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Productivity Measures for Selected Industries and Government Services

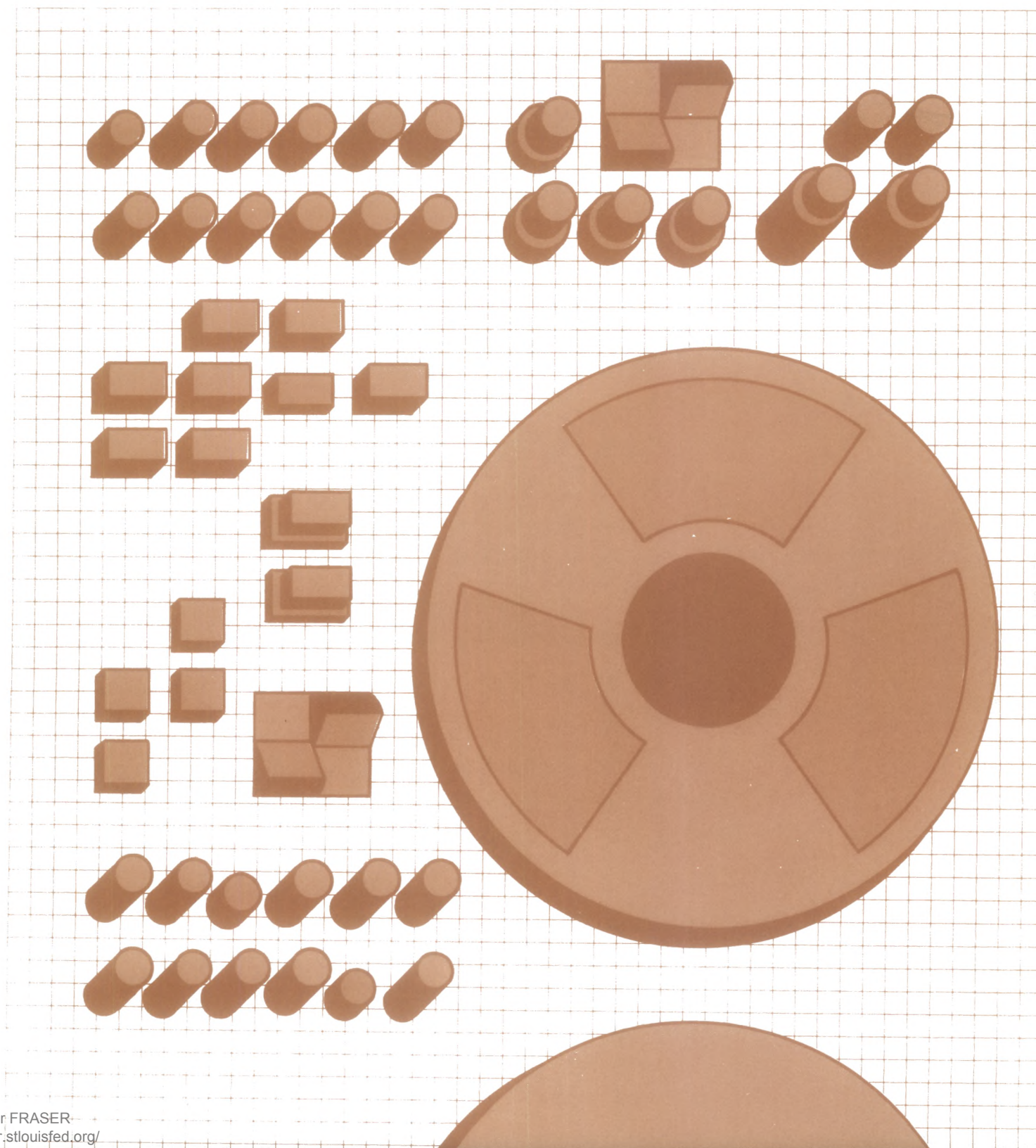


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Productivity Measures for Selected Industries and Government Services



U.S. Department of Labor
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Preface

This annual bulletin updates through 1986 all indexes currently included in the industry productivity measurement program of the U.S. Department of Labor. The bulletin has been expanded from earlier editions by the addition of part II, multifactor productivity trends for selected industries, and part III, labor productivity trends for selected government functions.

In addition to the multifactor and government productivity indexes which are being presented in this bulletin for the first time, new industry labor productivity measures are also being published. These include measures for cotton and synthetic broad woven fabrics, industrial inorganic chemicals, industrial organic chemicals, heating equipment except electric, semiconductors and related devices, hardware stores, department stores, and automotive repair. Articles on these industries will appear in the *Monthly Labor Review*.

In part I, the indexes represent the change in output per employee hour for each designated industry or combination of industries. These industries are not necessarily a representative cross-section of U.S. industry. The labor productivity measures describe the relationship between output in real terms and the labor time involved in production. Indexes are constructed showing the ratio for two periods of the total hours required to produce a given composite of products and services. Although these measures relate output to employment and employee hours, they do not measure the specific contributions of labor, capital, or any other factor of production. Rather, they reflect the joint effect of a number of interrelated influences, such as changes in technology, capital investment per worker, level of output, utilization of capacity, layout and flow of material, managerial skill, and skills and effort of the work force.

In part II, indexes of multifactor productivity are presented to help provide insights into some of the factors influencing labor productivity change. Indexes of multifactor productivity represent the change in output per unit of combined labor, capital, and intermediate purchases. The differences in the movement of these indexes and the output per hour indexes provide a measure of the effect of changes in capital and intermediate purchases relative to labor.

In part III, labor productivity indexes are presented for selected government functions and services. Federal indexes, measuring output per employee year, are constructed with

data collected from a sample of agencies and cover the fiscal years 1967–86. Indexes are also presented for three State and local government services. Like labor and multifactor productivity indexes for industries, indexes of output per employee year for government functions and services reflect the joint effect of a number of interrelated influences.

Further information concerning the indexes covered in this bulletin can be obtained by writing to the Office of Productivity and Technology, Bureau of Labor Statistics, Washington, DC 20212. (Telephone: 202-523-9244.) In addition, the Bureau of Labor Statistics (BLS) publishes indexes of output per hour of all persons and multifactor productivity for the private business sector and the non-farm business, manufacturing, and corporate sectors. These productivity series show the relationship between gross product originating in these sectors and labor and/or capital inputs. These data are presented in several BLS publications, including *Productivity and Costs* (quarterly news release), the *Monthly Labor Review*, and *Employment and Earnings*. More detailed information on the methods, limitations, and data sources is contained in *BLS Handbook of Methods*, BLS Bulletin 2285. Additional information, including reports on individual industries and charts, tables, and output indicators for Federal Government functions, is available on request from the Bureau of Labor Statistics.

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Part I. Labor Productivity Trends for Selected Industries

Current developments

Productivity, as measured by output per employee hour, increased in 1986 in more than three-fourths of the industries for which current data are presently available. In comparison, less than two-thirds of the industries posted gains in 1985.

Among major manufacturing industries, both motor vehicles and steel registered small productivity gains in 1986. In motor vehicle and equipment manufacturing, productivity grew by 1.8 percent. Although output fell 2.2 percent in 1986, due mainly to a decline in the automobile segment of the industry, employee hours fell even more, dropping 4.0 percent. The productivity gain was the sixth consecutive one in this industry. In steel manufacturing, productivity was up 1.7 percent, as output dropped 5.9 percent while employee hours fell 7.6 percent. Demand was off from automobile firms and from capital goods producers, such as the agricultural and industrial machinery industries, and other markets. The steel industry continued to eliminate less efficient plant and equipment. Steel manufacturing has recorded four consecutive annual increases in productivity.

A number of large manufacturing industries posted substantial gains in productivity in 1986, including petroleum refining (12.0 percent), sawmills (11.0 percent), and paper, paperboard, and pulp mills (7.1 percent). All of these industries recorded output growth in 1986. In petroleum refining, output was up 5.8 percent as demand was aided by a sharp drop in the price of petroleum products; hours fell off 5.6 percent with the closing of a number of less efficient refineries. Sawmills posted an output gain of 11.5 percent, resulting in part from increased demand from the single-family housing market, while hours grew 0.5 percent. In the paper industry, output gained 5.9 percent as demand was stimulated by favorable overall economic conditions; hours were off 1.1 percent.

Only a small number of manufacturing industries registered productivity declines in 1986. These were metal forming machine tools (-8.7 percent), steel foundries and nonwool yarn mills (both -3.9 percent), oilfield machinery (-3.4 percent), gray iron foundries (-1.9 percent), and cigarettes (-0.2 percent).

Among the mining industries, coal mining had a productivity gain of 8.2 percent based on a small output increase of 0.3 percent and a decline in hours of 7.3 percent. Demand for coal remained fairly stable between 1985 and 1986

while the industry continued to close less efficient mines. Nonmetallic minerals posted a productivity advance of 1.0 percent; output dropped 0.6 percent as declining demand from the agricultural chemicals market more than offset a gain from the construction materials market, and hours fell 1.6 percent. In copper mining (recoverable metal), productivity increased substantially, by 22.5 percent, as output grew 4.2 percent while hours dropped 14.9 percent. On the other hand, iron mining (usable ore) had a decline in productivity of 6.3 percent; output fell 20.6 percent due to a continued decline in demand from the steel industry, while hours dropped 15.2 percent.

Productivity changes were mostly positive among transportation and utility industries. Railroads (revenue traffic) had a large productivity gain of 11.0 percent; output grew 1.9 percent while employee hours continued to decline (-8.2 percent). In air transportation, productivity grew 1.2 percent. Air traffic was up significantly in 1986, and output grew 8.8 percent; employment rose 7.6 percent. Petroleum pipelines had a gain in productivity of 2.8 percent as output grew 1.6 percent and employee hours fell 1.1 percent. In telephone communications, productivity was up 6.0 percent based on an output gain of 2.2 percent and a drop in employee hours of 3.6 percent. Productivity in electric utilities grew 1.2 percent, with output up 2.2 percent and hours up 1.1 percent. On the other hand, gas utilities posted a productivity decline of 8.3 percent; output fell 11.1 percent due in part to a warm winter and the shift of some customers to cheaper oil heat. Employee hours were off 3.1 percent.

Productivity changes were mixed among the trade and service industries. Furniture, home furnishings, and equipment stores posted a 7.8-percent productivity gain as output grew 9.3 percent while hours rose 3.8 percent. The demand for furniture and appliances was up due to the expansion in new and existing home sales. Home electronics also had a good year, fueling the large output gain. The appliance, radio, and TV component of this industry recorded an 11.0-percent productivity gain. Apparel and accessory stores had a 7.0-percent gain in productivity; output was up 9.1 percent as sales were good in all types of apparel stores. All-person hours grew 2.0 percent. Changes in productivity among the components of this industry ranged from an increase of 10.1 percent in shoe stores to a decrease of 0.8 percent in family clothing stores. The gasoline service station industry posted a 3.3-percent gain as output grew 5.0 percent, helped by lower gasoline prices, and hours rose 1.6

percent. Both eating and drinking places and liquor stores had a productivity increase of 3.0 percent. New car dealers had a gain of 1.5 percent and beauty and barber shops grew 0.2 percent.

Productivity declines were posted by a number of trade and service industries. There was a decline of 1.3 percent in retail food stores; output was up 1.8 percent and hours grew 3.1 percent as the industry continued to provide more service-oriented operations such as delicatessens, salad bars, in-store bakeries, pharmacies, and photo departments. Other industries with declines in productivity were laundries and cleaning services (-2.4 percent), drug stores (-3.3 percent), and hotels and motels (-4.8 percent).

Long-term trends

For nearly all of the industries in this report, productivity increased over the long term (1947-86 for many of the industries). Among the industries with the highest growth in productivity were semiconductors and related devices, and wet corn milling. In the semiconductors industry, productivity advanced at a rate of over 13 percent between 1972 and 1986. Burgeoning output growth coupled with continual and rapid improvements in product design and manufacturing techniques and processes contributed to this rather spectacular advance in productivity. In the wet corn milling industry, productivity advanced at a rate of 8.0 percent. Until 1972, output and productivity growth in this industry were modest. Thereafter, however, output and productivity expanded rapidly due to increased market penetration of high fructose and glucose corn syrup and the resulting modernization of the industry.

On the other hand, a few industries did exhibit declining productivity over the long term. Among the most prominent of these was the automotive repair shops industry, which experienced a long-term productivity decline of 1.2 percent annually. Some of the factors contributing to this decline have been: The small size of shops, the large influx of new establishments and workers into the industry, the increased complexity of new cars and trucks, and the shortage of adequately trained mechanics, as well as the impact of several recessions. Productivity also declined over the long term in the mining machinery industry. A highly competitive business, this industry has felt not only the effects of falling coal prices, but also the repercussions of fuel shortages and various energy crises over the past decade and a half. The coal mining industry, faced with excess capacity, has reduced its demand for new mining machinery. Instead, mining companies have tended to buy repair and replacement parts rather than purchase new equipment.

Although the rates of productivity change varied widely among the industries during the 1981-86 period (see chart 1 and table 1), nearly two-thirds of the industries recorded higher productivity growth in the more recent period than during 1947-81. However, this advance in productivity during the later period among many of the industries was as-

sociated with less rapid growth in both output and employee hours.

Among the industries that experienced an increase in the rate of productivity expansion during the last 5 years, several were quite notable. The copper mining industry (recoverable metal) substantially improved its rate of growth in the last few years—19.1 percent a year during 1981-86 as opposed to 1.6 percent annually from 1955 to 1981. Intense international competition in recent years forced domestic mine operators to reevaluate their mining methods and search for ways to improve productivity and lower costs. Some of the methods used to boost productivity included: Company reorganizations, increased use of solvent extraction-electrowinning, expansion of dump and other in-place leaching, and the modernization or shutdown of old mines and facilities. Likewise, the radio and television receiving sets industry experienced markedly improved productivity performance during the 1981-86 period—14.4 percent per year versus 4.8 percent during the earlier period. Productivity growth in this highly competitive industry was aided by the widespread use of automated production technology and the closing of less efficient plants.

However, several industries did exhibit marked declines in productivity in the post-1981 period. Among these, the oilfield machinery industry declined the most—from a gain of 1.8 percent annually during the earlier period to a decline of 6.0 percent for the 1981-86 period. During the 1980's the industry faced slackened demand for its products stemming from weakness in the price of crude oil. Falling output coupled with the industry's made-to-order, labor-intensive operations aggravated the productivity decline. The gas utilities industry was also among those industries that exhibited a marked falloff (4.3 percent annually) in productivity during 1981-86. Prior to 1981, the industry posted an average annual gain in productivity of 2.6 percent. However, during the 1981-86 period the output of this industry fell at a rate of 5.0 percent due to a falloff in average use per customer. The decline in employee hours was minimal due to an increase in the number of customers. Thus, productivity declined substantially.

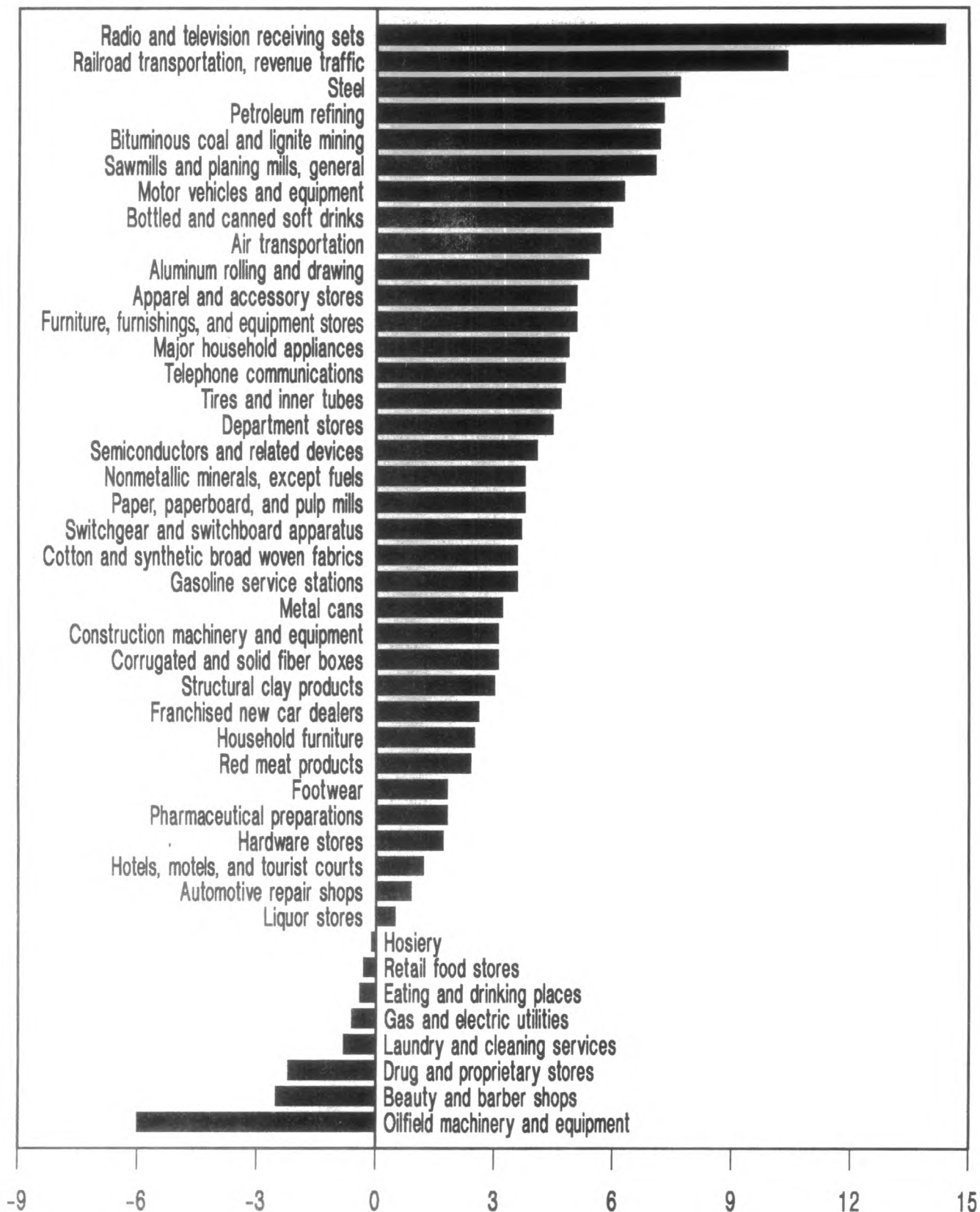
New measures

Cotton and synthetic broad woven fabrics (SIC 2211, 2221). Productivity, as measured by output per employee hour, grew at an average annual rate of 3.7 percent in the cotton and synthetic broad woven fabrics industry from 1972 to 1986. This rate of increase was significantly higher than the 2.5-percent rate of growth registered in the manufacturing sector as a whole. Underlying this gain in productivity was a growth in output of 0.3 percent and a decline in hours of 3.3 percent.

The output of this industry consists of woven fabric more than 12 inches in width made chiefly of cotton and/or synthetic fibers. Important markets for the industry's output are the apparel, automotive, and home furnishings industries.

Chart 1. Output per employee hour in selected industries, 1981-86

(Average annual percent change)



SOURCE: Bureau of Labor Statistics, U.S. Department of Labor.

Plants in the industry transform bales of cotton and/or synthetic fibers into yarn. Multiple strands of this yarn are then interlaced at right angles in the process of weaving. An integrated mill would have the capability to "finish" the woven fabric. Finishing, a term for further treating fabric, may involve one or more of the following operations: Bleaching, dyeing, printing (of a pattern), or applying permanent-press treatment. Highly integrated mills may fabricate some of their output of finished fabric into end products such as sheets, towels, and pillowcases.

Productivity advances in this industry have been aided by substantial investments in capital equipment and the diffusion of technology. Capital expenditures grew at an average annual rate of 12.2 percent over the period of study (1972-86). This industry is highly competitive, and the recent surge of imported fabric and apparel goods has intensified this competition. Domestic firms are responding with a modernization effort that involves significant investment in capital equipment. Industry specialists believe these capital expenditures will boost U.S. productivity, thereby reducing the price advantage of imports.

Industry technological changes are, primarily, of two kinds. One change involves the improvement of conventional machines (e.g., in speed, capacity, and degree of automation) along with the installation of auxiliary equipment (e.g., for machine cleaning and materials handling). "Shuttleless" looms are a prime example of this type of technological advance. They are much more efficient than the fly-shuttle looms they are replacing. The second type of technological change is more radical and involves the integration of two or more processes, instrumentation for process monitoring, and the marriage of computers to this instrumentation for production information. For example, laser equipment is being used to detect flaws in the grey woven fabric, while color monitoring devices check for dyeing irregularities.

Industrial inorganic chemicals (SIC 281). Output per employee hour in the inorganic chemicals industry remained unchanged between 1972 and 1985. By comparison, output per hour in manufacturing as a whole rose at an average annual rate of 2.3 percent over the period. Neither output of the industry nor employee hours changed significantly over the time span reviewed here.

