figures which could not be published separately, without approximately disclosing data for individual companies, were used for "Electric" and "Other" "Household sewing machines" in 1947. Production data were used for each of these items, with values estimated on the basis of the average unit values of shipments.

**3584—Vacuum cleaners.**—The 1939 value figures published in the basic census volumes were somewhat overstated relative to 1947, since a substantial portion of the industry reported retail values for 1939 rather than factory values as for 1947. The 1939 value figures for the companies involved were revised to represent value f. o. b. plant for each product, and comparable revisions were made in the industry value of products and value added used in computing the "adjusted" industry and the industry-group indexes, respectively.

**3585—Refrigeration machinery.**—The 1947 breakdown of "Mechanical household refrigerators" between "5.4 cubic feet and under" and "5.5 cubic feet and over" was treated as comparable to the 1939 break between "Under 6 cubic feet" and "6 cubic feet or more." The 1939 statistics were adjusted to include data for gas refrigerators, which could not be published separately without approximately disclosing data for individual companies. Average unit values of shipments for which quantity was reported were used to estimate quantity data for the portion of the 1939 value of each of the following items for which no quantity was reported: "Household ice refrigerators," "Display cases," "Ice-cream hardening and dispensing cabinets," "Packaged air-conditioners," and "Mechanical drinking-water coolers." Production data were used for the latter item in 1947, with the value estimated on the basis of the average unit value of shipments.

Unpublished census figures for value of products of the industry were used in computing the coverage ratios. The total value figures were not published in the basic 1947 Census of Manufactures volumes because of the extensive duplication resulting from the use of products of certain establishments as materials by others; however, these total values were considered satisfactory for the purpose of computing coverage ratios.

**3613—Electrical measuring instruments.**—Figures were used for the following items which could not be published separately, since they would have approximately disclosed data for individual companies: "Demand meters" in 1947 and "Instrument, meter, and tripping transformers" in 1939.

**3614-5—Motors, generators, and transformers.**—Combined indexes only were constructed for these two industries, since separate 1947 reports were obtained for some "motor and generator" and "transformer" operations at the same location, which were consolidated in one report for 1939.

Figures for "Clock-type synchronous and sub-synchronous timing motors" and for "Synchronous and other A. C. integral horsepower motors" were not used, since the 1939 and 1947 data did not appear sufficiently comparable. The values of "interplant transfers" of motors and generators in 1947 were estimated on the basis of the average unit value of commercial shipments of the same items. Unpublished and partly estimated 1939 census quantity data were used for "Luminous tube and ignition transformers" and "Power and distribution transformers (under 500 KVA)."

The 1939 value of products, value added, and number of employees figures, used in computing the "adjusted" industry and industry-group indexes, respectively, were adjusted to exclude parts of plants which were reported separately for 1947 and classified in Industry 3511.

**3617—Electric welding apparatus.**—Unpublished and partly estimated quantity data were used for "Spot welders" in 1939. A quantity figure for "Arc-welding and resistance-welder electrodes" was estimated for 1939 from total value by means of an estimated figure for average unit value. The latter figure was obtained by dividing the 1947 average unit value of "Arc-welding

and resistance-welder electrodes" by the ratio of 1947 to 1939 average unit price of major types of arc-welding electrodes.

**3621—Electrical appliances.**—Quantity and value figures for "Dry shavers" in 1939 were revised on the basis of a review of the individual establishment reports to exclude other types of razors which were erroneously reported and tabulated as dry shavers.

The available combined figures for number of electric bed coverings and heating pads were not used, because of the widely different unit values of the two items and the probable different changes in production between 1939 and 1947.

**3651—Electric lamps.**—Census statistics which had not been published separately were used for quantity and value of "Christmas tree lamps" for 1939.

**3661—Radios and related products.**—Unpublished census figures were used for the number of units of the following items produced in 1939: "Receiving set chassis, for sale separately," "Mechanical reproduction phonographs," "Record players," and "Commercial radio receivers."

Figures for television sets were not included in the unadjusted index, since the quantity figures for 1939 did not seem sufficiently comparable with those for 1947. The values for television sets and other new products, however, are included in the data for industry value of products and their output is reflected in the adjusted index.

Unpublished census figures for value of products of the industry were used in computing the coverage ratios. These total value figures were not published in the basic 1947 Census of Manufactures volumes because of the extensive duplication resulting from the use of products of certain establishments as materials by others; however, these total values were considered satisfactory for the purpose of computing coverage ratios. For comparability with 1947, the 1939 industry value of products, value added, and number of employees figures, used in computing the "adjusted" industry and industry-group indexes, respectively, were adjusted by transferring parts of plants for which separate reports were received in 1947 to Industries 3662 and 3663.

**3662—Electronic tubes.**—Quantity of production was used for 1947 instead of quantity of shipments, with values estimated on the basis of the average unit value of shipments.

For comparability with 1947, the 1939 industry value of products, value added, and number of employees figures, used in computing the "adjusted" industry and industry-group indexes, respectively, were adjusted by transferring parts of plants for which separate reports were received in 1947 from Industry 3661.

**3663—Phonograph records.**—Unpublished 1939 quantity data were used for "Disk records, 78 r. p. m., not including electrical transcriptions" and for "Electrical transcriptions, 33½ r. p. m." Quantity of production was used for 1947 instead of quantity of shipments, with values estimated on the basis of the average unit value of shipments.

For comparability with 1947, the 1939 industry value of products, value added, and number of employees figures, used in computing the "adjusted" industry and industry-group indexes, respectively, were adjusted by transferring parts of plants for which separate reports were received for 1947 from Industry 3661.

**3691—Storage batteries.**—For 1947, the figures for "Automotive-type storage batteries" only were used, since they were considered most nearly comparable to the available 1939 figures. A quantity figure was estimated for 1939 for the portion of automotive-type storage batteries for which no quantity was reported, on the basis of the average unit value of the portion for which quantity was reported.

**3717 and 3713—Motor vehicles, parts, and truck and bus bodies.**—Combined indexes only were constructed for Industry 3717—Motor vehicles and parts and Industry 3713—Truck and bus bodies, since no separate statistics were published for these industries in the 1939 census volumes nor could the 1939 reports be retabulated in terms of the 1947 industry classifications.

Published census statistics for passenger cars represent only total number and total value. These were broken down by make of car on the basis of census figures which could not be published separately without disclosing data for individual companies. This refinement raised the indicated output change for passenger cars by about three percentage points. A further breakdown by model for each make would have yielded better indexes, but the necessary data were not available.

The 1939 census value figures for passenger cars and other motor vehicles were adjusted to exclude excise taxes, which are not included in the 1947 figures.