The absence of any long-term improvement in productivity did not characterize all of the industry's components. In the manufacture of alkalis (mostly caustic soda) and chlorine, productivity rose 2.4 percent a year based on a decline in output and an even greater decline in employee hours. In the manufacture of inorganic pigments, productivity improved at a 0.4-percent annual rate; here, too, the long-term gain was associated with declines in both output and hours. For the largest group of inorganic chemicals—including most basic or commodity chemicals and large numbers of miscellaneous chemicals—productivity declined slightly, by 0.4 percent a year. Here, employee hours rose at a somewhat higher rate than output.

Technological advance in the inorganic chemicals industry has, to an extent, been identified with increases in the scale of operations. Scale enlargement reduces capital costs as well as labor and utility costs per unit of output. Quintupling of sulfuric acid production, for example, by simply increasing the size of pressure vessels, pipes, storage tanks etc., can reduce operating costs by a third.

The industry also modernized existing facilities by retrofitting with updated, largely computerized equipment and instrumentation. Computers, programmable controls, computerized sensors for temperature, pressure, flow rates, liquid levels, materials analyzers, and other process variables have become increasingly diffused throughout the industry. Pneumatic controls have been more and more replaced by electronic signals and their apparatus (except in the processing of flammable materials).

Gradual improvements in older technologies relating to established engineering practices have, of course, also continued. One such practice is "de-bottlenecking." The retrofitting of existing plants with updated equipment and instruments often creates imbalances or bottlenecks in chemical processing. Hence, the importance of "de-bottlenecking" appears to have increased over the review period. In order to cope with bottlenecks, chemical firms have installed better pumps and valves. This results in improved flow, less corrosion, and reduced maintenance labor.

Industrial organic chemicals, n.e.c. (SIC 2869). Output per employee hour in the manufacture of certain industrial organic chemicals—such as ethylene, acetic acid, and formaldehyde—rose at an average annual rate of 4.1 percent between 1963 and 1985, compared with 2.3 percent for all manufacturing. Output increased at a faster rate than hours over the period—output at 5.0 percent a year, employee hours at only 0.9 percent.

Organic chemicals can be divided into two groups—commodity and specialty. Commodity chemicals are produced and sold in large quantities and are usually used as feedstocks in the synthesis of other organic chemicals. Manufactured in large-scale operations, most commodity chemicals have low labor requirements per unit of output. Some commodity chemicals are also sold to firms outside the industry such as those manufacturing plastic products. Specialty chemicals are made in much smaller quantities—a whole year's supply will sometimes be produced in a few days. Some of them are made to individual customers' specifications; others are just low-volume stock chemicals.

Productivity growth in the industry was highest from 1963 to 1974, when it increased at a rate of 6.6 percent a year. From 1974 to 1979, the rate dropped to 3.2 percent, reflecting a slowdown in output growth and an increase in employment. During the years 1979 to 1985, the productivity growth rate slowed further to 1.0 percent as both output and hours declined.

The technology employed to produce most organic chemicals, whether on a large or small scale, is based on chemical

reactions: Feedstocks or intermediate chemicals (elements or compounds) are mixed with a catalyst under high pressure and/or high temperature in a tightly controlled environment to produce the desired chemical derivatives. Byproducts are separated and then recycled, processed further, sold, or otherwise disposed of.

Over the time period under study, technological advances have included redesigned facilities capable of handling a wide range of grades of feedstocks, expansion of plant capacities, and improvements in computer hardware and software used to control chemical processes.

Nonelectric heating equipment (SIC 3433). Output per employee hour in the nonelectric heating equipment industry rose at an average annual rate of 1.6 percent from 1972 to 1985. This rate of advance was less than the 2.3-percent rate of increase recorded for all manufacturing industries. The growth in productivity reflected a negligible decline in output of 0.1 percent per year and a decline in employee hours of 1.7 percent annually.

The nonelectric heating equipment industry is composed of establishments manufacturing equipment including gas-, oil-, and stoker coal-fired equipment for the automatic utilization of gaseous, liquid, and solid fuels. Among the products of the industry are domestic heating stoves, boilers, floor and wall furnaces, solar energy collectors, and oil burners.

The change in output over the entire 1972-85 period has been negligible in the industry, although output movements have varied significantly from time to time. Industry production has been primarily influenced by residential construction. Also affecting the demand for heating units have been changes in relative fuel costs and replacement demand for the products of the industry.

Contributing to the rise in productivity of the industry were advances in metalworking, improved plant layout, and increases in capital expenditures per employee. Some shops have raised productivity by improving metalworking technology through the installation of progressive dies, computerized punch presses, and multiple-spindle drills. However, the lack of diffusion of newer technologies throughout the industry, due to low levels of demand for many of the industry's products, has kept productivity growth relatively low.

Semiconductors and related devices (SIC 3674). Output per employee hour in the semiconductor industry rose at an average annual rate of 13.1 percent between 1972 and 1986—much higher than the 2.5-percent rate for all manufacturing. Industry output increased 21.0 percent a year while employee hours increased 6.9 percent.

The semiconductor industry manufactures two major types of products—discrete devices, such as transistors and diodes, which perform only one electronic function; and integrated circuits (chips), which are arrays of discrete devices imprinted on small pieces of silicon. Increases in industry output since the late 1960's stem, to a large degree, from rapid growth in the production of integrated circuits. In 1966, in-

tegrated circuits accounted for about one-eighth of all semiconductor production, for over one-half in 1972, and for almost four-fifths in 1980. During the same period, their current-dollar value leaped from just over \$100 million to about \$6.5 billion.

The basic building block of integrated circuits is a flat wafer (disc) of silicon on which large numbers of individual discrete devices, such as transistors, are imprinted. A key factor in increasing output per employee hour in producing integrated circuits is the ability to increase the number of usable devices on a wafer. The same amounts of material and production worker labor used to produce a wafer yielding a small number of good chips are needed to produce a wafer yielding a larger number of good chips. As the yield of good chips improves—typically from an initial low of 5 percent or less to around 60-70 percent—unit prices decline since output dramatically increases.

Achieving high yield ratios, however, is not an easy task and depends more on the refining of manufacturing processes than on the gaining of experience by production workers or on differences in material inputs. Attaining acceptable yield ratios using standard production processes requires coordinating and adjusting hundreds of separate manufacturing stages, some of which involve new machinery and techniques, since processes used in research and development are not directly transferable to regular production lines. This effort initially requires large amounts of skilled engineering and technical employee hours, but as yield ratios improve, these requirements ease and production labor inputs per good chip also decline.

Although this process is repeated for each new generation of integrated circuits, recent advances in computer-assisted and integrated manufacturing techniques have lessened the time required to achieve acceptable yield ratios as well as the costs associated with small runs of customized chips.

Retail hardware stores (SIC 5251). Output per hour of all persons in the retail hardware stores industry rose at an average annual rate of 1.3 percent from 1972 to 1986. This increase was well above the 0.8-percent annual gain in productivity registered by the nonfarm business sector of the economy. The growth in productivity reflected an increase in output of 2.2 percent per year and a rise in hours of 0.9 percent annually. Contributing to the growth in productivity were strong demand, increased use of computers in store operations, and benefits derived from affiliation with dealer-owned cooperatives.

The retail hardware stores industry is strongly affected by cyclical changes in the economy. Expansions and contractions in output and the associated changes in productivity are closely linked to changes in the housing market. During periods when the economy is expanding, hardware items are purchased to prepare homes for resale, to remodel older homes, and to maintain new and existing homes. When the economy contracts and the housing market is weak, productivity tends to fall off.

The major technological change boosting productivity in the industry has been the increased use of computers by hardware retailers. In the larger establishments, computers are often used in conjunction with point-of-sale terminals (cash registers) and electronic scanning devices. Another factor underlying productivity growth has been the joining together of independent hardware stores to form dealer-owned cooperatives. Through the cooperatives, the independent hardware stores have been able to compete with integrated, mass merchandisers by taking advantage of discounts for volume purchases and the economies of scale associated with large wholesale distribution.

Department stores (SIC 5311). Output per employee hour in the department stores industry increased at an average annual rate of 2.8 percent between 1967 and 1986 compared with an average annual rate of 1.0 percent for the nonfarm business sector of the economy during the same period. The gain in the industry's productivity over the 19-year period reflects average annual increases of 3.6 percent in output and 0.8 percent in employee hours.

Growth in department store productivity has been influenced by broad trends in general retailing. These trends include greater industry concentration and the resulting growth in chain stores, movement to better locations in shopping centers, and the use of computers in store operations. Improvements in store layout and design were also used to increase consumer service by helping salespersons serve customers in a shorter period of time.

The major technological change within the department stores industry has been the widespread and increasing use of computers. Electronic data processing is used in conjunction with point-of-sale technology. Through coding of merchandise, marketing information is gathered as a byproduct of merchandise sales. Data obtained at the point of sale are used for inventory control, sales audits, automatic computer-generated stock purchasing, personnel planning, sales forecasts, interstore transfers, accounts receivable, and credit verification. Computer technology provides accurate, useful, and readily available information for use in both the operational and merchandising aspects of the industry. According

to surveys, retailers who use point-of-sale technology report that it allows their stores to operate with reduced inventory while preventing out-of-stock situations. Product mix can be better targeted to customer needs with better marketing information. It also reduces the employee hours required to mark down merchandise prices because of overstocked or slow-moving inventory.

Automotive repair shops (SIC 753). Output per hour of all persons in the automotive repair shops industry decreased at an average annual rate of 1.2 percent between 1972 and 1986. Over the same period, productivity in the nonfarm business sector rose at an average annual rate of 0.8 percent. This overall productivity decline reflects a 3.0-percent average annual increase in output and a corresponding larger growth in all-person hours of 4.3 percent.

Despite increases in efficiency by some specialty repair shops, overall productivity for the automotive repair shops industry has declined since 1972. Factors contributing to this decline include: The small size of industry firms, the large influx of new establishments and workers, the introduction of more complicated cars and trucks, the shortage of adequately trained mechanics, and the impact of several recessions.

Many firms in this industry have limited resources of capital, personnel, and materials. Although there is little data on capital investment for this industry, it is clear that the small size of establishments in the industry makes it difficult for the average firm to invest in new capital equipment, such as computerized diagnostic machines. Automotive repair shops also have limited access to manufacturers' training and information.

The addition of more than 50,000 establishments and 200,000 workers to the industry between 1972 and 1982 has influenced the movement of productivity. The apparent ease of entry and exit from the industry has led to increases in the number of establishments and workers in the industry even during times of general economic recession. The large growth in employment together with high separation rates for some occupations have affected the overall experience level of workers in the industry and have contributed to the decline in output per hour over this period.

Table 1. Selected industries: Employment, 1986, and average annual rates of change in output per employee hour, 1981-86

SIC code	Industry	Employment, 1986 (thousands)			Output per employee hour: Average annual rate of change, 1981-86 (percent) ¹		
		All employees	Production workers	Non-production workers	All employees	Production workers	Non-production workers ²
Mining							
1011	Iron mining, crude ore	8	6	2	10.7	10.4	10.9
1011	Iron mining, usable ore	8	6	2	11.0	10.8	11.2
1021	Copper mining, crude ore	11	9	2	14.6	14.5	15.2
1021	Copper mining, recoverable metal	11	9	2	19.1	18.9	19.7
111,121	Coal mining	176	144	32	7.2	7.3	6.7
121	Bituminous coal and lignite mining	173	142	31	7.2	7.3	6.9
14	Nonmetallic minerals, except fuels	108	83	25	3.8	3.7	4.3
142	Crushed and broken stone	38	31	7	2.1	1.8	3.4
Manufacturing							
2011,13	Red meat products	214	172	42	2.4	2.2	2.9
2011	Meat packing plants	138	116	22	2.9	2.5	4.8
2013	Sausages and other prepared meats	76	56	20	1.2	1.3	0.9
2016,17	Poultry dressing and processing	157	143	14	³ 3.1	³ 3.3	³ 1.4
2026	Fluid milk	85	42	43	³ 4.4	(⁴)	(⁴)
203	Preserved fruits and vegetables	238	102	136	³ 3.1	³ 3.4	³ 1.4
2033	Canned fruits and vegetables	84	69	15	³ 4.7	³ 5.5	³ -0.1
204	Grain mill products	122	83	39	³ 6.5	³ 7.3	³ 4.4
2041,45	Flour (including flour mixes) and other grains	30	21	9	³ 5.9	³ 6.3	³ 4.5
2041	Flour and other grain mill products	22	15	7	6.4	5.7	9.1
2043	Cereal breakfast foods	18	14	4	³ 5.4	³ 6.4	³ -0.5
2044	Rice milling	6	4	2	³ -3.7	³ -0.7	³ -14.0
2046	Wet corn milling	9	6	3	³ 11.2	³ 11.1	³ 11.3
2047,48	Prepared feeds for animals and fowls	59	38	21	³ 6.0	³ 7.2	³ 3.8
205	Bakery products	210	127	83	³ 2.8	³ 4.1	³ 0.9
2061,62,63	Sugar	24	18	6	2.8	2.7	3.3
2061,62	Raw and refined cane sugar	14	10	4	3.5	3.4	3.6
2063	Beet sugar	10	8	2	2.1	2.1	2.7
2065	Candy and confectionery products	55	45	10	(⁴)	(⁴)	(⁴)
2082	Malt beverages	41	26	15	2.8	3.4	1.4
2086	Bottled and canned soft drinks	126	41	85	6.0	6.0	5.9
2111,21,31	All tobacco products	50	38	12	3.1	4.5	-2.1
2111,31	Cigarettes, chewing and smoking tobacco	46	34	12	2.7	4.0	-2.0
2121	Cigars	4	3	1	7.0	8.0	-1.1
2211,21	Cotton and synthetic broad woven fabrics	185	166	19	3.6	3.4	5.6
2251,52	Hosiery	71	64	7	-0.1	-0.3	1.8
2281	Nonwool yarn mills	75	68	7	4.5	4.3	5.8
2421	Sawmills and planing mills, general	158	141	17	7.1	6.6	10.7
2431	Millwork	93	76	17	³ -2.0	³ -2.9	³ 1.5
2434	Wood kitchen cabinets	66	53	13	³ -1.4	³ -2.7	³ 3.7
2435,36	Veneer and plywood	60	55	5	³ 3.1	³ 2.2	³ 10.4
2435	Hardwood veneer and plywood	23	21	2	³ 1.9	³ 1.6	³ 4.1
2436	Softwood veneer and plywood	37	34	3	³ 3.4	³ 2.2	³ 14.6
251	Household furniture	294	247	47	2.5	2.3	3.9
2511,17	Wood household furniture	138	120	18	³ 2.2	³ 2.0	³ 3.4
2512	Upholstered household furniture	93	77	16	³ 3.0	³ 2.9	³ 3.8
2514	Metal household furniture	26	21	5	³ 5.9	³ 5.4	³ 8.3
2515	Mattresses and bedsprings	30	23	7	0.3	-0.2	2.0
252	Office furniture	66	51	15	1.9	2.2	1.0
2521	Wood office furniture	32	25	7	³ -0.1	³ -0.3	³ 1.1
2522	Metal office furniture	34	26	8	³ 3.5	³ 4.2	³ 1.7
2611,21,31,61	Paper, paperboard, and pulp mills	248	190	58	3.8	4.0	3.0
2643	Paper and plastic bags	51	40	11	³ 4.1	³ 3.9	³ 4.7
2651	Folding paperboard boxes	42	34	8	-0.6	-0.6	-0.5
2653	Corrugated and solid fiber boxes	105	79	26	3.1	2.5	4.7
281	Industrial and inorganic chemicals	136	70	66	³ 4.5	³ 5.2	³ 3.3
2812	Alkalies and chlorine	12	8	4	³ 13.3	³ 11.8	³ 16.5
2816	Inorganic pigments	10	6	4	³ 7.6	³ 7.4	³ 7.9
2819 part	Industrial inorganic chemicals, n.e.c.	91	49	42	³ 3.2	³ 4.2	³ 1.6
2823,24	Synthetic fibers	79	59	20	5.3	5.0	6.5
2834	Pharmaceutical preparations	165	75	90	1.8	3.0	(⁴)
2841	Soaps and detergents	42	27	15	³ -0.7	³ -0.5	³ -1.0
2844	Cosmetics and other toiletries	65	45	20	³ 2.8	³ 2.0	³ 4.5
2851	Paints and allied products	63	31	32	4.0	3.7	4.3
2869	Industrial organic chemicals, n.e.c.	120	59	61	³ 4.3	³ 4.9	³ 3.6
2911	Petroleum refining	131	79	52	7.3	6.7	8.9

See footnotes at end of table.

Table 1. Selected industries: Employment, 1986, and average annual rates of change in output per employee hour, 1981-86—Continued

SIC code	Industry	Employment, 1986 (thousands)			Output per employee hour: Average annual rate of change, 1981-86 (percent) ¹		
		All employees	Production workers	Non-production workers	All employees	Production workers	Non-production workers ²
Manufacturing—Continued							
3011	Tires and inner tubes	88	64	24	4.7	3.6	9.6
3079	Miscellaneous plastic products	566	447	119	³ 2.8	³ 2.3	³ 4.7
314	Footwear	90	76	14	1.8	2.1	-0.2
3221	Glass containers	46	41	5	5.2	5.0	6.5
3241	Hydraulic cement	23	18	5	8.8	9.8	5.5
325	Structural clay products	37	29	8	3.0	2.2	6.2
3251,53,59	Clay construction products	30	24	6	3.5	2.6	7.8
3251	Brick and structural clay tile	18	14	4	4.3	2.9	10.8
3253	Ceramic wall and floor tile	10	9	1	³ 2.0	³ 1.4	³ 5.0
3255	Clay refractories	7	5	2	1.8	2.0	0.9
3271,72	Concrete products	89	66	23	³ 3.5	³ 3.3	³ 4.1
3273	Ready-mixed concrete	100	81	19	³ 1.0	(⁴)	(⁴)
331	Steel	275	210	65	7.7	7.4	8.3
3321	Gray iron foundries	82	67	15	2.6	2.1	4.9
3324,25	Steel foundries	40	30	10	0.9	0.7	1.4
3331,32,33	Primary copper, lead, and zinc	9	6	3	11.2	12.2	7.9
3331	Primary copper	5	4	1	12.1	13.8	6.4
3334	Primary aluminum	21	14	7	5.2	5.8	3.4
3351	Copper rolling and drawing	23	18	5	5.7	4.9	8.3
3353,54,55	Aluminum rolling and drawing	55	44	11	5.4	4.4	9.1
3411	Metal cans	47	41	6	3.2	2.8	5.8
3423	Hand and edge tools	39	29	10	³ -1.3	³ -1.1	³ -2.0
3433	Heating equipment, except electric	26	18	8	³ 0.6	³ -0.5	³ -3.0
3441	Fabricated structural metal	79	56	23	³ 4.5	³ 5.0	³ 2.8
3442	Metal doors, sash, and trim	92	68	24	³ 4.0	³ 4.1	³ 3.6
3465,66,69	Metal stampings	206	166	40	³ 1.8	³ 1.4	³ 4.1
3465	Automotive stampings	105	89	16	³ 4.6	³ 3.5	³ 10.8
3469	Metal stampings, n.e.c.	96	73	23	³ -0.9	³ -0.6	³ -2.4
3494	Valves and pipe fittings	80	53	27	³ 0.2	³ 0.4	³ -0.2
3498	Fabricated pipe and fittings	20	15	5	³ 0.2	³ 0.8	³ -1.5
3519	Internal combustion engines, n.e.c.	69	46	23	³ 4.0	³ 3.6	³ 4.4
352	Farm and garden machinery	91	60	31	³ 2.4	³ 1.8	³ 3.8
3523	Farm machinery and equipment	66	41	25	³ 2.2	³ 2.5	³ 1.5
3524	Lawn and garden equipment	24	19	5	³ 3.2	³ 0.6	³ 11.1
3531	Construction machinery and equipment	80	49	31	3.1	3.1	2.9
3532	Mining machinery	20	12	8	³ 1.5	³ 3.0	³ -0.8
3533	Oilfield machinery and equipment	49	29	20	-6.0	-3.0	-11.7
3541,42	Machine tools	70	43	27	0.5	1.4	-1.3
3541	Metal-cutting machine tools	50	31	19	1.9	3.6	-1.0
3542	Metal-forming machine tools	20	12	8	-3.3	-3.7	-2.7
3545	Machine tool accessories	54	38	16	³ -1.2	³ -1.9	³ 0.4
3561,63	Pumps and compressors	67	39	28	³ 2.2	³ 3.0	³ 0.9
3561	Pumps and pumping equipment	45	26	19	³ 1.8	³ 2.3	³ 0.9
3562	Ball and roller bearings	44	33	11	1.1	1.2	0.8
3563	Air and gas compressors	22	13	9	³ 1.7	³ 3.1	³ -0.3
3585	Refrigeration and heating equipment	122	88	34	³ 1.4	³ 0.5	³ 3.5
3612	Transformers	51	37	14	-0.8	-2.0	2.6
3613	Switchgear and switchboard apparatus	57	40	17	3.7	4.0	3.1
3621	Motors and generators	91	70	21	³ 2.5	³ 2.2	³ 3.1
3631,32,33,39	Major household appliances	87	71	16	4.9	4.3	7.8
3631	Household cooking equipment	22	18	4	6.5	5.9	8.4
3632	Household refrigerators and freezers	27	22	5	4.6	4.4	5.9
3633	Household laundry equipment	23	18	5	3.6	2.8	7.7
3639	Household appliances, n.e.c.	15	13	2	4.0	3.1	8.3
3641	Electric lamps	27	23	4	4.2	4.7	1.3
3645,46,47,48	Lighting fixtures	74	56	18	³ 5.0	³ 4.2	³ 7.4
3651	Radio and television receiving sets	64	43	21	14.4	13.3	17.9
3674	Semiconductors and related devices	268	101	167	4.1	5.1	3.5
371	Motor vehicles and equipment	865	665	200	6.3	5.0	10.3
3825	Instruments to measure electricity	105	53	52	³ 4.3	³ 4.3	³ 4.3
Other							
401 class I	Railroad transportation, revenue traffic	300	⁶ 256	⁶ 44	10.4	⁵ 10.6	⁶ 9.4
401 class I	Railroad transportation, car-miles	300	⁵ 256	⁶ 44	7.0	⁵ 7.1	⁶ 6.0

See footnotes at end of table.

Table 1. Selected industries: Employment, 1986, and average annual rates of change in output per employee hour, 1981-86—Continued

SIC code	Industry	Employment, 1986 (thousands)			Output per employee hour: Average annual rate of change, 1981-86 (percent) ¹		
		All employees	Production workers	Non-production workers	All employees	Production workers	Non-production workers ²
Other—Continued							
4111,413,414 parts	Bus carriers, class I	23	(⁴)	(⁴)	³ -1.4	(⁴)	(⁴)
4213 part	Intercity trucking ⁷	434	(⁴)	(⁴)	30.6	(⁴)	(⁴)
4213 part	Intercity trucking (general freight) ⁷	276	(⁴)	(⁴)	30.4	(⁴)	(⁴)
4511,4521 part	Air transportation ⁷	398	(⁴)	(⁴)	5.7	(⁴)	(⁴)
4612,13	Petroleum pipelines	18	⁵ 13	(⁴)	5.0	⁵ 4.0	(⁴)
4811	Telephone communications	881	⁶ 566	⁶ 225	4.8	(⁴)	(⁴)
491,92,93	Gas and electric utilities	826	⁶ 561	⁶ 175	-0.6	(⁵), (⁸)	(⁴)
491,493 part	Electric utilities	619	(⁴)	(⁴)	0.7	(⁴)	(⁴)
492,493 part	Gas utilities	207	(⁴)	(⁴)	-4.3	(⁴)	(⁴)
5251	Hardware stores ⁹	176	(⁴)	(⁴)	1.7	(⁴)	(⁴)
5311	Department stores	1978	(⁴)	(⁴)	4.5	(⁴)	(⁴)
54	Retail food stores ⁹	2873	(⁴)	(⁴)	-0.3	(⁴)	(⁴)
5511	Franchised new car dealers	893	(⁴)	(⁴)	2.6	(⁴)	(⁴)
5541	Gasoline service stations ⁹	596	(⁴)	(⁴)	3.6	(⁴)	(⁴)
56	Apparel and accessory stores ⁹	1178	(⁴)	(⁴)	5.1	(⁴)	(⁴)
5611	Men's and boys' clothing stores ⁹	118	(⁴)	(⁴)	4.6	(⁴)	(⁴)
5621	Women's ready-to-wear stores ⁹	406	(⁴)	(⁴)	7.5	(⁴)	(⁴)
5651	Family clothing stores ⁹	257	(⁴)	(⁴)	1.2	(⁴)	(⁴)
5661	Shoe stores ⁹	214	(⁴)	(⁴)	4.8	(⁴)	(⁴)
57	Furniture, home furnishings and equipment stores ⁹	922	(⁴)	(⁴)	5.1	(⁴)	(⁴)
571	Furniture and home furnishings stores ⁹	547	(⁴)	(⁴)	2.9	(⁴)	(⁴)
572,73	Appliance, radio, TV, and music stores ⁹	375	(⁴)	(⁴)	8.4	(⁴)	(⁴)
58	Eating and drinking places ⁹	6215	(⁴)	(⁴)	-0.4	(⁴)	(⁴)
5912	Drug and proprietary stores ⁹	592	(⁴)	(⁴)	-2.2	(⁴)	(⁴)
5921	Liquor stores ⁹	165	(⁴)	(⁴)	0.5	(⁴)	(⁴)
602	Commercial banking	1565	⁵ 1134	⁶ 431	35.0	(⁴)	(⁴)
7011	Hotels, motels, and tourist courts ¹⁰	1479	(⁴)	(⁴)	1.2	(⁴)	(⁴)
721	Laundry and cleaning services ⁹	451	(⁴)	(⁴)	-0.8	(⁴)	(⁴)
7231,41	Beauty and barber shops ¹⁰	740	(⁴)	(⁴)	-2.5	(⁴)	(⁴)
7231	Beauty shops ¹⁰	641	(⁴)	(⁴)	-2.4	(⁴)	(⁴)
753	Automotive repair shops ⁹	780	(⁴)	(⁴)	0.9	(⁴)	(⁴)

¹ Based on the linear least squares trends of the logarithms of the index numbers.

² Rates of change for nonproduction worker hours are subject to a wider margin of error than other rates shown.

³ 1981-85.

⁴ Not available.

⁵ Nonsupervisory personnel.

⁶ Supervisory personnel and force account construction workers.

⁷ Output per employee.

⁸ Less than 0.05 percent.

⁹ All persons include paid employees, unpaid family workers, and the self-employed.

¹⁰ All persons include paid employees and the self-employed.

n.e.c. = not elsewhere classified.

Table 2. Iron mining, crude ore (SIC 1011): Indexes of output per employee hour and output per employee, 1958-86
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	48.3	43.0	75.6	41.5	37.3	64.3
1959	49.4	44.8	70.3	44.6	40.6	64.0
1960	59.4	51.5	108.4	56.3	49.4	99.0
1961	67.1	60.2	100.8	61.5	56.1	87.5
1962	73.1	65.2	113.3	69.2	62.8	101.0
1963	83.3	72.9	141.9	77.3	69.0	122.6
1964	89.6	77.8	160.3	85.5	75.7	142.3
1965	85.3	74.4	147.9	82.8	73.7	133.9
1966	84.4	74.3	139.1	84.0	75.8	126.5
1967	86.1	76.2	137.9	85.3	77.5	123.6
1968	93.5	84.3	137.5	92.6	85.1	126.6
1969	99.7	90.5	141.2	97.4	90.6	126.0
1970	99.9	90.2	146.4	98.1	91.4	126.7
1971	98.6	89.4	139.6	93.9	87.6	120.1
1972	108.0	98.2	153.4	103.2	96.9	128.4
1973	113.2	103.1	159.2	112.2	104.3	146.6
1974	107.9	98.1	152.2	110.6	102.1	149.1
1975	112.7	102.4	158.5	110.8	103.7	140.9
1976	113.5	103.5	157.2	111.3	104.0	141.2
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	115.5	105.9	156.5	116.7	109.0	149.4
1979	122.7	112.9	164.5	122.9	115.8	151.4
1980	124.7	119.5	142.5	115.6	113.1	124.1
1981	132.8	126.2	156.6	125.3	121.9	136.9
1982	100.9	106.7	87.2	95.8	102.8	78.9
1983	139.0	154.6	107.5	128.8	145.5	95.2
1984	173.3	176.2	165.7	160.4	166.9	143.6
1985	187.9	186.0	193.7	178.9	180.3	174.0
1986 ²	178.3	176.5	183.8	172.3	174.0	167.8
Average annual percent change:						
1947-86	(³)	4.3	(³)	3.8	4.4	1.4
1981-86	10.7	10.4	10.9	11.1	10.8	11.5

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

³ Data not available.

NOTE: Because of periodic revisions in source data, the measures in this table may

differ from those previously published.

SOURCE: Output based on data from the Bureau of Mines, U.S. Department of the Interior; and the Bureau of the Census. Employment and hours based on data from the Bureau of Labor Statistics supplemented with data from the Mine Safety and Health Administration, U.S. Department of Labor.

Table 3. Iron mining, crude ore (SIC 1011): Indexes of output, employee hours, and employees, 1958-86
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	68.4	141.7	159.1	90.5	164.7	183.6	106.4
1959	64.0	129.6	142.7	91.1	143.5	157.7	100.0
1960	96.9	163.1	188.3	89.4	172.0	196.1	97.9
1961	85.7	127.7	142.4	85.0	139.4	152.8	97.9
1962	90.3	123.5	138.6	79.7	130.5	143.9	89.4
1963	96.5	115.9	132.3	68.0	124.8	139.9	78.7
1964	109.0	121.6	140.1	68.0	127.5	143.9	76.6
1965	111.1	130.2	149.3	75.1	134.2	150.8	83.0
1966	113.1	134.0	152.2	81.3	134.7	149.3	89.4
1967	113.1	131.4	148.4	82.0	132.6	146.0	91.5
1968	121.3	129.7	143.9	88.2	131.0	142.6	95.8
1969	128.6	129.0	142.1	91.1	132.1	141.9	102.1
1970	132.2	132.3	146.6	90.3	134.7	144.7	104.3
1971	122.6	124.4	137.1	87.8	130.5	139.9	102.1
1972	117.5	108.8	119.7	76.6	113.9	121.3	91.5
1973	137.2	121.2	133.1	86.2	122.3	131.5	93.6
1974	136.4	126.4	139.0	89.6	123.3	133.6	91.5
1975	135.0	119.8	131.8	85.2	121.8	130.2	95.8
1976	141.2	124.4	136.4	89.8	126.9	135.8	100.0
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	146.3	126.7	138.1	93.5	125.4	134.2	97.9
1979	157.9	128.7	139.9	96.0	128.5	136.3	104.3
1980	129.4	103.8	108.3	90.8	111.9	114.4	104.3
1981	136.9	103.1	108.5	87.4	109.3	112.3	100.0
1982	65.5	64.9	61.4	75.1	68.4	63.7	83.0
1983	68.8	49.5	44.5	64.0	53.4	47.3	72.3
1984	94.8	54.7	53.8	57.2	59.1	56.8	66.0
1985	88.9	47.3	47.8	45.9	49.7	49.3	51.1
1986 ¹	71.5	40.1	40.5	38.9	41.5	41.1	42.6
Average annual percent change:							
1947-86	.9	(²)	-3.2	(²)	-2.8	-3.3	-4
1981-86	-5.6	-14.7	-14.5	-14.9	-15.0	-14.8	-15.3

¹ Preliminary.

² Data not available.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Mines, U.S. Department of the Interior; and the Bureau of the Census. Employment and hours based on data from the Bureau of Labor Statistics supplemented with data from the Mine Safety and Health Administration, U.S. Department of Labor.

Table 4. Iron mining, usable ore (SIC 1011): Indexes of output per employee hour and output per employee, 1958-86
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	60.3	53.7	94.5	51.9	46.6	80.4
1959	59.3	53.9	84.4	53.6	48.8	76.9
1960	70.1	60.8	128.0	66.5	58.3	116.9
1961	73.2	65.7	110.0	67.1	61.2	95.5
1962	78.1	69.6	121.0	73.9	67.0	107.8
1963	87.8	76.9	149.7	81.6	72.8	129.4
1964	96.6	83.9	172.8	92.2	81.7	153.4
1965	95.3	83.1	165.2	92.5	82.3	149.5
1966	98.4	86.7	162.2	97.9	88.3	147.5
1967	98.6	87.3	157.9	97.7	88.7	141.5
1968	106.1	95.6	156.0	105.0	96.5	143.6
1969	110.6	100.4	156.6	108.0	100.6	139.8
1970	111.1	100.3	162.8	109.1	101.6	140.9
1971	108.4	98.3	153.5	103.3	96.4	132.0
1972	118.1	107.4	167.8	112.8	105.9	140.4
1973	122.6	111.6	172.4	121.5	113.0	158.8
1974	113.8	103.5	160.5	116.6	107.6	157.2
1975	117.8	107.1	165.6	115.8	108.4	147.3
1976	115.9	105.7	160.6	113.6	106.2	144.2
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	117.8	108.1	159.7	119.1	111.3	152.5
1979	122.8	113.0	164.7	123.0	116.0	151.6
1980	123.2	118.1	140.9	114.3	111.8	122.6
1981	130.6	124.1	154.1	123.2	119.9	134.7
1982	98.2	103.7	84.8	93.1	100.0	76.7
1983	138.6	154.2	107.2	128.5	145.0	94.9
1984	171.7	174.5	164.2	158.9	165.3	142.3
1985	187.9	186.0	193.7	178.9	180.3	174.0
1986 ²	176.1	174.3	181.5	170.1	171.8	165.7
Average annual percent change:						
1947-86	(³)	3.2	(³)	2.7	3.2	.3
1981-86	11.0	10.8	11.2	11.4	11.1	11.8

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

³ Data not available.

NOTE: Because of periodic revisions in source data, the measures in this table may

differ from those previously published.

SOURCE: Output based on data from the Bureau of Mines, U.S. Department of the Interior; and the Bureau of the Census. Employment and hours based on data from the Bureau of Labor Statistics supplemented with data from the Mine Safety and Health Administration, U.S. Department of Labor.

Table 5. Iron mining, usable ore (SIC 1011): Indexes of output, employee hours, and employees, 1958-86
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	85.5	141.7	159.1	90.5	164.7	183.6	106.4
1959	76.9	129.6	142.7	91.1	143.5	157.7	100.0
1960	114.4	163.1	188.3	89.4	172.0	196.1	97.9
1961	93.5	127.7	142.4	85.0	139.4	152.8	97.9
1962	96.4	123.5	138.6	79.7	130.5	143.9	89.4
1963	101.8	115.9	132.3	68.0	124.8	139.9	78.7
1964	117.5	121.6	140.1	68.0	127.5	143.9	76.6
1965	124.1	130.2	149.3	75.1	134.2	150.8	83.0
1966	131.9	134.0	152.2	81.3	134.7	149.3	89.4
1967	129.5	131.4	148.4	82.0	132.6	146.0	91.5
1968	137.6	129.7	143.9	88.2	131.0	142.6	95.8
1969	142.7	129.0	142.1	91.1	132.1	141.9	102.1
1970	147.0	132.3	146.6	90.3	134.7	144.7	104.3
1971	134.8	124.4	137.1	87.8	130.5	139.9	102.1
1972	128.5	108.8	119.7	76.6	113.9	121.3	91.5
1973	148.6	121.2	133.1	86.2	122.3	131.5	93.6
1974	143.8	126.4	139.0	89.6	123.3	133.6	91.5
1975	141.1	119.8	131.8	85.2	121.8	130.2	95.8
1976	144.2	124.4	136.4	89.8	126.9	135.8	100.0
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	149.3	126.7	138.1	93.5	125.4	134.2	97.9
1979	158.1	128.7	139.9	96.0	128.5	136.3	104.3
1980	127.9	103.8	108.3	90.8	111.9	114.4	104.3
1981	134.7	103.1	108.5	87.4	109.3	112.3	100.0
1982	63.7	64.9	61.4	75.1	68.4	63.7	83.0
1983	68.6	49.5	44.5	64.0	53.4	47.3	72.3
1984	93.9	54.7	53.8	57.2	59.1	56.8	66.0
1985	88.9	47.3	47.8	45.9	49.7	49.3	51.1
1986 ¹	70.6	40.1	40.5	38.9	41.5	41.1	42.6
Average annual percent change:							
1947-86	-1	(²)	-3.2	(²)	-2.8	-3.3	-4
1981-86	-5.3	-14.7	-14.5	-14.9	-15.0	-14.8	-15.3

¹ Preliminary.

² Data not available.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Mines, U.S. Department of the Interior; and the Bureau of the Census. Employment and hours based on data from the Bureau of Labor Statistics supplemented with data from the Mine Safety and Health Administration, U.S. Department of Labor.

Table 6. Copper mining, crude ore (SIC 1021): Indexes of output per employee hour and output per employee, 1958-86
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	55.6	51.7	73.1	56.7	52.8	74.9
1959	55.3	53.1	63.3	61.3	58.8	70.8
1960	57.2	54.6	67.1	65.9	62.9	77.8
1961	60.4	56.0	80.1	68.1	63.2	90.5
1962	66.1	61.3	88.0	73.2	67.9	97.3
1963	66.2	61.4	88.1	73.7	68.5	97.3
1964	72.3	67.4	93.9	80.0	74.9	103.4
1965	72.3	66.6	99.0	81.0	74.9	109.2
1966	73.7	67.8	101.8	82.4	76.4	109.7
1967	62.5	64.1	57.7	70.5	71.4	67.7
1968	69.6	70.1	68.0	84.9	85.3	83.5
1969	77.9	73.8	94.4	93.0	88.5	111.1
1970	84.8	80.0	104.1	97.6	93.1	115.2
1971	86.6	85.4	90.5	97.8	96.8	101.1
1972	91.8	86.4	114.2	98.1	93.8	114.9
1973	92.0	85.6	120.4	97.7	92.9	117.3
1974	85.7	82.0	99.9	90.2	86.7	103.1
1975	87.2	86.4	89.6	89.5	88.6	92.3
1976	99.2	98.0	103.1	101.3	100.7	102.9
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	109.7	109.3	111.2	113.7	113.4	114.3
1979	109.1	107.2	115.5	119.1	118.0	122.7
1980	99.5	99.0	101.1	105.7	105.1	107.9
1981	102.0	101.1	105.1	110.5	108.9	115.4
1982	106.4	111.3	93.6	107.3	111.7	95.4
1983	129.9	139.4	106.7	135.2	144.2	112.6
1984	140.3	153.2	110.7	151.3	164.9	119.7
1985	164.2	172.8	142.6	177.7	188.8	149.7
1986 ²	201.4	196.5	218.4	213.3	210.2	222.5
Average annual percent change:						
1947-86	(³)	4.2	(³)	3.4	3.9	1.1
1981-86	14.6	14.5	15.2	15.1	15.3	14.4

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

³ Data not available.

NOTE: Because of periodic revisions in source data, the measures in this table may

differ from those previously published.

SOURCE: Output based on data from the Bureau of Mines, U.S. Department of the Interior; and the Bureau of the Census. Employment and hours based on data from the Bureau of Labor Statistics supplemented with data from the Mine Safety and Health Administration, U.S. Department of Labor.

Table 7. Copper mining, crude ore (SIC 1021): Indexes of output, employee hours, and employees, 1958-86
(1977=100)

Year	Output ¹	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	46.8	84.1	90.5	64.0	82.5	88.7	62.5
1959	42.5	76.8	80.0	67.1	69.3	72.3	60.0
1960	55.5	97.0	101.6	82.7	84.2	88.3	71.3
1961	58.8	97.4	105.0	73.4	86.3	93.0	65.0
1962	62.1	93.9	101.3	70.6	84.8	91.4	63.8
1963	60.8	91.8	99.0	69.0	82.5	88.7	62.5
1964	64.6	89.4	95.9	68.8	80.7	86.3	62.5
1965	72.3	100.0	108.5	73.0	89.3	96.5	66.2
1966	78.2	106.1	115.4	76.8	94.9	102.4	71.3
1967	53.3	85.3	83.1	92.3	75.6	74.6	78.7
1968	71.0	102.0	101.3	104.4	83.6	83.2	85.0
1969	93.0	119.4	126.0	98.5	100.0	105.1	83.7
1970	106.6	125.7	133.2	102.4	109.2	114.5	92.5
1971	99.8	115.2	116.8	110.3	102.0	103.1	98.7
1972	109.2	118.9	126.4	95.6	111.3	116.4	95.0
1973	117.3	127.5	137.0	97.4	120.0	126.2	100.0
1974	117.2	136.7	142.9	117.3	130.0	135.2	113.7
1975	103.8	119.1	120.2	115.8	116.0	117.2	112.5
1976	110.6	111.5	112.9	107.3	109.2	109.8	107.5
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	101.5	92.5	92.9	91.3	89.3	89.5	88.8
1979	118.0	106.2	110.1	102.2	99.1	100.0	96.2
1980	94.4	94.9	95.4	93.4	89.3	89.8	87.5
1981	118.3	116.0	117.0	112.6	107.1	108.6	102.5
1982	77.6	72.9	69.7	82.9	72.3	69.5	81.3
1983	76.0	58.5	54.5	71.2	56.2	52.7	67.5
1984	73.4	52.3	47.9	66.3	48.5	44.5	61.3
1985	69.3	42.2	40.1	48.6	39.0	36.7	46.3
1986 ²	72.3	35.9	36.8	33.1	33.9	34.4	32.5
Average annual percent change:							
1947-86	3.0	(³)	-1.2	(³)	-4	-9	1.9
1981-86	-7.8	-19.6	-19.5	-20.0	-19.9	-20.1	-19.4

¹ Represents output in terms of copper ore sold or treated.

² Preliminary.

³ Data not available.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Mines, U.S. Department of the Interior; and the Bureau of the Census. Employment and hours based on data from the Bureau of Labor Statistics supplemented with data from the Mine Safety and Health Administration, U.S. Department of Labor.