Quantity figures for truck chassis, by weight, in 1939 were estimated from the total of census figures for number of commercial-type vehicles, commercial chassis, and passenger chassis, after an unpublished figure for the number of motor coaches, and estimated figures for the number of fire-department vehicles and ambulances produced on purchased chassis had been subtracted from this total. The resulting figure was broken down by chassis weight on the basis of an approximately comparable tonnage capacity break for 1939 trucks, published by the Automobile Manufacturers Association. Aggregates for truck chassis were then constructed with 1947 unit-value weights and the total of these aggregates was inflated to include bodies, on the basis of the 1947 ratio of value of truck and bus bodies to value of the chassis. In order to obtain aggregates for trucks and motor coaches for use in approximating 1939 and cross-weighted indexes for these industries, the implied price index for all other motor vehicles and parts was applied to the sum of the aggregates for trucks and motor coaches.

The production of replacement parts and accessories for sale separately was measured by value figures and a price index. In the 1947 census a figure for the value of shipments of replacement parts and accessories was compiled. A comparable figure for 1939 was estimated by using the percent change calculated from Bureau of Internal Revenue data on tax receipts for replacement parts and accessories. The Bureau of Internal Revenue figure was not substituted directly since it includes parts classified in other industries of the Standard Industrial Classification. A price index was divided into these values to obtain estimated quantity aggregates for use in the indexes. The price index used was an average of indexes obtained on a confidential basis from various sources.

No "adjusted" index was constructed for these industries, since the total value of shipments for the two years includes a large amount of duplication and the extent of duplication probably was not the same for both years. Also some major reports were received on a consolidated basis covering several plants for 1939, but as separate reports for 1947. It is estimated, however, that items included in the indexes represent over 90 percent of the total *net* value of products of the industry in each year.

The 1939 value added and number of employees figures, used in computing the industry-group indexes, were adjusted to exclude foundries of integrated plants which were reported separately for 1947, and classified in Industry 3322, and certain establishments making principally internal-combustion engines or parts in 1939 and 1947 which were classified in Industry 3519 for 1947.

**3741—Locomotives and parts.**—Weight was selected as the best available measure of production for the three classes of "Railroad road-service and switching-type locomotives." Census data for 1939 were collected in number of units only; corresponding 1939 tonnage figures were estimated by use of Interstate Commerce Commission data on average weights of various types of locomotives. For the three classes of "Industrial and mining-type locomotives," figures representing number of units were used, since no adequate data were available on the average weight of these locomotives.

**3742—Railroad and street cars.**—Quantity of products for this industry was measured in "number of units." "Weight" of car,

which might be a better measure of production, was not collected in the 1939 census. Statistics which could not be published separately, without approximately disclosing data for individual companies, were used for the following items: "Coach and coach-combination passenger," "Baggage, express, and nonpassenger-combination," "Dining and dining-combination," and "Refrigerator" cars for 1939; and "Sleeping and sleeping-combination," "Club, lounge, parlor, observation, and combination," "Stock," "Tank," and "Other freight-train" cars for 1939 and 1947.

**3751—Motorcycles and bicycles.**—Figures which could not be published separately, without approximately disclosing data for individual companies, were used for: "Motor scooters" in 1939, "Motorcycles" in 1939 and 1947, and "Motorbikes" in 1939 and 1947.

**3799—Transportation equipment, n. e. c.**—An unpublished breakdown of 1939 census data was used for "Farm wagons, complete with boxes" and "Farm wagon gears, without boxes." Data from a census annual survey were used for 1939 figures on "Farm truck and wagon boxes and racks" and "Farm trailers."

**3861—Photographic equipment.**—Figures which could not be published separately, without approximately disclosing data for individual companies, were used for: "Motion-picture cameras, 35 mm." in 1939; "Motion-picture cameras, other than 35 mm." in 1939; "Still hand-type variable-focus cameras" in 1939; "Still hand-type fixed-focus cameras" in 1939; "Motion-picture film" in 1939 and 1947; "Still picture black and white amateur type roll film" in 1939 and 1947; and "Sheet film, pack film, and graphic arts film" in 1939. Unpublished 1939 quantity figures were used for "Photographic blueprint type paper and cloth" and "Photographic (sensitized) paper and cloth: silver halide, Van Dyke, and Diazo types." Quantity figures for "Still picture black and white amateur type roll film" and "X-ray film" were estimated for 1939 on the basis of partially reported data.

**3872—Watchcases.**—Quantity was estimated for a portion of the men's and women's precious metal watchcases, on the basis of the average unit value of such watchcases for which quantity and value were reported.

**3942—Dolls.**—An unpublished census quantity figure was used for "Stuffed toy animals" in 1939. The 1939 industry value of products, value added, and number of employees figures, used in computing the "adjusted" industry and industry-group indexes, respectively, were revised to include establishments primarily engaged in making rubber dolls, which were transferred from Industry 3099—Rubber industries, n. e. c.

**3949—Sporting and athletic goods.**—Production figures were estimated for a portion of the following items for which no quantity was reported, on the basis of the average unit value of these products for which quantity was reported: "Wood and bamboo fishing rods" in 1939 and "Roller skates" in 1939 and 1947.

**3963—Buttons.**—The industry value of products figures used in computing the coverage ratios for 1939 and 1947 were adjusted by subtracting the values of "Button blanks or molds, backs, and parts for sale as such," since most of these items are consumed in the industry in making finished buttons.

**1951—Small arms.**—For 1947, quantity of production was used instead of quantity of shipments, with values estimated on the basis of the average unit values of shipments. Figures which could not be published separately, without approximately disclosing data for individual companies, were used for the following products: "Single-shot, single-barrel shotguns" in 1939; "Repeating single-barrel shotguns" in 1939 and 1947; and "Double-barrel shotguns" in 1947.

A calculated 1947 value of products was used in place of the published figure for value of shipments in computing the coverage ratio. This figure may be obtained as the sum of the published figures for cost of materials, etc., and value added.

## II. Unpublished Industry Indexes

For 16 industries, indexes were constructed which were considered too rough as measures of production for separate publication. For seven of these industries the coverage ratios in one or both years were less than the 40 percent minimum usually considered acceptable. For other industries the available product data were not sufficiently comparable or representative of the industry, or estimates of questionable reliability were used. These indexes, however, were used in constructing the industry-group indexes because they were believed to furnish better indicators of output change in the respective industries than any available alternatives. The industries so represented are listed below, together with brief statements on methods used in constructing the indexes.

**2015—Poultry dressing, wholesale.**—Published 1939 and 1947 census figures were used for quantity and value of "Chicken and fowl, New York dressed" and "Other poultry, New York dressed."

The 1939 value of products, used in computing the coverage ratio, was adjusted to exclude products purchased for resale without further processing.

Since this industry accounted for only about 20 percent of the total weight of poultry consumed as food in 1947, the index was not considered sufficiently significant for separate publication. All commercial establishments dressing poultry and all farm dressings are excluded.

**2034—Dehydrated fruits and vegetables.**—Published census figures were used for quantity and value of "Dried apples" and "Dehydrated vegetables" in 1939 and 1947, and for value of "Other dried fruits" in 1947. For the quantity of "Other dried fruits," unpublished census data were used for 1947 and United States Department of Agriculture figures for 1939, with the 1939 value estimated on the basis of census data.

The 1939 industry value of products, value added, and number of employees figures, used in computing the "adjusted" industry and industry-group indexes, respectively, were revised to exclude data for wholesalers who pack fruit dried on farms, many of whom were included in this industry in the 1939 Census of Manufactures. This adjustment was considered too rough to yield indexes sufficiently reliable for separate publication.

**2222—Yarn throwing mills.**—Published 1939 and 1947 census figures were used for quantity of rayon filament "Weaving yarns" and "Machine-knitting yarns" made from own materials, with values estimated on the basis of the average unit value of shipments of sale yarn. Since the value of these yarns amounted to 51 percent of the industry value of products for 1939, and 141 percent for 1947, the indexes were considered too rough for separate publication.

**2331—Blouses and waists.**—Published 1947 census figures were used for quantity and value of "Women's, misses', and juniors' blouses, waists, and skirts (including work types)." The corresponding 1939 product figures, and the 1939 value of products, value added, and number of employees figures, used in computing the "adjusted" industry and industry-group indexes, respectively, were adjusted roughly for a large undercoverage of establishments in this industry in the 1939 census. This rough adjustment yielded indexes which were not considered sufficiently reliable for separate publication.

The 1939 and 1947 value of products were also adjusted to exclude contract work done in the industry for the account of other establishments in the industry.

**2361—Children's dresses.**—Published 1947 census figures were used for quantity and value of "Children's (sizes 2-6) and toddlers' and infants' (sizes 6 months to 3 years) dresses," with roughly

comparable 1939 census figures. Since these 1939 figures partly included dresses sizes 7-16, the resulting indexes were not considered sufficiently reliable for separate publication.

The 1939 and 1947 value of products, used in computing the coverage ratios, were adjusted to exclude contract work done in the industry for the account of other establishments in the industry.

**3291—Abrasive products.**—Published 1939 and 1947 census figures were used for quantity and value of "Abrasive cloth" and "Abrasive paper." Since the value of these products represented only 23 percent of the industry value of products in both 1939 and 1947, the resulting indexes were not considered sufficiently reliable for separate publication.

**3292—Asbestos products.**—Published census figures were used for "Asbestos-cement roofing shingles," "Asbestos-cement corrugated sheets," "Asbestos roving and lap," "Asbestos yarn, cord, and thread," "Asbestos cloth," "Asbestos tape," "Woven clutch facings (containing asbestos yarn, tape, or cloth)," "Asphalt floor tile," and "Asbestos millboard." For 1947, production data were used, with values estimated on the basis of average unit values of shipments. The 1947 figures used for asbestos textiles excluded textiles made and consumed in the same plant, and the available 1939 census figures were considered comparable. Production figures which could not be published separately, without approximately disclosing data for individual companies, were used for "Asbestos tape" in 1947.

Since the value of the above products represented only 30 percent of the industry value of products in 1939, and 38 percent for 1947, the resulting indexes were not considered sufficiently reliable for separate publication.

**3351—Copper rolling and drawing.**—Census figures were used for "Copper-base alloy wire," "Unalloyed copper rod and bar," "Unalloyed copper plate, sheet, and strip," "Unalloyed copper pipe and tube," "Copper-base alloy rod," "Copper-base alloy plate, sheet, and strip," and "Copper-base alloy pipe and tube." For 1947, figures which could not be published separately, without approximately disclosing operations of individual companies, were used for "Copper-base alloy wire."

No "adjusted" indexes were constructed for this industry, since wire fabricating activities were reported separately to a greater degree in 1947 than in 1939 and the industry value of products figures were not sufficiently comparable. The "unadjusted" indexes were not considered representative enough of the industry as a whole for separate publication.

**3481—Nails and spikes.**—Published 1939 and 1947 census quantity and value figures were used for "Bright," "Galvanized," and "Cement coated" "Steel wire nails, spikes, and brads"; "Steel wire tacks"; "Steel cut nails, spikes, and brads (including horse-shoe nails)"; "Steel cut tacks, except thumb tacks"; and "Nonferrous nails, brads, tacks, and staples." Portions of the 1947 quantities of "Steel wire tacks" and "Nonferrous nails, brads, tacks, and staples" for which only values were reported were estimated on the basis of the portions for which both quantity and value were reported.

The indexes were not considered sufficiently reliable for separate publication because only 19 percent of the total value of nails, spikes, and brads represented items made in this industry. Most nails, spikes, and brads are made in Industry 3312—Steel works and rolling mills.

**3531—Construction and mining machinery.**—Census 1939 and 1947 quantity and value data were used for "Locomotive cranes, except wrecking," "Power cranes, draglines, and shovels (includ-

ing mine shovels and draglines)," "Dozers (angle and bull) for mounting on tractors (five feet blade length and over)," "Ditchers and trenchers," "Graders," "Rollers, self-propelled," "Rollers, tamping and sheepsfoot," and "Underground mine cars (including shuttle cars and car dumpers)." Unpublished and partly estimated figures were used for portions of the quantity figures for "Power cranes, draglines, and shovels" in 1947, "Ditchers and trenchers" in 1939, "Graders" in 1939 and 1947, and "Underground mine cars" in 1939.

Since the value of the above products represented only 32 percent of the industry value of products in both 1939 and 1947, the resulting indexes were not considered sufficiently reliable for separate publication.

**3552—Textile machinery.**—Census 1939 and 1947 quantity and value data were used for "Picker machines," "Garmenting machines," "Carding machines," "Combing machines," "Drawing and roving frames," "Spinning frames," "Twisting frames," "Card clothing for cotton," "Card clothing for wool and other fabrics," "Power looms, except for rugs and carpets," "Power looms for rugs and carpets," "Hosiery knitting machines," and "Braiding machines." Figures which could not be published separately, without approximately disclosing data for individual companies, were used for "Garmenting machines," "Power looms, except for rugs and carpets," and "Power looms for rugs and carpets" in 1939 and 1947, and for "Drawing and roving frames" in 1939.

Since the value of the above products represented only 34 percent of the industry value of products in 1939, and 38 percent in 1947, the resulting indexes were not considered sufficiently reliable for separate publication.

**3555—Printing-trades machinery.**—Published 1939 and 1947 census figures were used for quantity and value of "Cylinder letterpresses" and "Typesetting and typecasting machines" (except quantity for 1939). The 1939 quantity figure used for typesetting machines represents unpublished census data. Census figures for 1939 and 1947 which could not be published separately, without approximately disclosing data for individual companies, were used for "Rotary letterpresses (sheet-fed)," "Sheet-fed offset lithographic presses," "Web-fed offset lithographic presses," "Sheet-fed gravure presses," and "Web-fed gravure presses."