Table 8. Copper mining, recoverable metal (SIC 1021): Indexes of output per employee hour and output per employee, 1958-86
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	71.5	66.4	93.9	72.8	67.8	96.2
1959	65.8	63.1	75.3	72.9	69.8	84.2
1960	68.4	65.3	80.2	78.7	75.1	93.0
1961	73.5	68.2	97.5	83.0	77.0	110.2
1962	80.3	74.4	106.8	88.9	82.5	118.2
1963	81.2	75.3	108.0	90.3	84.0	119.2
1964	85.7	79.9	111.3	94.9	88.8	122.6
1965	83.3	76.8	114.1	93.3	86.3	125.8
1966	83.0	76.3	114.7	92.8	86.0	123.6
1967	69.2	71.0	63.9	78.0	79.1	75.0
1968	73.2	73.7	71.6	89.4	89.8	87.9
1969	80.6	76.3	97.7	96.2	91.5	114.9
1970	85.5	80.7	105.0	98.4	93.9	116.2
1971	82.9	81.8	86.6	93.6	92.6	96.8
1972	88.1	82.9	109.6	94.2	90.0	110.3
1973	85.8	79.9	112.3	91.2	86.7	109.4
1974	75.2	71.9	87.6	79.1	76.0	90.4
1975	77.2	76.5	79.4	79.3	78.5	81.8
1976	94.7	93.5	98.4	96.7	96.2	98.2
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	107.7	107.2	109.1	111.5	111.3	112.2
1979	98.2	96.5	104.0	107.3	106.3	110.5
1980	91.6	91.1	93.0	97.3	96.8	99.3
1981	97.7	96.8	100.6	105.8	104.3	110.5
1982	116.2	121.5	102.2	117.2	121.9	104.2
1983	130.9	140.6	107.6	136.3	145.4	113.5
1984	153.9	168.1	121.4	166.0	180.9	131.3
1985	193.1	203.2	167.7	209.0	222.1	176.0
1986 ²	236.5	230.7	256.5	250.4	246.8	261.2
Average annual percent change:						
1947-86	(³)	3.1	(³)	2.3	2.8	(⁴)
1981-86	19.1	18.9	19.7	19.5	19.8	18.8

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

³ Data not available.

⁴ Less than .05 percent.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Mines, U.S. Department of the Interior; and the Bureau of the Census. Employment and hours based on data from the Bureau of Labor Statistics supplemented with data from the Mine Safety and Health Administration, U.S. Department of Labor.

Table 9. Copper mining, recoverable metal (SIC 1021): Indexes of output, employee hours, and employees, 1958-86
(1977=100)

Year	Output ¹	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	60.1	84.1	90.5	64.0	82.5	88.7	62.5
1959	50.5	76.8	80.0	67.1	69.3	72.3	60.0
1960	66.3	97.0	101.6	82.7	84.2	88.3	71.3
1961	71.6	97.4	105.0	73.4	86.3	93.0	65.0
1962	75.4	93.9	101.3	70.6	84.8	91.4	63.8
1963	74.5	91.8	99.0	69.0	82.5	88.7	62.5
1964	76.6	89.4	95.9	68.8	80.7	86.3	62.5
1965	83.3	100.0	108.5	73.0	89.3	96.5	66.2
1966	88.1	106.1	115.4	76.8	94.9	102.4	71.3
1967	59.0	85.3	83.1	92.3	75.6	74.6	78.7
1968	74.7	102.0	101.3	104.4	83.6	83.2	85.0
1969	96.2	119.4	126.0	98.5	100.0	105.1	83.7
1970	107.5	125.7	133.2	102.4	109.2	114.5	92.5
1971	95.5	115.2	116.8	110.3	102.0	103.1	98.7
1972	104.8	118.9	126.4	95.6	111.3	116.4	95.0
1973	109.4	127.5	137.0	97.4	120.0	126.2	100.0
1974	102.8	136.7	142.9	117.3	130.0	135.2	113.7
1975	92.0	119.1	120.2	115.8	116.0	117.2	112.5
1976	105.6	111.5	112.9	107.3	109.2	109.8	107.5
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	99.6	92.5	92.9	91.3	89.3	89.5	88.8
1979	106.3	108.2	110.1	102.2	99.1	100.0	96.2
1980	86.9	94.9	95.4	93.4	89.3	89.8	87.5
1981	113.3	116.0	117.0	112.6	107.1	108.6	102.5
1982	84.7	72.9	69.7	82.9	72.3	69.5	81.3
1983	76.6	58.5	54.5	71.2	56.2	52.7	67.5
1984	80.5	52.3	47.9	66.3	48.5	44.5	61.3
1985	81.5	42.2	40.1	48.6	39.0	36.7	46.3
1986 ²	84.9	35.9	36.8	33.1	33.9	34.4	32.5
Average annual percent change:							
1947-86	1.8	(³)	-1.2	(³)	-4	-9	1.9
1981-86	-4.2	-19.6	-19.5	-20.0	-19.9	-20.1	-19.4

¹ Represents output in terms of copper recovered from copper ore, old tailings, and precipitates.

² Preliminary.

³ Data not available.

NOTE: Because of periodic revisions in source data, the measures in this table may

differ from those previously published.

SOURCE: Output based on data from the Bureau of Mines, U.S. Department of the Interior; and the Bureau of the Census. Employment and hours based on data from the Bureau of Labor Statistics supplemented with data from the Mine Safety and Health Administration, U.S. Department of Labor.

Table 10. Coal mining (SIC 111, 121): Indexes of output per employee hour and output per employee, 1958-86
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	85.3	80.1	133.3	67.4	63.4	106.6
1959	86.3	82.4	118.6	73.3	70.0	101.3
1960	91.7	88.4	117.5	78.1	75.3	99.8
1961	101.5	98.3	124.1	87.0	84.3	106.3
1962	103.9	105.4	133.5	96.3	93.2	118.0
1963	115.0	110.7	147.5	106.7	103.1	133.3
1964	121.6	117.4	151.7	113.5	109.8	140.3
1965	128.3	125.0	152.8	122.6	119.6	144.7
1966	134.7	132.0	153.4	130.7	128.2	147.1
1967	137.4	134.4	155.9	133.1	130.6	149.1
1968	143.5	141.8	155.1	137.6	136.0	147.7
1969	144.7	142.4	157.9	137.4	135.6	149.4
1970	141.1	137.5	165.4	137.1	133.8	159.7
1971	129.5	130.1	126.2	125.9	125.9	120.6
1972	124.4	121.4	143.5	121.4	119.1	136.1
1973	125.5	123.7	137.2	119.8	118.3	128.4
1974	122.5	121.3	130.0	109.9	109.1	115.3
1975	105.3	104.7	109.2	99.6	99.2	102.3
1976	103.1	102.8	104.7	98.4	98.4	98.6
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	106.4	109.6	91.6	103.2	106.7	86.9
1979	99.4	101.3	90.2	97.3	99.6	86.2
1980	112.5	115.3	98.9	108.8	112.1	93.2
1981	122.2	125.6	105.9	118.4	121.9	100.9
1982	119.2	123.8	98.5	114.0	118.7	92.5
1983	136.1	143.6	105.5	129.9	137.8	98.1
1984	151.3	158.2	120.8	147.1	155.0	114.3
1985	154.0	160.0	127.4	151.7	158.4	121.7
1986 ²	166.7	172.8	139.0	162.2	169.1	131.2
Average annual percent change:						
1947-86	(³)	3.0	(³)	3.1	3.5	-8
1981-86	7.2	7.3	6.7	7.6	7.8	6.8

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

³ Data not available.

NOTE: Because of periodic revisions in source data, the measures in this table may

differ from those previously published.

SOURCE: Output based on data from the Energy Information Administration, U.S. Department of Energy; and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics supplemented with data from the Mine Safety and Health Administration, U.S. Department of Labor.

Table 11. Coal mining (SIC 111, 121): Indexes of output, employee hours, and employees, 1958-86
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	64.4	75.5	80.4	48.3	95.5	101.6	60.4
1959	64.5	74.7	78.3	54.4	88.0	92.2	63.7
1960	64.5	70.3	73.0	54.9	82.6	85.7	64.6
1961	62.3	61.4	63.4	50.2	71.6	73.9	58.6
1962	64.9	59.6	61.6	48.6	67.4	69.6	55.0
1963	70.5	61.3	63.7	47.8	66.1	68.4	52.9
1964	74.2	61.0	63.2	48.9	65.4	67.6	52.9
1965	77.0	60.0	61.6	50.4	62.8	64.4	53.2
1966	79.6	59.1	60.3	51.9	60.9	62.1	54.1
1967	82.0	59.7	61.0	52.6	61.6	62.8	55.0
1968	80.8	56.3	57.0	52.1	58.7	59.4	54.7
1969	82.6	57.1	58.0	52.3	60.1	60.9	55.3
1970	88.3	62.6	64.2	53.4	64.4	66.0	55.3
1971	80.8	62.4	62.1	64.0	64.6	64.2	67.0
1972	86.7	69.7	71.4	60.4	71.4	72.8	63.7
1973	86.0	68.5	69.5	62.7	71.8	72.7	67.0
1974	87.6	71.5	72.2	67.4	79.7	80.3	76.0
1975	94.0	89.3	89.8	86.1	94.4	94.8	91.9
1976	98.3	95.3	95.6	93.9	99.9	99.9	99.7
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	96.0	90.2	87.6	104.8	93.0	90.0	110.5
1979	111.8	112.5	110.4	124.0	114.9	112.3	129.7
1980	118.9	105.7	103.1	120.2	109.3	106.1	127.6
1981	117.9	96.5	93.9	111.3	99.6	96.7	116.8
1982	119.7	100.4	96.7	121.5	105.0	100.8	129.4
1983	111.6	82.0	77.7	105.8	85.9	81.0	113.8
1984	127.7	84.4	80.7	105.7	86.8	82.4	111.7
1985	126.1	81.9	78.8	99.0	83.1	79.6	103.6
1986 ¹	126.5	75.9	73.2	91.0	78.0	74.8	96.4
Average annual percent change:							
1947-86	1.2	(²)	-1.8	(²)	-1.8	-2.3	2.1
1981-86	1.9	-5.0	-5.1	-4.5	-5.3	-5.5	-4.6

¹ Preliminary.

² Data not available.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Energy Information Administration, U.S. Department of Energy; and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics supplemented with data from the Mine Safety and Health Administration, U.S. Department of Labor.

Table 12. Bituminous coal and lignite mining (SIC 121): Indexes of output per employee hour and output per employee, 1958-86
(1977 = 100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	85.6	80.3	135.6	68.3	64.1	109.2
1959	86.4	82.3	119.4	74.1	70.7	102.6
1960	92.3	88.6	119.5	79.2	76.2	102.4
1961	102.3	99.0	125.4	87.9	85.2	107.8
1962	109.3	105.7	134.0	96.8	93.9	118.9
1963	114.9	110.7	147.3	106.8	103.3	133.9
1964	122.0	118.1	148.8	114.8	111.0	142.2
1965	129.3	126.0	151.5	124.7	121.5	146.7
1966	135.2	132.6	151.1	132.2	129.7	147.6
1967	138.0	135.0	157.0	134.3	131.8	151.0
1968	144.0	142.2	155.6	138.4	137.0	148.3
1969	145.3	143.0	159.0	138.9	137.0	150.7
1970	142.3	138.4	167.7	138.6	135.2	162.1
1971	131.0	131.4	128.3	126.2	127.0	122.4
1972	124.6	121.6	144.2	121.6	119.3	136.9
1973	126.3	124.4	137.6	120.2	118.7	129.1
1974	123.0	121.8	130.7	110.1	109.3	115.3
1975	105.2	104.5	109.7	99.5	98.9	102.5
1976	103.0	102.7	104.7	98.4	98.3	99.1
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	106.7	109.8	92.1	103.3	106.9	87.0
1979	99.6	101.4	90.1	97.5	98.8	86.1
1980	112.6	115.5	98.8	108.9	112.1	93.0
1981	122.7	126.2	106.2	118.9	122.6	101.2
1982	120.0	124.8	98.7	114.9	119.8	92.9
1983	136.9	144.6	105.3	131.0	138.9	98.4
1984	152.3	159.5	121.9	148.6	156.4	115.3
1985	154.6	160.5	128.1	152.8	159.5	123.0
1986 ²	168.1	174.3	140.4	164.0	170.8	133.2
Average annual percent change:						
1947-86	(³)	3.0	(³)	3.1	3.5	-1.1
1981-86	7.2	7.3	6.9	7.7	7.8	7.0

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

³ Data not available.

NOTE: Because of periodic revisions in source data, the measures in this table may

differ from those previously published.

SOURCE: Output based on data from the Energy Information Administration, U.S.

Department of Energy. Employment and hours based on data from the Bureau of Labor Statistics supplemented with data from the Mine Safety and Health Administration, U.S. Department of Labor.

Table 13. Bituminous coal and lignite mining (SIC 121): Indexes of output, employee hours, and employees, 1958-86
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	59.4	69.4	74.0	43.8	87.0	92.6	54.4
1959	59.6	69.0	72.4	49.9	80.4	84.3	58.1
1960	60.1	65.1	67.8	50.3	75.9	78.9	58.7
1961	58.3	57.0	58.9	46.5	66.3	68.4	54.1
1962	61.1	55.9	57.8	45.6	63.1	65.1	51.4
1963	66.3	57.7	59.9	45.0	62.1	64.2	49.5
1964	70.4	57.7	59.6	47.3	61.3	63.4	49.5
1965	74.1	57.3	58.8	48.9	59.4	61.0	50.5
1966	77.2	57.1	58.2	51.1	58.4	59.5	52.3
1967	79.9	57.9	59.2	50.9	59.5	60.6	52.9
1968	78.9	54.8	55.5	50.7	57.0	57.6	53.2
1969	81.1	55.8	56.7	51.0	58.4	59.2	53.8
1970	87.2	61.3	63.0	52.0	62.9	64.5	53.8
1971	79.9	61.0	60.8	62.3	63.3	62.9	65.3
1972	86.1	69.1	70.8	59.7	70.8	72.2	62.9
1973	85.6	67.8	68.8	62.2	71.2	72.1	66.3
1974	87.3	71.0	71.7	66.8	79.3	79.9	75.7
1975	93.8	89.2	89.8	85.5	94.3	94.8	91.5
1976	98.2	95.3	95.6	93.8	99.8	99.9	99.1
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	96.2	90.2	87.6	104.4	93.1	90.0	110.6
1979	112.3	112.8	110.7	124.6	115.2	112.5	130.4
1980	119.1	105.8	103.1	120.5	109.4	106.2	128.0
1981	118.4	96.5	93.8	111.5	99.6	96.6	117.0
1982	120.6	100.5	96.6	122.2	105.0	100.7	129.8
1983	112.5	82.2	77.8	106.8	85.9	81.0	114.3
1984	129.0	84.7	80.9	105.8	86.8	82.5	111.9
1985	127.1	82.2	79.2	99.2	83.2	79.7	103.3
1986 ¹	127.9	76.1	73.4	91.1	78.0	74.9	96.0
Average annual percent change:							
1947-86	1.7	(²)	-1.3	(²)	-1.3	-1.8	2.8
1981-86	2.0	-4.9	-5.0	-4.6	-5.3	-5.4	-4.7

¹ Preliminary.

² Data not available.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Energy Information Administration, U.S.

Department of Energy. Employment and hours based on data from the Bureau of Labor Statistics supplemented with data from the Mine Safety and Health Administration, U.S. Department of Labor.

Table 14. Nonmetallic minerals, except fuels (SIC 14): Indexes of output per employee hour and output per employee, 1958-86
(1977 = 100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	60.4	57.0	77.6	58.7	55.4	76.2
1959	61.5	58.1	79.9	61.4	57.8	80.5
1960	61.6	58.5	77.1	60.5	57.4	76.2
1961	64.2	61.3	78.1	63.3	60.4	78.2
1962	67.5	64.3	83.2	67.1	63.9	82.8
1963	70.3	67.5	83.3	70.5	67.5	84.3
1964	73.6	70.9	86.5	74.7	71.7	88.8
1965	75.2	72.0	90.6	77.2	73.8	94.2
1966	78.9	75.4	94.9	80.9	77.4	97.4
1967	77.9	75.2	89.5	79.1	76.3	91.9
1968	84.7	81.7	97.2	85.2	82.4	98.5
1969	86.9	83.8	100.9	88.9	85.8	103.6
1970	89.7	86.8	102.2	89.9	87.2	102.5
1971	89.1	87.1	96.8	89.6	87.7	97.7
1972	92.6	90.7	100.0	92.4	91.1	98.5
1973	97.2	96.0	101.6	99.4	98.2	105.4
1974	93.6	92.9	96.1	95.0	93.8	99.8
1975	90.6	91.6	86.5	89.4	89.6	88.9
1976	96.2	96.4	95.1	95.2	95.5	94.2
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	104.8	104.4	106.2	105.3	104.9	106.7
1979	102.7	102.4	103.6	103.7	103.4	105.1
1980	96.5	98.0	91.3	94.6	95.8	90.5
1981	94.7	98.1	83.4	91.6	94.6	81.5
1982	89.3	93.5	76.1	85.7	89.6	73.9
1983	98.2	102.6	84.4	95.9	100.3	82.2
1984	105.5	109.1	93.5	105.3	109.3	92.5
1985	107.6	111.5	94.6	106.9	111.3	93.1
1986 ²	108.7	112.5	96.5	107.9	112.0	94.7
Average annual percent change:						
1954-86	(?)	2.5	(?)	2.1	2.5	.5
1981-86	3.8	3.7	4.3	4.6	4.6	4.6

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

³ Data not available.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

differ from those previously published.

SOURCE: Output based on data from the Bureau of Mines, U.S. Department of the Interior; the Bureau of the Census; and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics supplemented with data from the Mine Safety and Health Administration, U.S. Department of Labor.

Table 15. Nonmetallic minerals, except fuels (SIC 14): Indexes of output, employee hours, and employees, 1958-86
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	58.2	96.4	102.1	75.0	99.2	105.1	76.4
1959	63.8	103.7	109.9	79.8	103.9	110.4	79.3
1960	64.2	104.2	109.7	83.3	106.1	111.9	84.3
1961	65.5	102.0	106.8	83.9	103.4	108.4	83.8
1962	68.4	101.3	106.3	82.2	101.9	107.0	82.6
1963	71.1	101.2	105.4	85.4	100.9	105.3	84.3
1964	74.9	101.7	105.6	86.6	100.3	104.5	84.3
1965	79.7	106.0	110.7	88.0	103.2	108.0	84.6
1966	84.5	107.1	112.0	89.0	104.5	109.2	86.8
1967	81.6	104.8	108.5	91.2	103.2	107.0	88.8
1968	85.5	101.0	104.6	88.0	100.3	103.7	86.8
1969	88.2	101.5	105.2	87.4	99.2	102.8	85.1
1970	89.0	99.2	102.5	87.1	99.0	102.1	86.8
1971	88.8	99.7	102.0	91.7	99.1	101.2	90.9
1972	92.7	100.1	102.2	92.7	100.3	101.8	94.1
1973	101.8	104.7	106.0	100.2	102.4	103.7	96.6
1974	99.8	106.6	107.4	103.8	105.1	106.4	100.0
1975	90.0	99.3	98.2	104.0	100.7	100.5	101.2
1976	94.2	97.9	97.7	99.1	98.9	98.6	100.0
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	107.6	102.7	103.1	101.3	102.2	102.6	100.8
1979	110.8	107.9	108.2	107.0	106.8	107.2	105.4
1980	100.2	103.8	102.2	109.7	105.9	104.6	110.7
1981	93.7	98.9	95.5	112.3	102.3	99.0	114.9
1982	81.2	90.9	86.8	106.7	94.7	90.6	109.9
1983	86.3	87.9	84.1	102.3	90.0	86.0	105.0
1984	98.6	93.5	90.4	105.4	93.6	90.2	106.6
1985	101.6	94.4	91.1	107.4	95.0	91.3	109.1
1986 ¹	101.0	92.9	89.8	104.7	93.6	90.2	106.6
Average annual percent change:							
1954-86	2.0	(?)	-4	(?)	-1	-4	1.5
1981-86	3.4	-4	-3	-9	-1.1	-1.1	-1.1

¹ Preliminary.

² Data not available.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Mines, U.S. Department of the Interior; the Bureau of the Census; and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics supplemented with data from the Mine Safety and Health Administration, U.S. Department of Labor.

Table 16. Crushed and broken stone (SIC 142): Indexes of output per employee hour and output per employee, 1958-86
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	53.6	52.1	62.1	53.1	51.7	60.9
1959	55.1	53.6	64.0	56.2	54.7	64.4
1960	55.5	54.3	62.5	55.2	54.0	61.8
1961	56.6	55.3	64.5	57.0	55.6	64.5
1962	59.6	57.8	70.6	60.4	58.7	70.3
1963	61.7	60.3	69.7	63.2	61.8	70.6
1964	66.6	65.3	74.1	68.4	67.0	76.1
1965	69.9	68.0	81.2	73.6	71.7	84.4
1966	74.2	72.4	84.9	78.0	76.4	87.0
1967	74.0	72.9	79.9	77.0	76.0	82.1
1968	80.5	79.1	87.7	83.2	82.0	88.9
1969	82.2	80.6	91.8	86.2	84.7	94.3
1970	83.1	82.6	85.3	84.9	84.8	85.6
1971	80.9	81.3	78.9	83.3	84.0	79.7
1972	85.5	84.8	88.8	86.2	86.0	87.5
1973	94.0	93.9	94.6	97.7	97.7	98.0
1974	92.1	92.7	88.8	95.2	95.8	92.2
1975	91.4	93.7	81.8	90.1	91.5	84.1
1976	93.7	94.3	90.6	93.3	94.1	89.8
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	108.3	107.1	114.1	109.8	108.8	114.7
1979	106.9	105.4	114.7	109.8	108.5	116.5
1980	101.3	101.1	102.5	100.6	100.4	101.6
1981	96.7	99.0	87.1	93.7	95.7	85.1
1982	94.1	98.6	77.0	91.2	95.6	74.7
1983	103.9	109.6	82.8	102.2	108.1	80.6
1984	105.8	109.8	89.9	107.2	111.9	88.8
1985	104.5	106.5	95.4	106.3	109.3	93.9
1986 ²	104.8	106.9	95.3	106.8	110.1	93.6
Average annual percent change:						
1958-86	2.6	2.8	1.4	2.5	2.8	1.4
1981-86	2.1	1.8	3.4	3.4	3.3	3.7

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may

differ from those previously published.