Since the value of the above products represented only 28 percent of the industry value of products in 1939, and 30 percent in 1947, the resulting indexes were not considered sufficiently reliable for separate publication.

**3561—Pumps and compressors.**—Published 1939 and 1947 census figures were used for quantity and value of "Direct-acting

steam-driven industrial reciprocating pumps," "Power-operated, other than steam, industrial reciprocating pumps," "Domestic water systems, including water system pumps, sold separately," "Pump jacks for domestic water systems, sold separately," and "Air compressors and dry-vacuum pumps." Quantity figures for the last item for 1939 and 1947 were partly estimated.

Since the value of the above products represented only 31 percent of the industry value of products in 1939, and 32 percent in 1947, the resulting indexes were not considered sufficiently reliable for separate publication.

The 1939 industry value of products, value added, and number of employees figures, used in computing the "adjusted" industry and industry-group indexes, were revised to exclude establishments transferred to Industry 3522. These establishments were incorrectly classified in the previously published 1939 statistics.

**3692—Primary batteries (dry and wet).**—Census figures were used for "General purpose (6-inch), 1.5-volt dry cells, single and multiple unit, primary batteries," "Flashlight batteries," and "Wet cell primary batteries." Published figures were available for quantity and value in 1947 and value in 1939. Unpublished data were used for quantity in 1939.

Since the value of the above products represented only 35 percent of the industry value of products in 1947, the resulting indexes were not considered sufficiently reliable for separate publication.

**3715—Truck trailers.**—Because of the lack of comparable quantity data for 1939 and 1947, a rough index was constructed by dividing the ratio of the 1947 to 1939 total value of products by a price index based on unpublished information. The resulting index was not considered sufficiently reliable for separate publication.

**3721—Aircraft.**—Figures for "Complete aircraft" were used, with quantity measured in terms of "airframe weight." For 1947, these represent published census quantity and value statistics, and for 1939, unpublished Civil Aeronautics Administration quantity data and unpublished census value data. Since the change in type of aircraft produced between 1939 and 1947 is only partially indicated by "airframe weight," the index was considered too rough for separate publication.

Unpublished census figures for industry value of products were used in computing the coverage ratios. Value figures for this industry were not published in the 1947 Census of Manufactures volumes because of unique problems in compiling the 1947 statistics. For a discussion of these problems see the text of the 1947 Census of Manufactures, Volume II, *Statistics by Industry*.

### III. Industries for Which No Indexes Were Constructed

Adjustments were made in the major group indexes of production to account for industries for which individual indexes were not constructed. In general, these adjustments were based on the number of employees figures published in the basic 1947 Census of Manufactures volumes. The following revisions were made in these employment and other corresponding industry figures, designed to increase the comparability between 1939 and 1947 statistics. They represent, primarily, transfers of establishments into or out of industries for which indexes were constructed, as discussed in sections I and II above.

**4029—Plastic cream and bulk products.**—The types of establishments classified in this industry in 1947 were distributed among Industries 2021-2025 in 1939. Figures for Industry 4029 were included in making the major group coverage adjustment in order to adjust for this slight overstatement of 1939 data in constructing the indexes for Industries 2021-2025. The adjusted figures as published in the basic 1947 Census of Manufactures volumes were used with number of employees partly estimated, on the basis of the value added per employee indicated by the unadjusted 1947 industry figures.

**2037—Frozen foods.**—Since establishments primarily engaged in producing frozen sea food were not covered in the 1939 census, estimated revisions were made in the 1947 figures to exclude such establishments.

**2042—Prepared animal feeds.**—Establishments primarily making animal feeds from grain in 1939 were transferred to this industry from Industry 2041, for comparability with the 1947 figures.

**2099—Food preparations, n. e. c.**—The 1947 figures were adjusted to exclude coffee roasting plants which were not covered in the 1939 Census of Manufactures.

**2392—Housefurnishings, n. e. c.**—The 1939 figures were adjusted to include fabricating departments of integrated plants which were reported separately and classified in this industry for 1947. These establishments were transferred from Industry 2233.

**3444—Sheet-metal work.**—The 1939 figures were adjusted to exclude establishments which were classified in Industry 3522 in the 1947 census.

**3463—Metal stampings.**—The 1939 figures were adjusted to exclude establishments which were classified in Industry 3522 in the 1947 census.

**3511—Steam engines and turbines.**—The 1939 figures were adjusted to include parts of plants which were reported separately and classified in this industry for 1947. These establishments were transferred from Industry 3614.

**3551—Food-products machinery.**—The 1939 figures were adjusted to exclude establishments which were classified in Industry 3522 in the 1947 census.

**3563—Conveyors.**—The 1939 figures were adjusted to exclude establishments which were classified in Industry 3522 in the 1947 census.

**3599—Machine shops.**—The 1939 figures were adjusted to exclude establishments which were classified in Industry 3519 in the 1947 census.

## APPENDIX D

### INDUSTRY COVERAGE ADJUSTMENT

The industry coverage adjustment was described in general terms in chapter II of the text. A more detailed analysis is given here, including an explanation of the problems it is intended to meet and a description of the tests of its desirability that were made.

Ideally, data for all products of an industry, and only those products, would be included in calculating the change in industry output. The census product data—the physical quantities of output and the corresponding value figures, as shown in table 6 of each industry report of the 1947 census basic volumes—are in some degree inappropriate for this purpose in both respects; they do not cover all of the industry's production, and they usually include some production originating in other industries.

A number of reasons for the first difficulty, the lack of quantity data for certain products, were given in the text. A further reason is the manner in which the product data in table 6 are compiled, which also produces the second difficulty, the inclusion of some production of other industries. An explanation of this requires an examination of the method of industry classification used in the census.

Census industries generally are defined in terms of product types, and establishment reports are classified into particular industries according to the nature of the establishment's products. For instance, two industries in the textile-mill-products group are "full-fashioned hosiery" and "seamless hosiery," in each of which establishments making the specified kind of hosiery would be classified. However, establishments frequently make a variety of products, and often their various products "belong" to different industries. Thus, some mills make both types of hosiery. In these cases the establishment classification is determined by the set of products which accounts for the principal portion of its total value of shipments. These are known as "primary" products of the establishment, and of the industry into which it is classified.

The output of the industry consists of all the output of establishments classified in it, including the products made in these establishments which "belong" to other industries—the so-called "secondary" products. It is apparent that the establishments comprising an industry are not solely engaged in making products primary to the industry, although the bulk of their output would, of course, be of this sort. Also, the establishments of an industry are usually not responsible for the entire output of products primary to the industry, for some are made as secondary products in other industries. This can be diagrammatically represented as in figure 1.

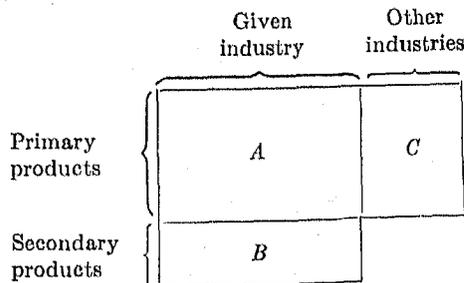


Fig. 1

In this figure the vertical rectangle  $A+B$  represents all output in the industry, and the horizontal rectangle  $A+C$  represents all output of products primary to the industry.<sup>1</sup>

The ideal data for measuring industry output would relate to the area  $A+B$ . The product data of the census are of another sort. The data shown in table 6 of each industry report relate to the area  $A+C$ ; that is, they cover only primary products, and show total output of these, including output in other industries. Furthermore, in the usual case quantity data are not available for at least some of the primary products. This is indicated in figure 2, in which the horizontal rectangle is divided into two parts—the area  $A_1+C_1$  representing primary products for which there are quantity data, and  $A_2+C_2$  representing primary products for which such data are not available.

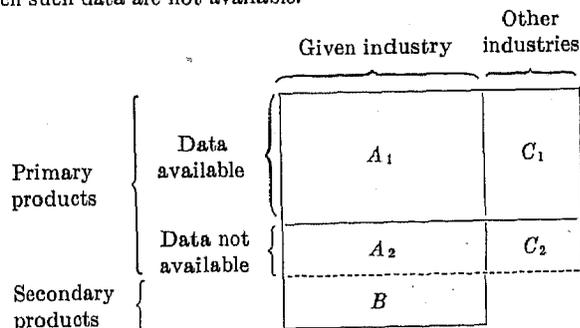


Fig. 2

Indexes calculated from data relating to the area  $A_1+C_1$  of figure 2 would indicate the change in total output of products primary to the industry for which data are available. These are the "unadjusted" industry indexes. If the unadjusted indexes are used as estimates of the desired industry indexes, it is in effect assumed that the average quantity change for area  $A_1+C_1$  is the same as the average quantity change for area  $A_1+A_2+B$ , or  $A+B$ .

Making the industry coverage adjustment yields the "adjusted" indexes. These also are estimates of the desired industry indexes. They rest on an alternative assumption—that the average price change for area  $A_1+C_1$  is the same as that for area  $A+B$ . In effect, a price index is calculated for represented primary products ( $A_1+C_1$ ) by dividing the change from 1939 to 1947 in value of these products by the unadjusted quantity index, which relates to them. This price index is then assumed to describe the average price change for output of the industry ( $A+B$ ), and the value

<sup>1</sup> An idea of the relative magnitudes of these areas (in value terms) for the year 1947 can be obtained from the table in appendix C of the 1947 census basic volumes. In this table two ratios are shown for each industry: the value of primary products shipped by the industry divided by the value of all products shipped by the industry (area  $A$  divided by area  $A+B$ ) and the value of primary products shipped by the industry divided by the value of shipments of these products by all industries (area  $A$  divided by area  $A+C$ ). In about three-fifths of the industries, primary products represented at least 90 percent of the industry's output, and in nine-tenths of the industries primary products represented at least 80 percent of the industry's output. In some industries, however, the percentage is considerably lower. Only about half of the industries made 90 percent or more of the total output of their primary products. About four-fifths of them made 80 percent or more, but a number made as little as half, and some even less.

change for the industry (from table 1 of the industry reports) is divided by it, yielding the adjusted quantity index.

These operations can be represented symbolically as follows:<sup>2</sup> Let  $p$  and  $q$  represent prices and quantities, respectively, of the industry's products ( $A+B$ ) in the years denoted by subscripts. Let  $p'$  and  $q'$  represent prices and quantities of represented primary products wherever made ( $A_1+C_1$ ). Then:

- (1)  $\frac{\sum q_{47} p_{47}}{\sum q_{39} p_{39}}$ : index of the value change for the industry from 1939 to 1947;
- (2)  $\frac{\sum q_{47}' p_{47}'}{\sum q_{39}' p_{39}'}$ : index of the value change for represented primary products wherever made;
- (3)  $\frac{\sum q_{47}' p_{39}'}{\sum q_{39}' p_{39}'}$ : the (1939-weighted) unadjusted quantity index;
- (4)  $(2) \div (3) = \frac{\sum q_{47}' p_{47}'}{\sum q_{47}' p_{39}'}$ : the (1947-weighted) price index for represented primary products.<sup>3</sup>
- (5)  $(1) \div (4) = \frac{\sum q_{47} p_{47}}{\sum q_{47}' p_{39}'}$ : the (1939-weighted) adjusted quantity index.

The assumption underlying the adjustment is that the price index for represented primary products, (4), would show the same change as a price index for all products made in the industry, or that

$$(6) \frac{\sum q_{47}' p_{47}'}{\sum q_{47}' p_{39}'} = \frac{\sum q_{47} p_{47}}{\sum q_{47} p_{39}}$$

If this assumption holds, equation (5) is equivalent to:

$$(7) \frac{\sum q_{47} p_{47}}{\sum q_{39} p_{39}} = \frac{\sum q_{47} p_{39}}{\sum q_{47}' p_{39}}$$

the desired (1939-weighted) quantity index,

relating to all (and only) products of the industry, area  $A+B$  of figures 1 and 2.

In actual practice, another mathematically equivalent method was followed in calculating the adjusted indexes. The method consists of dividing the unadjusted index by a "coverage adjustment factor," which in turn is found by dividing the 1947 "coverage ratio" by that for 1939. The coverage ratio for each year is the sum of the values of represented primary products ( $A_1+C_1$ ) divided by the value of the industry's output ( $A+B$ ). Identical results are obtained by use of either of these methods.

This can be easily demonstrated. The method actually used for calculating the adjusted indexes is as follows:

- (3)  $\frac{\sum q_{47}' p_{39}'}{\sum q_{39}' p_{39}'}$ : the (1939-weighted) unadjusted quantity index;
- (8)  $\frac{\sum q_{47}' p_{47}'}{\sum q_{47}' p_{47}'}$ : the 1947 coverage ratio;
- (9)  $\frac{\sum q_{39}' p_{39}'}{\sum q_{39}' p_{39}'}$ : the 1939 coverage ratio;

<sup>2</sup> In terms of the 1939-weighted quantity indexes. The analysis is also valid for the 1947- and cross-weighted quantity indexes.