SOURCE: Output based on data from the Bureau of Mines, U.S. Department of the Interior; the Bureau of the Census; and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics supplemented with data from the Mine Safety and Health Administration, U.S. Department of Labor.

Table 17. Crushed and broken stone (SIC 142): Indexes of output, employee hours, and employees, 1958-86
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	54.6	101.9	104.7	87.9	102.9	105.6	89.6
1959	59.6	108.1	111.1	93.1	106.1	109.0	92.6
1960	61.8	111.3	113.9	98.9	112.0	114.4	100.0
1961	60.6	107.0	109.6	94.0	106.4	109.0	94.0
1962	64.0	107.4	110.8	90.7	105.9	109.0	91.0
1963	66.4	107.7	110.2	95.3	105.1	107.4	94.0
1964	70.5	105.8	108.0	95.1	103.1	105.3	92.6
1965	76.8	109.9	113.0	94.6	104.4	107.1	91.0
1966	81.8	110.2	113.0	96.4	104.9	107.1	94.0
1967	78.4	106.0	107.6	98.1	101.8	103.1	95.5
1968	83.6	103.9	105.7	95.3	100.5	101.9	94.0
1969	87.3	106.2	108.3	95.1	101.3	103.1	92.6
1970	88.2	106.2	106.8	103.4	103.9	104.0	103.0
1971	89.2	110.2	109.7	113.0	107.1	106.2	111.9
1972	94.0	110.0	110.9	105.8	109.0	109.3	107.4
1973	108.2	115.1	115.2	114.4	110.7	110.7	110.4
1974	107.3	116.5	115.7	120.9	112.7	112.0	116.4
1975	94.1	102.9	100.4	115.0	104.4	102.8	111.9
1976	93.8	100.1	99.5	103.5	100.5	99.7	104.5
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	109.5	101.1	102.2	96.0	99.7	100.6	95.5
1979	114.8	107.4	108.9	100.1	104.6	105.8	98.5
1980	101.6	100.3	100.5	99.1	101.0	101.2	100.0
1981	88.9	91.9	89.8	102.1	94.9	92.9	104.5
1982	80.3	85.3	81.4	104.3	88.0	84.0	107.5
1983	87.9	84.6	80.2	106.2	86.0	81.3	109.0
1984	96.8	91.5	88.2	107.7	90.3	86.5	109.0
1985	102.3	97.9	96.1	107.2	96.2	93.6	109.0
1986 ¹	104.7	99.9	97.9	109.9	98.0	95.1	111.9
Average annual percent change:							
1958-86	2.0	-6	-8	.6	-5	-7	.7
1981-86	4.8	2.6	3.0	1.3	1.4	1.4	1.1

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Mines, U.S. Department of the

Interior; the Bureau of the Census; and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics supplemented with data from the Mine Safety and Health Administration, U.S. Department of Labor.

Table 18. Red meat products (SIC 2011, 2013): Indexes of output per employee hour and output per employee, 1967-86
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1967	74.8	76.5	69.0	76.3	78.4	69.7
1968	76.6	76.6	76.5	76.8	78.5	71.2
1969	75.7	76.1	74.3	76.0	77.8	70.3
1970	77.3	77.0	78.5	78.1	78.9	75.4
1971	79.3	78.1	84.6	80.6	80.0	82.9
1972	85.0	84.1	88.7	85.3	84.5	88.6
1973	82.8	83.0	81.7	82.5	82.6	82.0
1974	84.5	84.6	84.4	85.6	85.8	84.9
1975	84.4	85.0	82.2	84.5	85.0	82.6
1976	93.4	93.6	92.2	94.3	94.8	92.4
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	98.8	98.7	99.4	98.3	97.9	99.4
1979	101.7	100.8	104.9	101.9	101.1	104.9
1980	107.0	106.0	111.3	106.3	104.9	111.3
1981	107.9	106.3	114.9	107.5	105.6	114.9
1982	112.3	110.9	117.6	111.1	109.5	117.6
1983	115.9	115.0	119.5	115.2	114.1	119.5
1984	117.0	115.3	123.6	115.7	113.6	123.6
1985	119.5	117.6	127.1	118.8	116.7	127.1
1986 ²	122.1	119.5	132.9	120.7	117.7	132.9
Average annual percent change:						
1967-86	2.9	2.8	3.4	2.8	2.5	3.6
1981-86	2.4	2.2	2.9	2.3	2.1	2.9

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census, the Bureau of Labor Statistics, and the U.S. Department of Agriculture.

Table 19. Red meat products (SIC 2011, 2013): Indexes of output, employee hours, and employees, 1967-86
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1967	76.5	102.3	100.0	110.8	100.2	97.6	109.7
1968	77.3	100.9	100.9	101.1	100.7	98.5	108.6
1969	76.2	100.6	100.1	102.6	100.2	98.0	108.4
1970	78.3	101.3	101.7	99.8	100.2	99.3	103.8
1971	81.8	103.1	104.8	96.7	101.5	102.3	98.7
1972	84.9	99.9	101.0	95.7	99.5	100.5	95.8
1973	78.2	94.5	94.2	95.7	94.8	94.7	95.4
1974	85.2	100.8	100.7	101.0	99.5	99.3	100.4
1975	82.3	97.5	96.8	100.1	97.4	96.8	99.6
1976	92.8	99.4	99.1	100.6	98.4	97.9	100.4
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	97.1	98.3	98.4	97.7	98.8	99.2	97.7
1979	97.9	96.3	97.1	93.3	96.1	96.8	93.3
1980	101.4	94.8	95.7	91.1	95.4	96.7	91.1
1981	100.5	93.1	94.5	87.5	93.5	95.2	87.5
1982	100.7	89.7	90.8	85.6	90.6	92.0	85.6
1983	102.9	88.8	89.5	86.1	89.3	90.2	86.1
1984	104.1	89.0	90.3	84.2	90.0	91.6	84.2
1985	105.6	88.4	89.8	83.1	88.9	90.5	83.1
1986 ¹	107.1	87.7	89.6	80.6	88.7	91.0	80.6
Average annual percent change:							
1967-86	2.0	-8	-7	-1.3	-7	-5	-1.5
1981-86	1.4	-1.0	-8	-1.5	-9	-7	-1.5

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census, the Bureau of Labor Statistics, and the U.S. Department of Agriculture.

Table 20. Meat packing plants (SIC 2011): Indexes of output per employee hour and output per employee, 1967-86
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1967	73.6	76.1	64.4	74.6	77.4	65.0
1968	76.1	77.1	71.8	76.1	78.8	66.9
1969	76.3	77.6	71.2	76.4	78.9	67.4
1970	78.7	79.0	77.5	79.6	80.9	74.6
1971	79.8	78.6	85.0	81.3	80.9	83.4
1972	87.1	86.0	91.8	87.2	86.2	91.7
1973	88.7	88.7	88.4	88.2	88.0	88.7
1974	88.1	87.6	89.7	89.0	88.7	90.3
1975	88.6	88.6	88.7	88.2	88.0	89.1
1976	97.5	97.4	97.7	97.9	97.9	97.9
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	100.9	100.9	100.9	100.4	100.2	100.9
1979	104.6	103.9	108.2	104.6	103.9	108.2
1980	108.9	107.4	115.8	108.3	106.6	115.8
1981	113.9	111.9	123.4	113.3	111.1	123.4
1982	119.5	117.6	129.2	118.6	116.3	129.2
1983	123.4	122.4	128.4	122.5	121.2	128.4
1984	125.6	122.9	138.4	123.6	120.6	138.4
1985	130.1	126.5	148.0	128.6	124.7	148.0
1986 ²	131.7	127.3	155.7	129.9	124.8	155.7
Average annual percent change:						
1967-86	3.3	3.1	4.3	3.2	2.8	4.5
1981-86	2.9	2.5	4.8	2.7	2.3	4.8

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census, the Bureau of Labor Statistics, and the U.S. Department of Agriculture.

Table 21. Meat packing plants (SIC 2011): Indexes of output, employee hours, and employees, 1967-86
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1967	81.3	110.5	106.8	126.3	109.0	105.1	125.1
1968	82.3	108.2	106.7	114.6	108.1	104.5	123.0
1969	81.9	107.3	105.5	115.0	107.2	103.8	121.5
1970	84.1	106.8	106.5	108.5	105.7	104.0	112.8
1971	85.9	107.7	109.3	101.0	105.6	106.2	103.0
1972	88.1	101.2	102.4	96.0	101.0	102.2	96.1
1973	83.1	93.7	93.7	94.0	94.2	94.4	93.7
1974	89.2	101.3	101.8	99.4	100.2	100.6	98.8
1975	86.4	97.5	97.5	97.4	98.0	98.2	97.0
1976	97.3	99.8	99.9	99.6	99.4	99.4	99.4
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	98.2	97.3	97.3	97.3	97.8	98.0	97.3
1979	99.1	94.7	95.4	91.6	94.7	95.4	91.6
1980	101.3	93.0	94.3	87.5	93.5	95.0	87.5
1981	102.4	89.9	91.5	83.0	90.4	92.2	83.0
1982	101.8	85.2	86.6	78.8	85.8	87.5	78.8
1983	102.3	82.9	83.6	79.7	83.5	84.4	79.7
1984	104.1	82.9	84.7	75.2	84.2	86.3	75.2
1985	105.1	80.8	83.1	71.0	81.7	84.3	71.0
1986 ¹	104.6	79.4	82.2	67.2	80.5	83.8	67.2
Average annual percent change:							
1967-86	1.6	-1.7	-1.5	-2.6	-1.6	-1.2	-2.8
1981-86 .....	.6	-2.2	-1.8	-4.0	-2.0	-1.6	-4.0

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census, the Bureau of Labor Statistics, and the U.S. Department of Agriculture.

Table 22. Sausages and other prepared meats (SIC 2013): Indexes of output per employee hour and output per employee, 1967-86
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1967	79.2	80.1	76.9	81.5	83.1	77.8
1968	78.9	77.2	83.8	78.9	79.2	78.1
1969	73.8	72.9	76.5	74.4	75.1	72.5
1970	72.8	72.0	75.1	73.1	73.5	72.2
1971	78.8	78.2	80.4	78.6	78.4	78.8
1972	80.2	79.8	81.4	81.0	80.8	81.3
1973	69.1	69.7	67.6	69.3	69.8	67.8
1974	76.7	78.2	73.1	77.7	79.3	73.6
1975	74.8	77.0	69.6	75.8	78.4	69.9
1976	84.2	85.6	80.5	85.8	87.9	80.7
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	93.8	93.1	95.8	93.1	92.1	95.8
1979	95.0	93.8	98.4	95.4	94.2	98.4
1980	102.3	101.6	104.2	101.4	100.3	104.2
1981	95.0	93.1	100.4	94.5	92.5	100.4
1982	96.5	95.2	100.5	95.7	94.0	100.5
1983	100.0	97.7	106.4	100.2	98.0	106.4
1984	99.5	98.1	103.6	99.3	97.8	103.6
1985	98.8	97.7	101.8	99.7	98.9	101.8
1986 ²	102.2	100.5	107.0	102.6	101.0	107.0
Average annual percent change:						
1967-86	2.0	1.9	2.2	1.9	1.7	2.4
1981-86	1.2	1.3	.9	1.5	1.7	.9

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census, the Bureau of Labor Statistics, and the U.S. Department of Agriculture.

Table 23. Sausages and other prepared meats (SIC 2013): Indexes of output, employee hours, and employees, 1967-86
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1967	64.3	81.2	80.3	83.6	78.9	77.4	82.7
1968	65.0	82.4	84.2	77.6	82.4	82.1	83.2
1969	61.8	83.7	84.8	80.8	83.1	82.3	85.3
1970	63.5	87.2	88.2	84.6	86.9	86.4	88.0
1971	71.8	91.1	91.8	89.3	91.4	91.6	91.1
1972	77.5	96.6	97.1	95.2	95.7	95.9	95.3
1973	66.7	96.5	95.7	98.7	96.3	95.5	98.4
1974	75.9	98.9	97.1	103.8	97.7	95.7	103.1
1975	72.8	97.3	94.6	104.6	96.0	92.9	104.2
1976	82.4	97.9	96.3	102.3	96.0	93.7	102.1
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	94.3	100.5	101.3	98.4	101.3	102.4	98.4
1979	94.8	99.8	101.1	96.3	99.4	100.6	96.3
1980	101.5	99.2	99.9	97.4	100.1	101.2	97.4
1981	95.7	100.7	102.8	95.3	101.3	103.5	95.3
1982	97.9	101.4	102.8	97.4	102.3	104.1	97.4
1983	103.6	103.6	106.0	97.4	103.4	105.7	97.4
1984	103.6	104.1	105.6	100.0	104.3	105.9	100.0
1985	106.1	107.4	108.6	104.2	106.4	107.3	104.2
1986 ¹	111.5	109.1	111.0	104.2	108.7	110.4	104.2
Average annual percent change:							
1967-86	3.3	1.3	1.4	1.1	1.4	1.6	.9
1981-86	2.9	1.7	1.6	1.9	1.4	1.2	1.9

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census, the Bureau of Labor Statistics, and the U.S. Department of Agriculture.

Table 24. Poultry dressing and processing plants (SIC 2016, 2017): Indexes of output per employee hour and output per employee, 1963-85
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	73.4	71.9	88.4	74.4	73.1	88.0
1964	75.1	73.8	89.3	77.2	75.8	89.9
1965	75.2	73.9	88.5	78.7	77.6	88.7
1966	74.1	72.6	89.6	78.1	77.0	89.2
1967	80.6	78.7	101.5	83.6	81.9	100.8
1968	77.9	76.2	95.6	79.8	78.7	90.6
1969	76.8	74.9	97.0	79.9	78.6	92.8
1970	78.3	76.5	98.4	82.3	80.9	95.6
1971	85.5	84.2	97.7	87.1	86.0	96.9
1972	88.1	86.4	106.5	92.7	91.2	106.9
1973	77.5	76.0	91.9	80.1	78.9	93.0
1974	87.3	87.2	88.0	90.1	90.3	89.3
1975	87.9	88.6	81.6	88.5	89.3	82.5
1976	98.6	100.2	86.7	99.7	101.3	87.8
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	101.3	99.8	115.4	101.9	100.6	115.4
1979	106.1	105.6	111.5	107.7	107.2	112.0
1980	105.7	105.5	108.2	106.2	105.9	108.9
1981	116.4	114.5	135.4	115.3	113.4	135.7
1982	125.6	124.4	136.8	127.3	126.1	137.3
1983	131.7	130.7	140.4	134.1	133.4	140.3
1984	130.3	129.8	135.1	133.1	132.7	135.6
1985 ²	133.2	131.8	146.4	136.3	135.2	146.7
Average annual percent change:						
1963-85	2.9	3.0	2.1	2.8	2.9	2.2
1981-85	3.1	3.3	1.4	3.9	4.1	1.4

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 25. Poultry dressing and processing plants (SIC 2016, 2017): Indexes of output, employee hours, and employees, 1963-85
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	53.3	72.6	74.1	60.3	71.6	72.9	60.6
1964	56.2	74.8	76.2	62.9	72.8	74.1	62.5
1965	58.0	77.1	78.5	65.5	73.7	74.7	65.4
1966	60.0	81.0	82.7	67.0	76.8	77.9	67.3
1967	72.7	90.2	92.4	71.6	87.0	88.8	72.1
1968	71.4	91.7	93.7	74.7	89.5	90.7	78.8
1969	75.0	97.7	100.1	77.3	93.9	95.4	80.8
1970	78.1	99.7	102.1	79.4	94.9	96.5	81.7
1971	80.1	93.7	95.1	82.0	92.0	93.1	82.7
1972	87.3	99.1	101.1	82.0	94.2	95.7	81.7
1973	78.7	101.5	103.5	85.6	98.2	99.8	84.6
1974	88.4	101.3	101.4	100.5	98.1	97.9	99.0
1975	83.3	94.8	94.0	102.1	94.1	93.3	101.0
1976	98.8	100.2	98.6	113.9	99.1	97.5	112.5
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	106.5	105.1	106.7	92.3	104.5	105.9	92.3
1979	119.5	112.6	113.2	107.2	111.0	111.5	106.7
1980	127.7	120.8	121.1	118.0	120.2	120.6	117.3
1981	140.9	121.1	123.1	104.1	122.2	124.3	103.8
1982	153.1	121.9	123.1	111.9	120.3	121.4	111.5
1983	159.2	120.9	121.8	113.4	118.7	119.3	113.5
1984	152.5	117.0	117.5	112.9	114.6	114.9	112.5
1985 ¹	162.2	121.8	123.1	110.8	119.0	120.0	110.6
Average annual percent change:							
1963-85	5.2	2.2	2.1	3.1	2.4	2.3	3.0
1981-85	2.8	-3	-5	1.3	-1.0	-1.2	1.4

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 26. Fluid milk (SIC 2026): Indexes of output per employee hour, output per employee, output, employee hours, and employees, 1958-85
(1977=100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees
Index:					
1958	48.5	48.4	89.8	185.0	185.6
1959	49.8	49.7	92.0	184.9	185.0
1960	50.9	50.8	93.3	183.2	183.8
1961	51.9	51.8	93.7	180.7	180.8
1962	54.2	53.8	95.3	175.8	177.3
1963	57.4	56.8	98.6	171.8	173.7
1964	58.6	57.9	100.0	170.7	172.6
1965	59.3	58.7	99.8	168.2	170.0
1966	61.0	60.3	98.5	161.5	163.4
1967	62.9	62.2	98.1	156.0	157.7
1968	66.5	64.4	97.7	147.0	151.7
1969	69.6	67.3	98.0	140.9	145.6
1970	73.7	71.3	99.2	134.6	139.1
1971	79.4	77.3	101.1	127.3	130.8
1972	85.1	83.7	102.9	120.9	122.9
1973	88.4	87.2	100.4	113.6	115.1
1974	90.9	89.7	98.3	108.1	109.6
1975	95.5	94.3	99.4	104.1	105.4
1976	99.5	98.1	100.6	101.1	102.5
1977	100.0	100.0	100.0	100.0	100.0
1978	107.9	106.4	101.6	94.2	95.5
1979	115.6	113.5	101.5	87.8	89.4
1980	123.9	122.0	101.6	82.0	83.3
1981	128.0	125.1	99.6	77.8	79.6
1982	135.3	132.2	101.1	74.7	76.5
1983	142.4	139.5	102.4	71.9	73.4
1984	147.7	144.8	104.1	70.5	71.9
1985 ¹	152.3	150.4	106.3	69.8	70.7
Average annual percent change:					
1958-85	4.6	4.5	.4	-4.0	-4.0
1981-85	4.4	4.7	1.6	-2.7	-2.9

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Economic Research Service, U.S. Department of Agriculture; and the Bureau of the Census. Employment and hours based on data from the Bureau of Labor Statistics.