<sup>3</sup> If the quantity index of (3) employed 1947 price weights, the price index of (4) would have 1939 quantity weights. In general, division of a value index by a quantity index with base year weights yields a price index with given year weights, and vice versa. The situation with respect to the cross-weighted quantity indexes is more complicated. Division of a value index by a quantity index with average 1939-47 price weights yields a price index which is the product of two indexes: The first, with 1939 quantity weights, showing the price change from 1939 to the average of the two years, and the second, with 1947 quantity weights, showing the price change from the average to 1947; or

$$(4') \frac{\sum q_{39}' (p_{47}' + p_{39}')}{\sum q_{39}' p_{39}'} \cdot \frac{\sum q_{47}' p_{47}'}{\sum q_{47}' (p_{39}' + p_{47}')}$$

$$(10) (8) \div (9) = \frac{\sum q_{47}' p_{47}'}{\sum q_{39}' p_{39}'} \cdot \frac{\sum q_{39}' p_{39}'}{\sum q_{47}' p_{39}'}$$

the coverage adjustment factor;<sup>4</sup>

$$(11) (3) \div (10) = \frac{\sum q_{47}' p_{47}'}{\sum q_{47}' p_{39}'}$$

the (1939-weighted) adjusted quantity index, as in (5).

**Analysis of the industry coverage adjustment: the problem of unrepresented products.**—The unadjusted and adjusted indexes represent different estimates of the desired industry indexes, based on the alternative assumptions of similarity in the average quantity and average price movements, respectively, between represented primary products wherever made, and all products made in the industry. Neither can be expected to be an exact measure for the industry, for it is likely that in most cases there would be differences between the two areas in both average price and quantity movements. The choice between them depends on which assumption is likely to yield better estimates in the majority of cases.

For purposes of analysis it is useful to consider separately the problems of unrepresented products and of the inclusion in the available product data of some output in other industries. If it is assumed first that no products primary to the industry are made in other industries—that area  $C_1+C_2$  of figure 2 is equal to zero in both years—then the only problem is the lack of quantity data for some of the industry's production.

This is indicated in the two diagrams of figure 3, relating to 1939 and 1947. In these diagrams areas are drawn proportional to assumed dollar values in the 2 years.

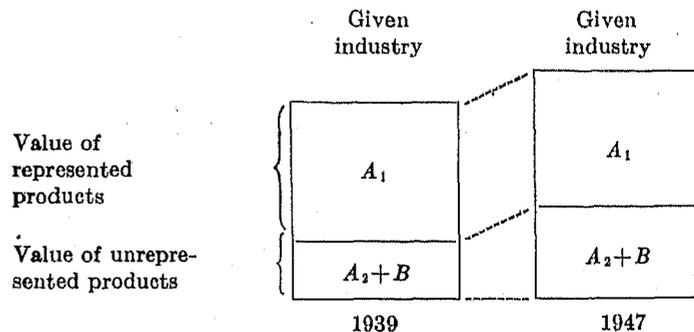


Fig. 3.

As the diagrams are drawn, the represented products—whose output change is shown by the unadjusted index—accounted for a smaller proportion of the value of all products of the industry in 1947 than they did in 1939. The importance of unrepresented products, in terms of value, expanded considerably.<sup>5</sup>

The question is how to explain this change in coverage. It may be supposed that the quantities of represented and unrepresented products changed similarly on the average. If this is the case, the unadjusted index would correctly describe the industry output change. But then the more than proportional expansion in value of the unrepresented products could be explained only on the grounds of a larger average price increase for them than for represented products. Alternatively, it may be supposed that the average price changes for represented and unrepresented products were similar, and the more than pro-

<sup>4</sup> This adjustment factor, shown here in connection with the 1939-weighted indexes, is also used for adjusting the 1947- and cross-weighted indexes.

<sup>5</sup> The coverage ratio therefore is smaller for 1947 than for 1939, the coverage adjustment factor is less than unity, and the adjusted index is higher than the unadjusted. The diagrams might equally well have been drawn in opposite fashion, which would result in adjusted indexes that are lower than the unadjusted. Where the coverage ratios are the same for both years, the adjusted and unadjusted indexes are identical.

portional increase in value of unrepresented products was due to a greater average increase in their quantities. In this case the unadjusted index would be too low as a measure for the industry, and the adjusted index would be correct. A third alternative, of course, is that both average price and average quantity movements differed for the two areas. The question then becomes one of which assumption is nearer to the facts.

Two tests were made to throw light on the question of whether greater similarity might be expected in average price or quantity movements. They indicate that the price assumption is generally the better. Both tests are necessarily based on available data—that is, relating to area  $A_1$ —and therefore the results are only suggestive when applied to the relationships between areas  $A_1$  and  $A_2+B$ .

In the first of these tests<sup>6</sup> the products of each industry were considered to be limited to those for which quantity data were available. In effect each industry was "redefined" to cover only area  $A_1$ . The unadjusted indexes are measures for such "industries" based entirely on existing physical volume data. Product data were then discarded for the least important products amounting to between 15 and 25 percent of the value of all products included in the unadjusted index in 1947. Diagrammatically, this can be indicated as follows:

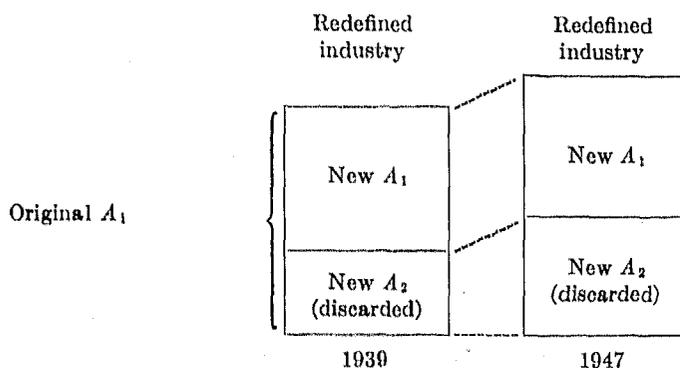


Fig. 4

From the remaining product data (the "new  $A_1$ ") experimental unadjusted (quantity assumption) and adjusted (price assumption) indexes were calculated for the redefined industries. These were then compared with the original unadjusted indexes, taken as the "standard" measures for the industries as redefined. In 110 cases out of a total of 156 (71 percent), the adjusted index was closer to the standard, and in 46 cases (29 percent), the unadjusted index was closer. Frequency distributions of the errors are shown in table D-1. The average absolute error in the adjusted indexes was 5.6 points, and in the unadjusted indexes 16.5 points. This test indicates that if the data discarded had actually been unavailable, better estimates of the average quantity changes for the products involved would have been obtained in most cases by use of the price, rather than the quantity, assumption.

A second test involved a direct examination of price and quantity movements of a "major" and a "minor" product in each individual industry. For each industry two products were selected. The first was the most important product in value terms (in 1939 or 1947, as determined by a coin toss), and the second was the product whose value was less than, but most nearly equal to, one-half the value of the first in the same year. (Any other predetermined method of selecting the major and minor products would have served as well.) The price and quantity relatives from 1939 to 1947 of these pairs of products were calculated, and correlation coefficients computed of the price movements of major and minor products, and also of the quantity movements of major

and minor products. The correlation among price changes, while not high, was considerably higher than that among quantity changes. The coefficient of correlation was 0.46 for price movements and 0.17 for quantity movements.

TABLE D-1.—TEST OF INDUSTRY COVERAGE ADJUSTMENT—FREQUENCY DISTRIBUTIONS OF "EXPERIMENTAL" UNADJUSTED AND ADJUSTED 1947 INDEXES FOR REDEFINED INDUSTRIES, BY SIZE OF ERROR

| Size of error (number of points difference between experimental and original indexes) | Experimental unadjusted indexes |                                    | Experimental adjusted indexes |                                    |
|---|---------------------------------|------------------------------------|-------------------------------|------------------------------------|
|   | Number of indexes               | Percent of total number of indexes | Number of indexes             | Percent of total number of indexes |
| Total.....  | 156                             | 100.0                              | 156                           | 100.0                              |
| 0.0-0.9.....  | 11                              | 7.1                                | 35                            | 22.5                               |
| 1.0-1.9.....  | 21                              | 13.6                               | 19                            | 12.3                               |
| 2.0-2.9.....  | 11                              | 7.1                                | 14                            | 9.0                                |
| 3.0-3.9.....  | 12                              | 7.8                                | 16                            | 10.4                               |
| 4.0-4.9.....  | 7                               | 4.5                                | 11                            | 7.0                                |
| 5.0-9.9.....  | 29                              | 18.9                               | 35                            | 22.4                               |
| 10.0-14.9.....  | 18                              | 11.5                               | 16                            | 10.3                               |
| 15.0-19.9.....  | 13                              | 8.3                                | 4                             | 2.4                                |
| 20.0-24.9.....  | 10                              | 6.3                                | 3                             | 1.9                                |
| 25.0-29.9.....  | 8                               | 5.0                                | —                             | —                                  |
| 30.0-34.9.....  | 8                               | 5.1                                | 2                             | 1.2                                |
| 35.0-39.9.....  | 2                               | 1.2                                | 1                             | 0.6                                |
| 40.0 and over.....  | 6                               | 3.6                                | —                             | —                                  |

Both of these tests relate to products for which data are available, and the conclusions drawn from them may not be valid when applied to the products actually unrepresented. There may be certain characteristic relations between the availability of data for products and their price and quantity movements. For instance, quantity figures for the earlier years frequently are missing for products which have grown rapidly in importance. New products of this sort often show price declines, at least relative to the price movements of associated "old" products, and the assumption of similarity in price movements would tend to understate their growth. However, this circumstance would not lead to a preference for the quantity change assumption, which usually would result in a far greater understatement of the growth in output of new products.

An attempt was made to determine the approximate margin of error in the adjusted indexes on account of new products, by estimating the 1947 values of unrepresented products whose output had apparently increased more than tenfold since 1939.<sup>7</sup> This was necessarily a rough calculation, with the results dependent in part on how finely product types are distinguished. But the conclusion was that in spite of certain outstanding cases, the value of unrepresented new products on the whole amounted to something less than 3 percent of the value of all products made in 1947. A sizable error for them would therefore have only a small effect on the all-manufacturing indexes, although certain industry indexes might be substantially in error.

Other relations may exist between the availability of data for products and their price and quantity movements which would lead to a preference for the assumption of similar quantity movements. However, in the absence of evidence of such relations, it was concluded from the test results that the price assumption was likely to be better in the majority of cases.

**Analysis of the industry coverage adjustment: the problem of output in other industries.**—The problem raised by the fact that the census product data cover total output of primary products, rather than industry output, can be analyzed in a fashion

<sup>7</sup> Several of the more important new products, such as synthetic rubber and nylon fabrics, were included among the represented products by making estimates of 1939 production, or writing 1939 quantities as zero where they were known to have not been in production. For these it was necessary to set arbitrary "1939" prices for calculating the 1939- and cross-weighted indexes, either because no prices existed, or because existing prices pertained to small-scale experimental production and were not considered appropriate for application to the commercial output of 1947.

<sup>6</sup> This is a refinement of a test made by Fabricant. See *The Output of Manufacturing Industries*, pp. 366-69.

## INDEXES OF PRODUCTION

paralleling the discussion of unrepresented products. If it is assumed that the industry makes no secondary products, and that data are available for all primary products, then area  $A_2+B$  of the diagrams is equal to zero, as in figure 5. The areas again are drawn proportional to assumed dollar values.

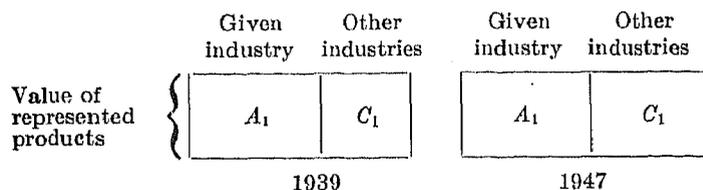


Fig. 5.

As the diagrams are drawn, the industry's establishments were responsible for a smaller proportion of the value of their primary products in 1947 than in 1939.<sup>8</sup> It may be supposed that average quantities of these products changed similarly in the given industry and in other industries, and the greater increase in value outside the industry was due to greater average price increases there than within the industry for these products. If this is true, the average quantity change for total output (the unadjusted index) would be identical with the average quantity change for output in the industry. The alternative hypothesis is that the average price movements of these products were similar wherever they were made, and the change in the proportion of total value accounted for by the industry was due to the fact that the quantity increases were larger outside the industry than within it. In this case the unadjusted index, relating to the change in total output, would be too high as a measure of industry output, and the adjusted index would be correct.

Tests could have been developed on this point by making new tabulations for selected products according to industry of origin from basic census records. This was not done because the amount of work involved even for a limited number of cases was very great, and because there are strong *a priori* reasons for believing that the average price changes for a set of products made in the industry and elsewhere would be more nearly similar than average quantity changes.

First, there is little reason to expect similar quantity movements, particularly since the industrial classification of individual plants is frequently changed as a result of changes in the proportions of the various products they make. In many cases plants make important amounts of products "belonging" to two industries, and their classification is determined by small margins. A relatively small shift in the pattern of the plant's output could lead to a change in classification, with a consequent transfer of its original primary product from the "made in the industry" category in 1 year to the "made in other industries" category in the other. Such transfers, together with shifts in output patterns that do not result in changed plant classifications, can result in highly divergent quantity changes between the given industry and other industries.