Table 27. Preserved fruits and vegetables (SIC 203): Indexes of output per employee hour and output per employee, 1958-85
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	54.7	53.7	60.4	55.3	54.2	62.2
1959	54.8	53.6	62.2	56.3	55.1	64.0
1960	58.6	57.3	68.4	60.8	59.4	69.7
1961	60.3	58.8	71.8	61.6	60.1	72.1
1962	63.2	61.5	75.6	65.4	63.8	75.5
1963	65.8	64.5	75.3	66.0	64.6	75.1
1964	67.9	66.7	75.8	68.8	67.8	75.9
1965	70.3	69.0	79.0	71.5	70.4	78.8
1966	70.0	68.7	79.0	70.9	69.7	78.6
1967	73.8	71.6	89.6	75.5	73.6	89.1
1968	75.6	73.4	91.0	75.1	73.4	86.3
1969	76.9	74.9	91.2	77.1	75.5	87.6
1970	79.7	78.6	87.3	79.6	78.7	85.0
1971	83.1	82.3	88.2	83.9	83.2	87.3
1972	84.6	83.8	89.9	85.4	84.6	90.4
1973	93.1	93.0	93.7	93.8	93.6	94.8
1974	91.7	90.4	99.9	92.6	91.2	101.2
1975	93.7	92.5	101.4	93.7	92.3	102.4
1976	100.1	99.4	105.2	98.4	97.2	106.4
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	104.1	103.6	107.0	103.4	102.7	107.2
1979	98.9	99.2	97.5	99.0	99.2	98.0
1980	100.8	102.0	94.7	102.3	103.8	95.4
1981	99.2	99.8	95.5	100.3	101.1	95.9
1982	107.9	110.1	96.6	107.1	109.2	97.0
1983	110.4	113.0	97.9	110.4	113.1	97.9
1984	113.1	114.8	104.0	113.2	114.9	104.5
1985 ²	112.6	115.6	98.6	110.6	113.1	99.0
Average annual percent change:						
1947-85	2.7	2.9	1.9	2.7	2.9	1.7
1981-85	3.1	3.4	1.4	2.5	2.8	1.4

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the National Canners Association; U.S. Department of Agriculture; the Bureau of Labor Statistics; the Bureau of Competitive Assessment and Business Policy; the National Oceanic and Atmospheric Administration; and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 28. Preserved fruits and vegetables (SIC 203): Indexes of output, employee hours, and employees, 1958-85
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	46.9	85.8	87.3	77.7	84.8	86.5	75.4
1959	47.8	87.3	89.1	76.9	84.9	86.7	74.7
1960	52.7	89.9	92.0	77.0	86.7	88.7	75.6
1961	54.0	89.5	91.9	75.2	87.6	89.8	74.9
1962	56.4	89.2	91.7	74.6	86.2	88.4	74.7
1963	58.6	89.0	90.9	77.8	88.8	90.7	78.0
1964	61.4	90.4	92.0	81.0	89.2	90.6	80.9
1965	65.1	92.6	94.3	82.4	91.0	92.5	82.6
1966	66.6	95.2	97.0	84.3	94.0	95.6	84.7
1967	71.2	96.5	99.5	79.5	94.3	96.8	79.9
1968	72.9	96.4	99.3	80.1	97.1	99.3	84.5
1969	75.7	98.4	101.1	83.0	98.2	100.3	86.4
1970	75.9	95.2	96.6	86.9	95.4	96.4	89.3
1971	80.5	96.9	97.8	91.3	95.9	96.7	92.2
1972	84.9	100.3	101.3	94.4	99.4	100.4	93.9
1973	93.5	100.4	100.5	99.8	99.7	99.9	98.6
1974	90.5	98.7	100.1	90.6	97.7	99.2	89.4
1975	88.5	94.5	95.7	87.3	94.5	95.9	86.4
1976	92.8	92.7	93.4	88.2	94.3	95.5	87.2
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	106.6	102.4	102.9	99.6	103.1	103.8	99.4
1979	102.9	104.0	103.7	105.5	103.9	103.7	105.0
1980	102.0	101.2	100.0	107.7	99.7	98.3	106.9
1981	97.2	98.0	97.4	101.8	96.9	96.1	101.4
1982	100.2	92.9	91.0	103.7	93.6	91.8	103.3
1983	100.9	91.4	89.3	103.1	91.4	89.2	103.1
1984	105.6	93.4	92.0	101.5	93.3	91.9	101.1
1985 ¹	104.2	92.5	90.1	105.7	94.2	92.1	105.3
Average annual percent change:							
1947-85	3.4	.6	.4	1.4	.6	.4	1.6
1981-85	1.9	-1.1	-1.4	.5	-6	-8	.5

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the National Canners Association; U.S.

Department of Agriculture; the Bureau of Labor Statistics; the Bureau of Competitive Assessment and Business Policy; the National Oceanic and Atmospheric Administration; and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 29. Canned fruits and vegetables (SIC 2033): Indexes of output per employee hour and output per employee, 1958-85
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	53.6	53.4	54.9	54.3	54.1	56.6
1959	52.7	51.8	60.1	54.4	53.6	61.8
1960	57.7	56.5	68.2	60.4	59.3	69.5
1961	57.9	56.5	70.0	59.4	58.2	70.4
1962	59.8	58.2	74.2	62.9	61.7	74.2
1963	66.4	65.9	70.3	66.2	65.8	70.2
1964	68.0	68.0	67.9	68.7	68.9	68.1
1965	68.6	68.6	67.7	69.4	69.7	67.6
1966	70.0	70.0	69.4	71.1	71.4	69.0
1967	72.0	70.8	81.9	75.2	74.5	81.4
1968	71.8	70.4	83.0	71.9	71.1	78.7
1969	74.9	73.4	87.3	75.7	74.7	83.8
1970	76.4	75.9	80.0	76.1	75.9	77.8
1971	78.7	78.3	81.5	80.0	79.9	80.8
1972	84.5	84.7	83.3	84.8	85.1	83.8
1973	94.4	94.2	95.2	95.2	95.2	96.4
1974	93.3	91.1	113.7	94.7	92.4	115.2
1975	92.2	90.4	107.7	93.6	91.8	108.9
1976	102.3	101.2	109.4	99.0	97.5	110.7
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	104.0	103.7	106.5	101.8	101.2	106.1
1979	101.9	103.0	94.1	103.9	105.5	94.3
1980	101.4	104.0	86.1	102.9	105.6	86.4
1981	100.7	101.5	95.3	100.6	101.5	95.3
1982	108.6	110.8	95.2	109.1	111.5	95.1
1983	112.2	115.5	92.9	112.7	116.1	92.6
1984	115.7	119.9	92.2	116.3	120.5	92.5
1985 ²	122.6	127.3	96.3	121.5	126.0	96.5
Average annual percent change:						
1958-85	3.0	3.2	1.9	2.9	3.1	1.9
1981-85	4.7	5.5	-1	4.5	5.2	(³)

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

³ Less than .05 percent.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 30. Canned fruits and vegetables (SIC 2033): Indexes of output, employee hours, and employees, 1958-85
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	71.3	133.1	133.6	129.8	131.3	131.9	126.0
1959	70.5	133.7	136.0	117.4	129.6	131.6	114.0
1960	75.8	131.3	134.1	111.1	125.6	127.8	109.0
1961	76.7	132.4	135.7	109.6	129.1	131.7	109.0
1962	79.3	132.7	136.2	106.9	126.1	128.6	106.9
1963	82.1	123.6	124.6	116.8	124.0	124.8	117.0
1964	85.1	125.1	125.1	125.4	123.9	123.6	125.0
1965	84.5	123.2	123.1	124.8	121.8	121.3	125.0
1966	86.9	124.2	124.1	125.3	122.3	121.7	126.0
1967	91.2	126.7	128.9	111.4	121.2	122.4	112.0
1968	90.5	126.1	128.5	109.1	125.9	127.3	115.0
1969	93.0	124.2	126.7	106.5	122.9	124.5	111.0
1970	88.7	116.1	116.8	110.9	116.6	116.9	114.0
1971	91.3	116.0	116.6	112.0	114.1	114.2	113.0
1972	92.2	109.1	108.9	110.7	108.7	108.4	110.0
1973	102.1	108.2	108.4	107.2	107.3	107.3	105.9
1974	97.9	104.9	107.5	86.1	103.4	105.9	85.0
1975	94.7	102.7	104.8	87.9	101.2	103.2	87.0
1976	98.5	96.3	97.3	90.0	99.5	101.0	89.0
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	101.9	98.0	98.3	95.7	100.1	100.7	96.0
1979	103.7	101.8	100.7	110.2	99.8	98.3	110.0
1980	99.4	98.0	95.6	115.5	96.6	94.1	115.0
1981	95.3	94.6	93.9	100.0	94.7	93.9	100.0
1982	93.2	85.8	84.1	97.9	85.4	83.6	98.0
1983	88.9	79.2	77.0	95.7	78.9	76.6	96.0
1984	97.1	83.9	81.0	105.3	83.5	80.6	105.0
1985 ¹	99.4	81.1	78.1	103.2	81.8	78.9	103.0
Average annual percent change:							
1958-85	1.1	-1.9	-2.0	-8	-1.8	-1.9	-8
1981-85	1.3	-3.2	-4.0	1.4	-3.1	-3.8	1.3

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 31. Grain mill products (SIC 204): Indexes of output per employee hour and output per employee, 1963-85
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	61.0	60.8	61.5	63.0	63.8	61.3
1964	64.3	64.3	64.2	66.7	67.6	64.4
1965	66.0	66.0	65.8	68.4	69.7	65.7
1966	68.8	69.2	67.7	71.0	72.6	67.4
1967	73.0	72.8	73.6	74.4	75.0	73.3
1968	77.0	75.9	80.0	77.4	78.1	75.9
1969	78.3	77.6	80.4	79.3	80.2	77.2
1970	79.7	78.9	81.9	79.8	79.9	79.7
1971	83.3	82.5	85.4	83.1	82.5	84.6
1972	85.5	84.5	87.8	87.6	87.4	88.3
1973	81.7	80.0	86.3	86.1	85.6	87.2
1974	86.4	86.0	87.2	87.3	86.9	88.4
1975	87.1	86.2	89.5	88.6	87.9	90.3
1976	91.1	91.1	91.1	92.4	92.6	92.0
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	100.2	100.8	98.7	99.9	100.4	98.6
1979	101.0	100.3	103.1	101.9	101.2	103.4
1980	105.3	105.4	105.1	105.6	105.4	105.9
1981	110.9	111.2	110.1	112.8	113.7	110.5
1982	121.0	123.2	115.6	119.2	120.6	115.9
1983	125.5	127.4	120.7	124.0	125.5	120.5
1984	132.8	136.7	123.6	130.7	133.6	124.1
1985 ²	144.9	150.4	132.0	142.5	147.4	132.5
Average annual percent change:						
1963-85	3.5	3.6	3.2	3.3	3.3	3.3
1981-85	6.5	7.3	4.4	5.8	6.4	4.4

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may

differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census; Agricultural Marketing Service, U.S. Department of Agriculture; the Rice Millers' Association; and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 32. Grain mill products (SIC 204): Indexes of output, employee hours, and employees, 1963-85
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	63.1	103.4	103.8	102.6	100.2	98.9	103.0
1964	65.2	101.4	101.4	101.5	101.5	97.8	101.2
1965	65.5	99.2	99.2	99.6	95.7	94.0	99.7
1966	68.2	99.1	98.6	100.7	96.0	93.9	101.2
1967	73.7	100.9	101.2	100.2	99.0	98.3	100.6
1968	75.4	97.9	99.3	94.3	97.4	96.6	99.4
1969	78.8	100.6	101.6	98.0	99.4	98.3	102.1
1970	79.9	100.2	101.3	97.5	100.1	100.0	100.3
1971	79.4	95.3	96.2	93.0	95.5	96.3	93.8
1972	86.4	101.1	102.2	98.4	98.6	98.8	97.9
1973	84.1	102.9	105.1	97.5	97.7	98.3	96.5
1974	88.1	102.0	102.5	101.0	100.9	101.4	99.7
1975	89.5	102.7	103.8	100.0	101.0	101.8	99.1
1976	93.7	102.9	102.9	102.9	101.4	101.2	101.8
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	102.7	102.5	101.9	104.1	102.8	102.3	104.2
1979	103.1	102.1	102.8	100.0	101.2	101.9	99.7
1980	106.5	101.1	101.0	101.3	100.9	101.0	100.6
1981	109.2	98.5	98.2	99.2	96.8	96.0	98.8
1982	113.5	93.8	92.1	98.2	95.2	94.1	97.9
1983	116.2	92.6	91.2	96.3	93.7	92.6	96.4
1984	118.5	89.2	86.7	95.9	90.7	88.7	95.5
1985 ¹	125.3	86.5	83.3	94.9	87.9	85.0	94.6
Average annual percent change:							
1963-85	3.1	-4	-5	-1	-2	-2	-2
1981-85	3.2	-3.1	-3.8	-1.1	-2.4	-3.0	-1.1

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census; Agricultural

Marketing Service, U.S. Department of Agriculture; the Rice Millers' Association; and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 33. Flour (including flour mixes) and other grains (SIC 2041, 2045): Indexes of output per employee hour and output per employee, 1963-85
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	65.0	62.9	71.8	68.2	66.9	71.6
1964	69.1	68.6	70.7	71.8	72.2	70.8
1965	71.2	69.9	75.5	73.1	72.3	75.1
1966	74.9	73.3	79.9	76.4	75.4	79.3
1967	77.9	76.1	83.2	79.1	77.8	82.7
1968	81.2	78.1	91.5	82.1	80.3	86.8
1969	80.3	77.7	88.8	81.1	79.7	85.0
1970	84.2	82.4	89.9	84.2	83.3	87.0
1971	86.2	83.3	95.7	86.6	83.7	94.4
1972	86.3	83.4	95.8	89.1	86.6	96.0
1973	86.6	82.6	100.5	90.2	86.2	101.6
1974	93.5	90.1	104.7	93.5	89.4	105.8
1975	91.8	90.3	96.9	91.8	89.7	97.7
1976	92.8	93.8	90.1	93.3	94.4	90.7
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	98.0	96.6	102.4	98.8	97.4	102.2
1979	95.1	92.7	102.3	98.7	97.1	102.7
1980	98.1	95.9	105.1	99.4	97.1	105.3
1981	99.1	96.8	106.3	101.4	99.5	106.6
1982	112.3	109.8	119.9	109.0	105.0	120.3
1983	117.7	116.0	122.7	117.3	115.3	122.4
1984	122.9	120.9	129.1	120.7	117.4	129.4
1985 ²	126.0	125.5	127.5	123.2	121.4	128.0
Average annual percent change:						
1963-85	2.6	2.6	2.4	2.4	2.3	2.5
1981-85	5.9	6.3	4.5	5.0	5.2	4.5

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 34. Flour (including flour mixes) and other grains (SIC 2041, 2045): Indexes of output, employee hours, and employees, 1963-85
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	84.1	129.4	133.8	117.1	123.3	125.7	117.4
1964	88.2	127.6	128.6	124.8	122.9	122.2	124.6
1965	84.9	119.2	121.5	112.4	116.2	117.5	113.0
1966	87.3	116.5	119.1	109.3	114.2	115.8	110.1
1967	92.3	118.5	121.3	110.9	116.7	118.7	111.6
1968	93.0	114.5	119.1	101.6	113.3	115.8	107.2
1969	93.6	116.5	120.4	105.4	115.4	117.5	110.1
1970	92.0	109.3	111.7	102.3	109.2	110.5	105.8
1971	87.6	101.6	105.2	91.5	101.2	104.7	92.8
1972	89.1	103.2	106.8	93.0	100.0	102.9	92.8
1973	94.3	108.9	114.2	93.8	104.6	109.4	92.8
1974	98.2	105.0	109.0	93.8	105.0	109.9	92.8
1975	99.1	107.9	109.8	102.3	107.9	110.5	101.4
1976	99.9	107.7	106.5	110.9	107.1	105.8	110.1
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	99.2	101.2	102.7	96.9	100.4	101.8	97.1
1979	98.3	103.4	106.0	96.1	99.6	101.2	95.7
1980	97.7	99.6	101.9	93.0	98.3	100.6	92.8
1981	98.9	99.8	102.2	93.0	97.5	99.4	92.8
1982	99.4	88.5	90.5	82.9	91.2	94.7	82.6
1983	106.5	90.5	91.8	86.8	90.8	92.4	87.0
1984	105.1	85.5	86.9	81.4	87.1	89.5	81.2
1985 ¹	105.7	83.9	84.2	82.9	85.8	87.1	82.6
Average annual percent change:							
1963-85 .....	.9	-1.6	-1.7	-1.4	-1.4	-1.4	-1.5
1981-85	1.9	-3.7	-4.2	-2.5	-3.0	-3.2	-2.5

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 35. Flour and other grain mill products (SIC 2041): Indexes of output per employee hour and output per employee, 1958-86
(1977 = 100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	48.7	49.2	47.7	48.7	48.6	49.2
1959	47.0	46.8	47.9	48.4	48.1	49.4
1960	49.4	49.5	49.5	51.6	52.1	50.4
1961	51.4	50.7	54.3	53.7	53.4	54.5
1962	52.9	51.5	58.0	55.7	54.9	57.9
1963	59.4	57.9	65.2	63.0	62.2	65.1
1964	62.6	61.4	66.8	65.7	65.2	66.9
1965	64.5	63.7	67.4	66.5	66.3	67.2
1966	68.4	67.2	73.2	70.7	70.1	72.6
1967	70.6	70.2	71.9	72.1	72.4	71.5
1968	74.7	73.0	80.7	75.7	75.4	76.5
1969	73.0	71.8	77.0	73.7	73.7	73.8
1970	76.6	76.0	78.8	77.6	78.0	76.6
1971	77.7	76.3	82.1	78.6	77.7	81.2
1972	80.8	78.9	87.7	83.5	81.9	88.2
1973	80.4	78.0	88.9	82.6	80.1	90.0
1974	84.4	82.6	90.9	84.5	82.1	92.1
1975	85.8	85.8	85.8	85.2	84.7	86.5
1976	85.1	86.7	80.7	84.5	85.7	81.5
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	100.9	99.6	105.3	102.1	100.6	106.2
1979	97.3	95.9	102.1	100.1	99.1	103.0
1980	94.8	93.7	98.8	98.1	97.5	99.8
1981	96.7	95.1	102.2	99.6	98.2	103.3
1982	104.1	100.9	115.2	102.6	98.4	115.5
1983	110.4	107.7	119.5	112.5	109.8	119.9
1984	114.9	112.8	122.2	114.8	112.2	122.2
1985	122.9	121.9	126.2	122.0	120.1	127.9
1986 ²	134.1	124.3	177.7	134.8	123.0	180.3
Average annual percent change:						
1947-86	3.6	3.6	3.5	3.5	3.5	3.3
1981-86	6.4	5.7	9.1	6.0	5.1	9.3

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 36. Flour and other grain mill products (SIC 2041): Indexes of output, employee hours, and employees, 1958-86
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	88.1	180.8	179.2	184.6	180.8	181.4	179.2
1959	88.5	188.1	189.1	184.6	182.7	184.0	179.3
1960	90.1	182.4	182.2	182.2	174.5	172.8	178.8
1961	91.4	177.7	180.4	168.4	170.3	171.2	167.6
1962	91.7	173.3	177.9	158.1	164.7	167.0	158.5
1963	90.4	152.1	156.1	138.6	143.6	145.3	138.9
1964	92.1	147.1	149.9	137.9	140.2	141.2	137.7
1965	88.5	137.3	139.0	131.4	133.0	133.4	131.7
1966	91.0	133.0	135.5	124.4	128.8	129.8	125.3
1967	94.8	134.2	135.0	131.8	131.4	130.9	132.6
1968	96.1	128.7	131.7	119.1	126.9	127.4	125.6
1969	94.5	129.5	131.7	122.8	128.3	128.3	128.0
1970	94.5	123.4	124.4	119.9	121.8	121.2	123.3
1971	90.7	116.8	118.8	110.5	115.4	116.8	111.7
1972	86.2	106.7	109.3	98.3	103.2	105.2	97.7
1973	90.0	111.9	115.4	101.2	108.9	112.3	100.0
1974	94.3	111.7	114.2	103.7	111.6	114.9	102.4
1975	96.6	112.6	112.6	112.6	113.4	114.1	111.7
1976	94.8	111.4	109.3	117.5	112.2	110.6	116.3
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	98.8	97.9	99.2	93.8	96.8	98.2	93.0
1979	98.2	100.9	102.4	96.2	98.1	99.1	95.3
1980	97.5	102.8	104.1	98.7	99.4	100.0	97.7
1981	100.9	104.3	106.1	98.7	101.3	102.7	97.7
1982	99.3	95.4	98.4	86.2	96.8	100.9	86.0
1983	106.0	96.0	98.4	88.7	94.2	96.5	88.4
1984	102.3	89.0	90.7	83.7	89.1	91.2	83.7
1985	104.1	84.7	85.4	82.5	85.3	86.7	81.4
1986 ¹	113.2	84.4	91.1	63.7	84.0	92.0	62.8
Average annual percent change:							
1947-86 .....	.6	-2.8	-2.9	-2.7	-2.7	-2.7	-2.6
1981-86	2.0	-4.2	-3.6	-6.6	-3.8	-3.0	-6.7

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 37. Cereal breakfast foods (SIC 2043): Indexes of output per employee hour and output per employee, 1963-85
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	79.3	81.3	68.9	76.4	77.9	69.1
1964	81.0	82.3	73.9	78.9	79.7	75.8
1965	83.0	84.4	75.2	80.0	80.9	75.4
1966	84.1	85.4	76.9	82.5	83.5	77.1
1967	86.6	88.6	76.5	83.5	84.8	76.9
1968	90.1	92.3	79.4	88.1	90.8	75.7
1969	88.8	91.0	77.9	87.7	90.3	76.2
1970	92.0	93.8	82.8	89.5	91.4	81.1
1971	92.4	94.5	81.1	90.8	92.8	81.8
1972	97.6	99.6	87.5	95.0	96.4	88.2
1973	96.6	96.9	95.0	99.0	99.2	97.9
1974	92.1	93.1	87.3	92.3	93.0	88.5
1975	94.8	95.3	92.0	97.3	98.0	93.2
1976	100.0	100.9	95.6	97.9	98.0	97.1
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	101.5	101.7	100.0	98.8	98.6	100.0
1979	107.3	105.1	122.2	105.0	102.2	123.4
1980	105.9	104.0	118.9	104.6	102.2	120.0
1981	109.3	107.6	120.7	108.4	106.2	121.9
1982	115.0	118.8	97.0	110.5	113.3	97.6
1983	118.8	123.2	97.9	114.9	118.5	99.0
1984	129.3	133.8	106.8	126.1	130.2	108.0
1985 ²	133.8	138.2	112.3	131.8	135.9	113.5
Average annual percent change:						
1963-85	2.0	2.0	2.3	2.1	2.0	2.3
1981-85	5.4	6.4	-5	5.4	6.5	-4