Secondly, price movements, particularly of individual products, might be expected to be similar regardless of the industry of origin, since the markets in which prices are set deal in commodities, without reference to the industrial classification of the plants making them. The qualification should be made, however, that identity in price movements of individual products made in the primary industry and elsewhere would not necessarily imply identity in average price movements, which is the point at issue. The part of the output made outside the industry might consist mainly or exclusively of a few products whose price movements are different from the average of all products made in the industry. All

<sup>8</sup> The coverage ratio (the total value of represented products divided by the value of industry output—in this case greater than 100 in both years) therefore is larger for 1947 than for 1939, the coverage adjustment factor is greater than unity, and the adjusted index is lower than the unadjusted. Here, too, the diagram might equally well have been drawn to show the opposite change.

things considered, however, there are substantial grounds for expecting the assumption underlying the adjusted indexes to be at least better in the majority of cases than that underlying the unadjusted indexes, in connection with both this problem and the problem of unrepresented products.

TABLE D-2.—FREQUENCY DISTRIBUTION OF INDUSTRY INDEXES, BY COVERAGE ADJUSTMENT FACTORS, FOR PRESENT 1939-47 INDEXES AND FOR FABRICANT'S 1929-37 INDEXES

| Coverage adjustment factor        | Number of indexes |         | Percent of total number of indexes |         |
|-----------------------------------|-------------------|---------|------------------------------------|---------|
|                                   | 1939-47           | 1929-37 | 1939-47                            | 1929-37 |
| Total.....                        | 217               | 143     | 100.0                              | 100.0   |
| 50.0-54.9.....                    | 1                 | 1       | 0.5                                | 0.7     |
| 55.0-59.9.....                    | 1                 | 1       | 0.5                                | 0.7     |
| 60.0-64.9.....                    | 2                 | 1       | 0.9                                | 0.7     |
| 65.0-69.9.....                    | 1                 | 1       | 0.5                                | 1.4     |
| 70.0-74.9.....                    | 6                 | 2       | 2.8                                | 1.4     |
| 75.0-79.9.....                    | 8                 | 2       | 3.7                                | 1.4     |
| 80.0-84.9.....                    | 12                | 6       | 5.5                                | 4.2     |
| 85.0-89.9.....                    | 19                | 6       | 8.8                                | 4.2     |
| 90.0-94.9.....                    | 23                | 20      | 10.6                               | 14.0    |
| 95.0-99.9.....                    | 47                | 30      | 21.6                               | 21.0    |
| 100.0-104.9.....                  | 37                | 29      | 17.0                               | 20.3    |
| 105.0-109.9.....                  | 21                | 10      | 9.7                                | 7.0     |
| 110.0-114.9.....                  | 6                 | 4       | 2.8                                | 2.8     |
| 115.0-119.9.....                  | 5                 | 1       | 2.3                                | 0.7     |
| 120.0-124.9.....                  | 5                 | 1       | 2.3                                | 0.7     |
| 125.0-129.9.....                  | 2                 | 0       | 0.9                                | 0.0     |
| 130.0-over.....                   | 4                 | 3       | 1.8                                | 2.1     |
| Coverage adjustment not made..... | 17                | 27      | 7.8                                | 18.8    |

NOTE.—A frequency distribution of the coverage ratios for 1939 and 1947, from which were derived the coverage adjustment factors indicated above for the 1939-47 indexes, is shown in text Table 4. Both the ratios and the factors are shown for individual industries in Chapter IV.

Adjusted indexes were calculated for all industries for which unadjusted indexes were made, except in a few cases where special problems arose. Both sets of indexes are shown in Chapter IV of the text. In any particular case the unadjusted index may be the better estimate for the industry, but for the reasons outlined above, it is believed that in most cases the adjusted indexes are more nearly correct. The adjusted industry indexes were used in compiling the major group and total indexes.

TABLE D-3.—EFFECT OF INDUSTRY COVERAGE ADJUSTMENT ON 1947 INDUSTRY-GROUP PRODUCTION INDEXES

| [1939=100] |  |  |  |   |  |
|------------|--|--|--|---|--|
| No.        | Industry group                             | Group indexes based on—                    |  | Differences                                 |  |
|            |  | Industry indexes adjusted for coverage (1) | Industry indexes unadjusted for coverage (2) | Absolute difference (column 1—column 2) (3) | Percent difference (column 3÷column 2) (4) |
|            | All manufacturing industries.....          | 178  | 172  | +6  | +3.5                                       |
| 20         | Food and kindred products.....             | 150  | 147  | +3  | +2.0                                       |
| 21         | Tobacco manufactures.....                  | 155  | 153  | +2  | +1.3                                       |
| 22         | Textile mill products.....                 | 131  | 127  | +4  | +3.1                                       |
| 23         | Apparel and related products.....          | 119  | 117  | +2  | +1.7                                       |
| 24         | Lumber and products, except furniture..... | 126  | 123  | +3  | +2.4                                       |
| 25         | Furniture and fixtures.....                | (1)  | (1)  | (1)   | (1)  |
| 26         | Paper and allied products.....             | 150  | 152  | -2  | -1.3                                       |
| 27         | Printing and publishing industries.....    | 144  | 144  | 0   | 0.0  |
| 28         | Chemicals and allied products.....         | 228  | 226  | +2  | +0.9                                       |
| 29         | Petroleum and coal products.....           | 158  | 155  | +3  | +1.9                                       |
| 30         | Rubber products.....                       | 186  | 172  | +14   | +8.1                                       |
| 31         | Leather and leather products.....          | 114  | 109  | +5  | +4.6                                       |
| 32         | Stone, clay, and glass products.....       | 175  | 179  | -4  | -2.2                                       |
| 33         | Primary metal industries.....              | 184  | 185  | -1  | -0.5                                       |
| 34         | Fabricated metal products.....             | 200  | 189  | +11   | +5.8                                       |
| 35         | Machinery (except electrical).....         | 272  | 243  | +29   | +11.9                                      |
| 36         | Electrical machinery.....                  | 277  | 270  | +7  | +2.6                                       |
| 37         | Transportation equipment.....              | 199  | 190  | +9  | +4.7                                       |
| 38         | Instruments and related products.....      | 177  | 168  | +9  | +5.4                                       |
| 39         | Miscellaneous manufactures.....            | 177  | 168  | +9  | +5.4                                       |

NOTE.—Industry and group indexes employ 1939 weights. Group indexes are with out further adjustment for missing industries. See Ch. II, "Adjustments for missing industries."

<sup>1</sup> Figures for group 25 are included with those for groups 38 and 39.

A frequency distribution of the industry coverage adjustment factors is shown in table D-2, along with the distribution of the factors in Fabricant's 1929-37 index. The adjustment raised the indexes in 60 percent of the industries for which it was made (factor less than 100). The net effect of the industry coverage

adjustment on group and total indexes is indicated in table D-3, where group indexes based on adjusted industry indexes are compared with those based on unadjusted industry indexes. With a few exceptions, the industry adjustments raised the composite indexes.