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 38. Cereal breakfast foods (SIC 2043): Indexes of output, employee hours, and employees, 1963-85
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	53.1	67.0	65.3	77.1	69.5	68.2	76.9
1964	55.4	68.4	67.3	75.0	70.2	69.5	73.1
1965	58.0	69.9	68.7	77.1	72.5	71.7	76.9
1966	59.3	70.5	69.4	77.1	71.9	71.0	76.9
1967	62.1	71.7	70.1	81.2	74.4	73.2	80.8
1968	61.2	67.9	66.3	77.1	69.5	67.4	80.8
1969	61.6	69.4	67.7	79.1	70.2	68.2	80.8
1970	65.5	71.2	69.8	79.1	73.2	71.7	80.8
1971	69.3	75.0	73.3	85.4	76.3	74.7	84.7
1972	74.7	76.5	75.0	85.4	78.6	77.5	84.7
1973	79.1	81.9	81.6	83.3	79.9	79.7	80.8
1974	78.2	84.9	84.0	89.6	84.7	84.1	88.4
1975	82.4	86.9	86.5	89.6	84.7	84.1	88.4
1976	89.6	89.6	88.8	93.7	91.5	91.4	92.3
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	100.0	98.5	98.3	100.0	101.2	101.4	100.0
1979	104.4	97.3	99.3	85.4	99.4	102.2	84.6
1980	101.5	95.8	97.6	85.4	97.0	99.3	84.6
1981	103.1	94.3	95.8	85.4	95.1	97.1	84.6
1982	105.1	91.4	88.5	108.3	95.1	92.8	107.7
1983	114.2	96.1	92.7	116.7	99.4	96.4	115.4
1984	124.6	96.4	93.1	116.7	98.8	95.7	115.4
1985 ¹	131.0	97.9	94.8	116.7	99.4	96.4	115.4
Average annual percent change:							
1963-85	4.1	2.1	2.1	1.8	2.0	2.1	1.8
1981-85	6.7	1.3	.3	7.2	1.3	.2	7.1

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 39. Rice milling (SIC 2044): Indexes of output per employee hour and output per employee, 1963-85
(1977 = 100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	61.2	66.2	43.1	64.2	71.9	41.8
1964	69.9	74.7	51.2	74.2	81.1	51.9
1965	73.4	78.1	55.0	79.7	87.1	55.8
1966	79.1	85.6	55.5	84.4	93.7	56.2
1967	81.3	87.2	59.0	85.4	93.4	59.8
1968	88.0	93.9	65.2	89.4	97.7	62.6
1969	85.1	90.5	63.7	87.4	95.6	61.2
1970	82.0	92.1	50.7	85.1	99.3	49.7
1971	83.1	90.7	56.7	85.9	97.1	54.4
1972	93.8	102.4	63.5	96.6	107.3	64.4
1973	81.5	89.3	54.5	85.0	95.3	55.3
1974	93.4	98.6	72.4	89.5	93.8	73.0
1975	90.4	94.3	73.3	90.6	95.0	73.9
1976	88.7	92.0	73.5	85.1	87.7	74.0
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	92.7	102.1	61.5	92.7	103.6	60.6
1979	96.3	106.7	62.3	94.2	105.4	61.7
1980	111.8	122.3	75.6	112.3	124.8	74.9
1981	117.9	120.7	104.3	124.5	129.0	105.8
1982	104.5	110.1	81.3	102.1	108.4	79.5
1983	103.3	112.4	71.1	101.1	110.9	70.0
1984	93.2	105.5	56.5	92.3	105.9	56.0
1985 ²	103.2	119.3	59.0	100.1	116.8	58.4
Average annual percent change:						
1963-85	2.0	2.0	1.8	1.6	1.5	1.7
1981-85	-3.7	-.7	-14.0	-5.2	-2.2	-14.3

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census; Agricultural Marketing Service, U.S. Department of Agriculture; the Rice Millers' Association; and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may

Table 40. Rice milling (SIC 2044): Indexes of output, employee hours, and employees, 1963-85
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	57.5	93.9	86.9	133.5	89.6	80.0	137.5
1964	64.9	92.9	86.9	126.7	87.5	80.0	125.0
1965	69.7	94.9	89.3	126.7	87.5	80.0	125.0
1966	70.3	88.9	82.1	126.7	83.3	75.0	125.0
1967	74.7	91.9	85.7	126.7	87.5	80.0	125.0
1968	78.2	88.9	83.3	120.0	87.5	80.0	125.0
1969	76.5	89.9	84.5	120.0	87.5	80.0	125.0
1970	74.5	90.9	80.9	146.8	87.5	75.0	150.0
1971	68.0	81.8	75.0	120.0	79.2	70.0	125.0
1972	80.5	85.8	78.6	126.7	83.3	75.0	125.0
1973	69.1	84.8	77.4	126.7	81.3	72.5	125.0
1974	82.1	87.9	83.3	113.4	91.7	87.5	112.5
1975	83.1	91.9	88.1	113.4	91.7	87.5	112.5
1976	83.3	93.9	90.5	113.4	97.9	95.0	112.5
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	98.4	106.1	96.4	160.0	106.2	95.0	162.5
1979	108.0	112.1	101.2	173.3	114.6	102.5	175.0
1980	131.0	117.2	107.1	173.3	116.7	105.0	175.0
1981	132.2	112.1	109.5	126.7	106.2	102.5	125.0
1982	119.2	114.1	108.3	146.7	116.7	110.0	150.0
1983	113.7	110.1	101.2	160.0	112.5	102.5	162.5
1984	98.0	105.1	92.9	173.3	106.2	92.5	175.0
1985 ¹	102.2	99.0	85.7	173.3	102.1	87.5	175.0
Average annual percent change:							
1963-85	3.1	1.1	1.0	1.3	1.5	1.5	1.3
1981-85	-6.9	-3.3	-6.2	8.3	-1.7	-4.8	8.6

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census; Agricultural

Marketing Service, U.S. Department of Agriculture; the Rice Millers' Association; and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 41. Wet corn milling (SIC 2046): Indexes of output per employee hour and output per employee, 1963-85
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	39.2	37.2	45.6	41.0	39.5	45.2
1964	41.9	40.2	47.2	44.0	42.8	47.5
1965	41.5	40.2	45.2	44.2	43.9	45.0
1966	42.2	41.6	43.7	43.7	43.9	43.2
1967	45.1	45.8	43.0	45.8	47.2	42.8
1968	48.6	48.4	48.8	48.1	49.1	46.0
1969	51.4	51.1	52.1	52.9	54.4	49.5
1970	47.8	48.3	46.7	49.4	51.3	45.2
1971	48.1	49.6	44.6	47.7	49.3	44.1
1972	62.6	64.2	58.8	63.0	64.9	58.6
1973	56.9	57.6	54.8	58.1	59.3	55.3
1974	71.1	72.8	66.8	72.4	74.7	67.2
1975	74.1	72.4	78.9	76.2	75.2	78.7
1976	83.2	81.8	87.5	85.1	83.8	88.7
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	104.0	102.7	107.7	102.2	100.2	107.4
1979	105.7	109.3	97.0	104.6	107.8	97.4
1980	121.0	122.8	116.5	118.6	119.6	116.5
1981	137.5	138.4	135.1	136.8	137.5	134.8
1982	138.8	139.6	136.8	140.7	142.8	135.9
1983	156.9	155.2	161.2	163.4	165.2	159.1
1984	192.1	193.1	189.8	199.4	203.3	190.7
1985 ²	198.4	199.6	195.6	207.1	211.4	197.0
Average annual percent change:						
1963-85	8.0	8.1	7.6	7.9	7.9	7.7
1981-85	11.2	11.1	11.3	12.5	12.9	11.6

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Corn Refiners Association, the Bureau of the Census, and the Bureau of Labor Statistics.

Table 42. Wet corn milling (SIC 2046): Indexes of output, employee hours, and employees, 1963-85
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	49.6	126.4	133.2	108.7	121.1	125.6	109.7
1964	50.5	120.4	125.5	106.9	114.7	118.0	106.4
1965	52.3	126.1	130.0	115.6	118.4	119.2	116.1
1966	55.7	132.1	133.8	127.6	127.6	126.9	129.0
1967	59.3	131.6	129.4	137.9	129.4	125.6	138.7
1968	62.3	128.3	128.7	127.6	129.4	126.9	135.5
1969	65.5	127.4	128.1	125.8	123.8	120.5	132.2
1970	61.2	127.9	126.8	131.0	123.8	119.2	135.5
1971	56.9	118.2	114.7	127.6	119.3	115.3	129.0
1972	69.9	111.6	108.9	118.9	111.0	107.7	119.3
1973	62.4	109.7	108.3	113.8	107.4	105.2	112.9
1974	73.7	103.7	101.3	110.3	101.8	98.7	109.7
1975	76.2	102.8	105.2	96.6	100.0	101.3	96.8
1976	85.9	103.2	105.0	98.2	100.9	102.5	96.8
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	104.0	100.0	101.3	96.6	101.8	103.8	96.8
1979	103.7	98.1	94.9	106.9	99.1	96.2	106.5
1980	116.5	96.3	94.9	100.0	98.2	97.4	100.0
1981	130.5	94.9	94.3	96.6	95.4	94.9	96.8
1982	122.7	88.4	87.9	89.7	87.2	85.9	90.3
1983	133.5	85.1	86.0	82.8	81.7	80.8	83.9
1984	153.7	80.0	79.6	81.0	77.1	75.6	80.6
1985 ¹	165.3	83.3	82.8	84.5	79.8	78.2	83.9
Average annual percent change:							
1963-85	5.6	-2.2	-2.3	-1.8	-2.1	-2.2	-1.9
1981-85	7.2	-3.5	-3.5	-3.6	-4.7	-5.0	-3.9

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Corn Refiners Association, the Bureau of the Census, and the Bureau of Labor Statistics.

Table 43. Prepared feeds for animals and fowls (SIC 2047, 2048): Indexes of output per employee hour and output per employee, 1963-85
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	61.3	61.1	61.7	63.4	64.4	61.5
1964	64.1	63.5	65.3	66.9	67.8	65.4
1965	66.2	66.2	66.2	69.4	71.4	66.2
1966	69.5	69.7	68.8	72.7	75.2	68.4
1967	75.1	73.3	78.9	77.5	76.9	78.5
1968	79.1	76.3	85.2	80.1	79.6	80.8
1969	81.8	79.4	87.1	82.8	82.3	83.5
1970	83.7	79.9	92.4	83.7	80.6	89.9
1971	90.0	86.7	97.8	89.9	86.4	97.0
1972	87.1	83.5	95.3	90.7	88.1	96.0
1973	82.1	78.6	90.5	88.3	86.5	91.6
1974	84.9	83.3	88.2	86.8	85.5	89.3
1975	85.9	83.7	90.6	88.0	86.4	91.3
1976	90.1	88.3	93.9	92.9	92.0	94.9
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	100.4	101.3	98.4	100.8	102.1	98.4
1979	101.2	99.9	103.9	102.3	101.2	104.2
1980	105.0	105.5	104.0	105.4	105.8	104.7
1981	110.7	113.1	106.4	113.2	117.2	106.8
1982	124.9	128.4	118.4	124.0	127.1	118.7
1983	127.5	130.3	121.9	125.3	127.2	122.1
1984	132.5	138.9	121.4	129.5	134.2	121.8
1985 ²	143.8	153.9	126.8	140.6	148.9	127.4
Average annual percent change:						
1963-85	3.4	3.7	2.8	3.2	3.3	2.9
1981-85	6.0	7.2	3.8	4.9	5.5	3.9

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 44. Prepared feeds for animals and fowls (SIC 2047, 2048): Indexes of output, employee hours, and employees, 1963-85
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	60.9	99.3	99.7	98.7	96.1	94.5	99.1
1964	62.2	97.0	97.9	95.3	93.0	91.8	95.1
1965	62.6	94.5	94.6	94.5	90.2	87.7	94.5
1966	65.7	94.6	94.2	95.5	90.4	87.4	96.0
1967	72.7	96.8	99.2	92.1	93.8	94.5	92.6
1968	74.8	94.6	98.0	87.8	93.4	94.0	92.6
1969	80.7	98.6	101.7	92.6	97.5	98.1	96.6
1970	84.1	100.5	105.3	91.0	100.5	104.3	93.6
1971	85.9	95.4	99.1	87.8	95.6	99.4	88.6
1972	93.1	106.9	111.5	97.7	102.6	105.7	97.0
1973	87.9	107.0	111.8	97.1	99.6	101.6	96.0
1974	90.6	106.7	108.7	102.7	104.4	106.0	101.5
1975	91.3	106.3	109.1	100.8	103.7	105.7	100.0
1976	94.9	105.3	107.5	101.1	102.1	103.2	100.0
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	105.2	104.8	103.8	106.9	104.4	103.0	106.9
1979	104.2	103.0	104.3	100.3	101.9	103.0	100.0
1980	107.8	102.7	102.2	103.7	102.3	101.9	103.0
1981	109.5	98.9	96.8	102.9	96.7	93.4	102.5
1982	119.9	96.0	93.4	101.3	96.7	94.3	101.0
1983	117.8	92.4	90.4	96.6	94.0	92.6	96.5
1984	118.1	89.1	85.0	97.3	91.2	88.0	97.0
1985 ¹	120.5	83.8	78.3	95.0	85.7	80.9	94.6
Average annual percent change:							
1963-85	3.2	-2	-4	.4	.1	(?)	.3
1981-85	1.8	-4.0	-5.1	-2.0	-3.0	-3.5	-2.0

¹ Preliminary.

² Less than .05 percent.

NOTE: Because of periodic revisions in source data, the measures in this table

may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 45. Bakery products (SIC 205): Indexes of output per employee hour and output per employee, 1958-85
(1977 = 100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	64.0	62.4	66.8	64.8	64.4	65.4
1959	64.0	62.8	66.1	64.7	64.7	64.6
1960	64.3	63.0	66.5	65.5	66.2	64.3
1961	65.4	64.0	67.8	66.2	67.2	64.6
1962	67.2	66.4	68.6	67.9	70.0	65.0
1963	72.3	70.6	75.3	72.6	73.4	71.3
1964	74.6	72.5	78.2	76.5	77.8	74.4
1965	77.5	75.1	81.3	77.5	77.6	76.9
1966	78.4	75.5	83.0	78.8	79.1	78.4
1967	82.8	79.0	89.6	82.2	80.6	84.4
1968	84.5	79.9	92.7	84.8	82.6	87.7
1969	84.7	80.5	92.2	84.5	81.8	88.5
1970	87.5	83.0	95.6	87.7	84.3	92.8
1971	89.5	86.8	94.0	90.2	88.2	93.1
1972	94.1	91.6	98.4	95.4	92.9	98.9
1973	93.6	90.9	98.2	95.1	92.2	99.4
1974	93.6	94.4	92.3	93.0	92.8	93.5
1975	93.4	94.5	92.0	93.1	93.2	92.8
1976	93.9	93.7	94.2	94.0	93.1	95.2
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	97.7	99.1	95.7	97.4	98.5	95.7
1979	95.0	94.4	95.9	95.3	94.7	96.2
1980	93.7	92.0	96.4	94.4	92.6	97.0
1981	96.2	94.5	98.7	97.4	96.4	99.1
1982	103.3	107.4	97.6	102.7	106.1	97.9
1983	106.9	109.7	103.0	106.1	108.3	103.0
1984	106.8	110.0	102.2	106.5	109.2	102.7
1985 ²	108.5	114.1	101.1	108.4	113.7	101.4
Average annual percent change:						
1947-85	2.1	2.4	1.5	2.0	2.2	1.6
1981-85	2.8	4.1	.9	2.5	3.7	.9

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 46. Bakery products (SIC 205): Indexes of output, employee hours, and employees, 1958-85
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	88.3	137.9	141.5	132.2	136.2	137.1	135.1
1959	88.9	139.0	141.6	134.4	137.3	137.3	137.7
1960	89.7	139.4	142.3	134.8	136.9	135.4	139.4
1961	89.0	136.0	139.0	131.2	134.4	132.4	137.7
1962	90.8	135.2	136.8	132.3	133.7	129.7	139.6
1963	91.6	126.7	129.8	121.7	126.2	124.8	128.4
1964	95.2	127.6	131.3	121.7	124.5	122.3	128.0
1965	96.9	125.1	129.0	119.2	125.1	124.8	126.0
1966	97.5	124.4	129.1	117.4	123.7	123.3	124.3
1967	97.8	118.1	123.8	109.2	119.0	121.4	115.9
1968	98.4	116.5	123.1	106.2	116.1	119.1	112.2
1969	100.8	119.0	125.2	109.3	119.3	123.2	113.9
1970	96.9	110.7	116.7	101.4	110.5	114.9	104.4
1971	96.3	107.6	110.9	102.4	106.8	109.2	103.4
1972	100.8	107.1	110.0	102.4	105.7	108.5	101.9
1973	99.9	106.7	109.9	101.7	105.1	108.4	100.5
1974	98.7	105.5	104.6	106.9	106.1	106.4	105.6
1975	99.3	106.3	105.1	107.9	106.7	106.6	107.0
1976	102.4	109.1	109.3	108.7	108.9	110.0	107.6
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	99.4	101.7	100.3	103.9	102.1	100.9	103.9
1979	99.4	104.6	105.3	103.7	104.3	105.0	103.3
1980	97.7	104.3	106.2	101.4	103.5	105.5	100.7
1981	97.8	101.7	103.5	99.1	100.4	101.5	98.7
1982	100.2	97.0	93.3	102.7	97.6	94.4	102.3
1983	98.8	92.4	90.1	95.9	93.1	91.2	95.9
1984	100.4	94.0	91.3	98.2	94.3	91.9	97.8
1985 ¹	102.0	94.0	89.4	100.9	94.1	89.7	100.6
Average annual percent change:							
1947-85 .....	.8	-1.2	-1.5	-.7	-1.1	-1.3	-.7
1981-85 .....	.9	-1.9	-3.1	-.1	-1.6	-2.7	-.1

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 47. Sugar (SIC 2061, 2062, 2063): Indexes of output per employee hour and output per employee, 1958-86
(1977 = 100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	51.8	48.9	65.4	52.9	50.7	62.8
1959	54.6	51.3	71.2	54.6	51.6	68.2
1960	57.5	54.0	74.9	58.1	55.3	71.0
1961	61.4	57.8	79.3	61.6	58.8	74.3
1962	67.5	63.1	90.3	67.7	64.2	84.0
1963	68.0	63.9	88.4	68.0	64.8	82.1
1964	71.5	67.2	92.5	71.9	68.7	86.3
1965	74.4	69.5	99.9	72.4	68.0	92.9
1966	77.1	73.0	95.6	74.5	72.2	88.5
1967	77.1	72.7	98.8	75.7	72.2	91.4
1968	80.5	75.2	106.9	79.4	75.2	99.0
1969	78.6	73.9	102.7	76.0	72.2	93.9
1970	85.9	80.1	116.1	83.0	78.4	105.0
1971	84.9	79.7	110.7	86.5	82.4	105.1
1972	90.4	86.5	109.5	90.9	87.0	108.6
1973	96.3	93.8	107.0	98.8	96.1	110.3
1974	93.2	89.2	112.8	98.2	94.1	117.2
1975	94.0	93.8	94.4	91.8	90.7	96.8
1976	95.8	95.2	98.5	97.3	96.6	100.0
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	98.3	98.7	96.6	95.8	95.7	96.2
1979	103.1	103.2	102.1	101.7	101.6	102.3
1980	100.1	99.5	102.4	98.2	97.0	103.3
1981	98.8	97.8	103.6	97.1	95.6	103.6
1982	90.4	90.6	89.3	88.2	87.9	89.3
1983	98.6	97.3	104.4	97.3	95.6	104.1
1984	99.7	99.0	103.8	99.0	97.8	103.6
1985	105.5	104.6	109.1	107.2	106.6	109.7
1986 ²	109.1	107.7	115.2	108.8	107.1	115.7
Average annual percent change:						
1947-86	3.0	3.3	1.8	3.0	3.2	1.9
1981-86	2.8	2.7	3.3	3.4	3.4	3.4

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may

differ from those previously published.

SOURCE: Output based on data from the Agricultural Marketing Service and Statistical Reporting Service, U.S. Department of Agriculture; and the Bureau of the Census.

Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 48. Sugar (SIC 2061, 2062, 2063): Indexes of output, employee hours, and employees, 1958-86
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	61.5	118.7	125.7	94.1	116.3	121.4	98.0
1959	64.6	118.3	126.0	90.7	118.4	125.2	94.7
1960	66.4	115.4	122.9	88.7	114.2	120.0	93.5
1961	70.2	114.3	121.4	88.5	113.9	119.4	94.5
1962	73.4	108.7	116.3	81.3	108.4	114.4	87.4
1963	77.0	113.2	120.5	87.1	113.3	118.9	93.8
1964	83.1	116.2	123.7	89.8	115.6	120.9	96.3
1965	80.6	108.3	116.0	80.7	111.4	118.5	86.8
1966	81.2	105.3	111.2	84.9	109.0	112.5	91.8
1967	82.7	107.2	113.8	83.7	109.3	114.6	90.5
1968	86.5	107.5	115.0	80.9	109.0	115.1	87.4
1969	85.0	108.1	115.0	82.8	111.8	117.8	90.5
1970	90.2	105.0	112.6	77.7	108.7	115.1	85.9
1971	90.3	106.4	113.3	81.6	104.4	109.6	85.9
1972	94.9	105.0	109.7	86.7	104.4	109.1	87.4
1973	96.1	99.8	102.4	89.8	97.3	100.0	87.1
1974	94.5	101.4	106.0	83.8	96.2	100.4	80.6
1975	95.3	101.4	101.6	100.9	103.8	105.1	98.4
1976	103.2	107.7	108.4	104.8	106.1	106.8	103.2
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	91.6	93.2	92.8	94.8	95.6	95.7	95.2
1979	90.7	88.0	87.9	88.8	89.2	89.3	88.7
1980	88.3	88.2	88.7	86.2	89.9	91.0	85.5
1981	90.2	91.3	92.2	87.1	92.9	94.4	87.1
1982	77.8	86.1	85.9	87.1	88.2	88.5	87.1
1983	75.6	76.7	77.7	72.4	77.7	79.1	72.6
1984	76.9	77.1	77.7	74.1	77.7	78.6	74.2
1985	74.3	70.4	71.0	68.1	69.3	69.7	67.7
1986 ¹	76.5	70.1	71.0	66.4	70.3	71.4	66.1
Average annual percent change:							
1947-86	1.6	-1.4	-1.7	-2	-1.4	-1.6	-4
1981-86	-2.7	-5.3	-5.2	-5.7	-5.9	-5.9	-5.9

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Agricultural Marketing Service and Statistical

Reporting Service, U.S. Department of Agriculture; and the Bureau of the Census.

Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 49. Raw and refined cane sugar (SIC 2061, 2062): Indexes of output per employee hour and output per employee, 1958-86
(1977 = 100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	51.9	48.6	64.7	51.9	49.7	59.5
1959	55.5	51.5	72.3	54.5	51.2	66.5
1960	57.2	53.2	73.1	56.6	53.8	66.5
1961	64.3	60.2	81.2	64.1	61.5	72.9
1962	71.1	65.9	91.9	71.3	68.1	82.0
1963	69.8	65.4	86.7	70.4	68.2	77.2
1964	69.6	65.8	83.6	69.9	68.2	74.8
1965	76.9	71.7	97.7	76.3	73.0	87.0
1966	81.2	75.9	102.0	80.9	78.0	90.5
1967	81.2	77.1	96.5	83.2	80.2	93.1
1968	82.5	77.9	99.5	84.7	81.3	96.1
1969	79.6	77.3	86.9	79.0	77.6	82.9
1970	86.1	83.4	94.6	86.5	85.5	89.2
1971	82.8	80.1	91.0	86.4	85.0	90.2
1972	87.2	86.1	90.1	91.8	91.3	93.3
1973	93.4	90.9	101.4	98.0	95.7	104.5
1974	91.0	90.4	92.7	96.3	96.6	95.2
1975	90.8	91.6	88.9	91.5	91.8	90.5
1976	92.5	92.4	93.2	95.5	95.1	96.6
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	98.1	97.8	99.0	98.2	98.1	98.7
1979	101.5	99.0	110.9	102.4	99.7	111.0
1980	99.3	96.0	111.7	101.0	97.8	111.7
1981	98.8	94.8	114.6	100.6	96.5	114.6
1982	87.6	86.1	92.7	88.6	87.3	92.7
1983	100.0	95.9	116.3	98.2	93.1	116.8
1984	94.7	91.8	106.2	95.0	91.5	106.8
1985	108.7	104.8	123.6	109.7	105.6	123.0
1986 ²	111.4	107.5	126.1	109.4	104.8	125.0
Average annual percent change:						
1958-86	2.2	2.4	1.5	2.2	2.3	2.0
1981-86	3.5	3.4	3.6	3.0	2.8	3.5

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may

differ from those previously published.

SOURCE: Output based on data from the Agricultural Marketing Service and Statistical Reporting Service, U.S. Department of Agriculture; and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 50. Raw and refined cane sugar (SIC 2061, 2062): Indexes of output, employee hours, and employees, 1958-86
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	64.6	124.5	132.9	99.9	124.5	130.1	108.6
1959	69.0	124.3	134.1	95.4	126.7	134.8	103.7
1960	68.9	120.5	129.5	94.3	121.7	128.0	103.6
1961	74.9	116.4	124.5	92.2	116.8	121.8	102.8
1962	77.6	109.1	117.8	84.4	108.9	113.9	94.6
1963	80.5	115.4	123.1	92.9	114.4	118.0	104.3
1964	79.4	114.1	120.7	95.0	113.6	116.4	106.1
1965	81.0	105.3	113.0	82.9	106.1	110.9	93.1
1966	84.9	104.6	111.9	83.2	104.9	108.9	93.8
1967	89.2	109.8	115.7	92.4	107.2	111.2	95.8
1968	88.0	106.7	113.0	88.4	103.9	108.2	91.6
1969	81.2	102.0	105.0	93.4	102.8	104.6	97.9
1970	85.5	99.3	102.5	90.4	98.9	100.0	95.8
1971	86.4	104.4	107.8	94.9	100.0	101.6	95.8
1972	91.3	104.7	106.0	101.3	99.5	100.0	97.9
1973	95.7	102.5	105.3	94.4	97.7	100.0	91.6
1974	95.2	104.6	105.3	102.7	98.9	98.6	100.0
1975	92.5	101.9	101.0	104.1	101.1	100.8	102.2
1976	96.6	104.4	104.6	103.7	101.1	101.6	100.0
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	94.5	96.3	96.6	95.5	96.2	96.3	95.7
1979	94.5	93.1	95.5	85.2	92.3	94.8	85.1
1980	92.7	93.4	96.6	83.0	91.8	94.8	83.0
1981	95.1	96.3	100.3	83.0	94.5	98.5	83.0
1982	76.9	87.8	89.3	83.0	86.8	88.1	83.0
1983	82.0	82.0	85.5	70.5	83.5	88.1	70.2
1984	77.2	81.5	84.1	72.7	81.3	84.4	72.3
1985	75.9	69.8	72.4	61.4	69.2	71.9	61.7
1986 ¹	74.5	66.9	69.3	59.1	68.1	71.1	59.6
Average annual percent change:							
1958-86 .....	.6	-1.6	-1.8	-0.9	-1.6	-1.7	-1.4
1981-86	-3.7	-6.9	-6.9	-7.1	-6.5	-6.3	-6.9

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Agricultural Marketing Service and Statistical

Reporting Service, U.S. Department of Agriculture; and the Bureau of the Census.

Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 51. Beet sugar (SIC 2063): Indexes of output per employee hour and output per employee, 1958-86
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	60.8	59.1	73.7	64.2	63.7	67.8
1959	62.1	60.7	74.3	63.9	63.3	68.3
1960	68.7	66.6	87.0	71.7	70.8	79.1
1961	65.9	64.1	80.8	66.1	65.3	72.5
1962	72.2	69.9	92.1	71.4	70.0	81.9
1963	76.0	73.1	102.2	74.1	72.0	91.0
1964	86.6	83.3	117.2	87.0	84.8	104.8
1965	82.1	79.6	105.1	76.5	74.5	93.6
1966	82.0	81.7	83.0	74.8	74.9	73.6
1967	78.4	77.9	82.4	73.5	72.7	79.4
1968	85.2	83.9	94.9	81.3	79.8	91.5
1969	84.7	81.7	111.4	80.8	77.9	106.2
1970	92.9	89.8	120.7	87.2	84.2	113.8
1971	96.8	93.0	134.4	97.7	93.9	133.1
1972	105.5	102.3	134.1	100.9	96.9	138.7
1973	100.0	96.9	128.0	99.5	95.9	132.0
1974	94.2	91.9	113.5	90.8	87.8	116.5
1975	98.1	97.0	105.9	92.6	90.6	107.8
1976	101.7	100.8	107.1	101.8	100.7	108.7
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	98.3	99.0	93.5	91.8	91.6	93.1
1979	104.6	109.2	79.0	99.4	103.4	79.3
1980	102.1	104.5	87.6	93.8	94.8	87.2
1981	98.7	101.4	82.3	91.0	92.6	82.3
1982	94.8	97.4	79.1	87.5	89.0	79.1
1983	94.5	96.4	82.3	94.6	97.0	80.9
1984	108.8	110.6	97.1	106.1	107.9	95.4
1985	100.7	103.6	83.4	103.2	107.2	82.5
1986 ²	107.4	109.6	93.1	109.6	112.9	92.0
Average annual percent change:						
1958-86	1.8	2.0	(³)	1.6	1.8	.5
1981-86	2.1	2.1	2.7	4.5	4.8	2.5

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

³ Less than .05 percent.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Agricultural Marketing Service, U.S. Department of Agriculture; and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 52. Beet sugar (SIC 2063): Indexes of output, employee hours, and employees, 1958-86
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	58.2	95.8	98.4	79.0	90.6	91.3	85.9
1959	59.1	95.1	97.4	79.5	92.5	93.4	86.5
1960	64.5	93.9	96.8	74.1	89.9	91.1	81.5
1961	64.2	97.4	100.2	79.5	97.1	98.3	86.6
1962	68.5	94.9	98.0	74.4	96.0	97.9	83.6
1963	73.4	96.6	100.4	71.8	99.1	101.9	80.7
1964	92.1	106.4	110.6	78.6	105.9	108.6	87.9
1965	82.5	100.5	103.7	78.5	107.9	110.8	88.1
1966	77.4	94.4	94.7	93.3	103.5	103.3	105.2
1967	74.2	94.6	95.3	90.1	100.9	102.0	93.4
1968	85.5	100.4	101.9	90.1	105.2	107.1	93.4
1969	92.1	108.8	112.7	82.7	114.0	118.2	86.7
1970	98.7	106.2	109.9	81.8	113.2	117.2	86.7
1971	97.7	100.9	105.1	72.7	100.0	104.1	73.4
1972	101.8	96.5	99.5	75.9	100.9	105.1	73.4
1973	96.9	96.9	100.0	75.7	97.4	101.0	73.4
1974	93.2	98.9	101.4	82.1	102.6	106.1	80.0
1975	100.7	102.6	103.8	95.1	108.8	111.1	93.4
1976	116.0	114.1	115.1	108.3	114.0	115.2	106.7
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	86.9	88.4	87.8	92.9	94.7	94.9	93.3
1979	84.6	80.9	77.5	107.1	85.1	81.8	106.7
1980	81.4	79.7	77.9	92.9	86.8	85.9	93.3
1981	82.3	83.4	81.2	100.0	90.4	88.9	100.0
1982	79.1	83.4	81.2	100.0	90.4	88.9	100.0
1983	64.7	68.5	67.1	78.6	68.4	66.7	80.0
1984	76.3	70.1	69.0	78.6	71.9	70.7	80.0
1985	71.5	71.0	69.0	85.7	69.3	66.7	86.7
1986 ¹	79.8	74.3	72.8	85.7	72.8	70.7	86.7
Average annual percent change:							
1958-86 .....	.7	-1.0	-1.3	.7	-9	-1.1	.2
1981-86	-8	-2.9	-2.8	-3.5	-5.1	-5.4	-3.2

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Agricultural Marketing Service, U.S. Department of Agriculture; and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 53. Candy and other confectionery products (SIC 2065): Indexes of output per employee hour and output per employee, 1958-78 (1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	48.9	48.6	49.7	49.9	49.6	51.8
1959	50.0	50.0	49.8	52.2	52.2	51.8
1960	52.3	52.4	51.6	54.5	54.8	53.1
1961	52.2	52.0	53.0	54.4	54.6	53.8
1962	53.2	53.1	53.8	55.5	55.9	54.2
1963	58.8	57.3	66.0	60.0	58.7	66.4
1964	59.9	58.3	67.6	60.9	59.4	68.4
1965	62.4	60.3	73.9	63.8	61.7	74.4
1966	64.9	62.9	75.1	65.4	63.5	75.3
1967	66.8	64.3	80.3	67.4	64.9	80.4
1968	69.9	67.5	82.4	70.4	68.8	78.2
1969	65.2	63.2	75.1	66.2	64.9	72.1
1970	69.7	68.7	73.9	70.1	69.7	72.0
1971	76.6	76.5	76.7	79.5	80.5	76.1
1972	85.9	85.5	87.5	87.9	87.9	88.0
1973	91.7	95.4	78.2	93.4	97.6	79.1
1974	99.5	102.1	89.4	97.3	99.0	90.7
1975	90.8	94.6	77.3	87.0	89.4	78.3
1976	84.9	86.7	77.5	83.3	84.6	78.4
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	107.9	105.7	118.4	108.8	106.8	118.7
Average annual percent change:						
1947-78	3.7	3.8	3.4	3.5	3.6	3.2

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

NOTE: Because of periodic revisions in source data, the measures in this table may

differ from those previously published.

SOURCE: Output based on data from the Bureau of Competitive Assessment and Business Policy, the Bureau of the Census, and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 54. Candy and other confectionery products (SIC 2065): Indexes of output, employee hours, and employees, 1958-78 (1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	57.3	117.2	117.8	115.2	114.8	115.6	110.7
1959	58.2	116.3	116.3	116.8	111.6	111.4	112.3
1960	60.6	115.8	115.6	117.5	111.2	110.6	114.1
1961	61.4	117.6	118.0	115.9	112.9	112.5	114.2
1962	62.9	118.2	118.5	116.9	113.3	112.6	116.0
1963	65.9	112.0	115.0	99.8	109.8	112.2	99.2
1964	68.9	115.0	118.2	101.9	113.1	115.9	100.8
1965	71.8	115.0	119.1	97.1	112.5	116.3	96.5
1966	75.2	115.8	119.5	100.1	114.9	118.5	99.9
1967	78.9	118.1	122.7	98.3	117.1	121.5	98.1
1968	81.7	116.9	121.0	99.2	116.0	118.7	104.5
1969	77.4	118.8	122.5	103.0	117.0	119.2	107.3
1970	83.1	119.2	120.9	112.4	118.5	119.2	115.4
1971	87.8	114.6	114.7	114.5	110.4	109.1	115.4
1972	92.0	107.1	107.6	105.2	104.7	104.7	104.5
1973	97.8	106.6	102.5	125.0	104.7	100.2	123.6
1974	102.2	102.7	100.1	114.3	105.0	103.2	112.7
1975	86.0	94.7	90.9	111.2	98.8	96.2	109.9
1976	84.8	99.9	97.8	109.4	101.8	100.2	108.1
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	105.6	97.9	99.9	89.2	97.1	98.9	89.0
Average annual percent change:							
1947-78	2.7	-1.0	-1.0	-0.7	-0.7	-0.8	-0.4

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Competitive Assessment and

Business Policy, the Bureau of the Census, and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 55. Malt beverages (SIC 2082): Indexes of output per employee hour and output per employee, 1958-86
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	28.4	30.5	24.1	28.0	29.6	24.8
1959	29.7	31.5	25.8	29.4	30.7	26.6
1960	30.9	32.6	27.4	30.2	31.3	27.9
1961	32.5	34.2	28.6	31.6	33.0	28.7
1962	34.1	35.7	30.5	33.5	34.9	30.5
1963	37.4	39.1	33.8	36.8	38.1	33.7
1964	40.2	42.1	35.9	39.4	41.1	36.0
1965	42.3	44.5	37.3	41.7	43.9	37.2
1966	44.5	47.1	38.7	44.0	46.8	38.5
1967	47.4	50.2	41.7	46.5	49.0	41.4
1968	51.4	53.1	47.5	49.7	52.1	45.1
1969	54.9	57.2	49.9	53.3	56.0	47.9
1970	56.7	59.9	50.0	55.9	59.6	48.6
1971	59.4	64.4	49.6	58.2	63.1	49.1
1972	66.1	71.0	56.3	66.4	71.5	56.6
1973	73.7	75.6	69.1	74.3	76.4	69.9
1974	76.4	77.9	72.7	77.6	79.6	73.6
1975	86.1	88.0	82.2	86.0	87.3	83.0
1976	95.5	97.5	90.8	97.5	100.1	91.7
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	101.1	101.0	101.4	102.4	102.8	101.3
1979	109.9	109.2	112.1	109.9	109.0	112.3
1980	116.0	116.0	116.0	117.2	117.3	117.0
1981	118.3	121.5	111.1	118.3	121.4	111.5
1982	122.6	126.7	112.9	121.9	125.9	113.4
1983	131.3	133.0	126.8	129.7	131.0	126.8
1984	137.9	139.5	133.8	134.1	134.3	133.8
1985	130.3	137.7	114.8	129.5	136.6	115.0
1986 ²	137.0	145.0	120.1	136.2	144.3	120.1
Average annual percent change:						
1947-86	5.8	5.8	6.1	5.7	5.7	5.9
1981-86	2.8	3.4	1.4	2.7	3.3	1.3

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may

differ from those previously published.

SOURCE: Output based on data from the Bureau of Alcohol, Tobacco, and Firearms, U.S. Department of the Treasury, and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 56. Malt beverages (SIC 2082): Indexes of output, employee hours, and employees, 1958-86
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	45.7	161.1	150.0	189.6	163.0	154.4	184.0
1959	47.4	159.5	150.4	183.4	161.2	154.2	178.0
1960	48.0	155.1	147.2	175.4	158.7	153.3	172.0
1961	49.0	151.0	143.2	171.5	154.9	148.6	170.5
1962	50.2	147.1	140.6	164.5	150.0	144.0	164.6
1963	52.3	139.7	133.9	154.7	142.3	137.3	155.0
1964	55.5	138.2	131.9	154.7	140.7	135.2	154.3
1965	57.3	135.6	128.8	153.8	137.4	130.5	154.1
1966	60.5	136.1	128.4	156.2	137.5	129.4	157.1
1967	63.0	132.8	125.6	151.1	135.5	128.5	152.0
1968	66.4	129.2	125.1	139.7	133.5	127.5	147.3
1969	69.4	126.4	121.4	139.1	130.2	124.0	145.0
1970	72.8	128.3	121.5	145.5	130.2	122.1	149.7
1971	75.4	127.0	117.1	152.1	129.5	119.5	153.5
1972	77.7	117.5	109.4	138.1	117.1	108.6	137.2
1973	83.0	112.6	109.8	120.1	111.7	108.6	118.7
1974	88.5	115.8	113.6	121.8	114.0	111.2	120.2
1975	92.0	106.8	104.6	111.9	107.0	105.4	110.9
1976	94.6	99.1	97.0	104.2	97.0	94.5	103.2
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	106.1	104.9	105.1	104.6	103.6	103.2	104.7
1979	109.7	99.8	100.5	97.9	99.8	100.6	97.7
1980	115.1	99.2	99.2	99.2	98.2	98.1	98.4
1981	117.5	99.3	96.7	105.8	99.3	96.8	105.4
1982	119.5	97.5	94.3	105.8	98.0	94.9	105.4
1983	120.0	91.4	90.2	94.6	92.5	91.6	94.6
1984	118.3	85.8	84.8	88.4	88.2	88.1	88.4
1985	118.6	91.0	86.1	103.3	91.6	86.8	103.1
1986 ¹	121.1	88.4	83.5	100.8	88.9	83.9	100.8
Average annual percent change:							
1947-86	3.4	-2.3	-2.2	-2.5	-2.2	-2.1	-2.4
1981-86	.3	-2.4	-3.0	-1.1	-2.3	-2.9	-1.0

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Alcohol, Tobacco, and Firearms, U.S. Department of the Treasury, and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 57. Bottled and canned soft drinks (SIC 2086): Indexes of output per employee hour and output per employee, 1958-86 (1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	57.7	50.4	62.9	57.5	52.7	60.6
1959	60.4	53.1	65.5	60.9	57.2	63.1
1960	58.4	51.7	63.0	58.2	55.1	60.1
1961	60.7	54.2	65.2	59.8	57.0	61.5
1962	65.1	58.5	69.6	63.4	61.1	64.8
1963	67.1	59.2	72.6	65.9	63.2	67.5
1964	67.3	60.1	72.2	65.8	63.7	67.1
1965	67.8	60.9	72.5	66.3	64.5	67.4
1966	68.2	59.4	74.5	66.9	63.1	69.3
1967	66.6	58.5	72.2	64.8	61.1	67.1
1968	72.1	64.3	77.5	69.6	65.6	72.1
1969	69.7	64.0	73.5	67.7	64.6	69.5
1970	70.0	65.5	72.9	68.6	66.2	70.0
1971	73.9	69.7	76.4	73.2	70.6	74.8
1972	75.4	72.9	76.9	75.7	73.7	76.8
1973	78.3	76.7	79.3	78.7	77.1	79.6
1974	80.2	78.5	81.2	80.3	77.9	81.8
1975	87.2	86.1	87.7	87.1	85.2	88.1
1976	94.2	93.5	94.6	94.3	93.5	94.8
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	104.5	105.3	104.1	105.0	106.3	104.1
1979	105.6	109.1	103.6	105.9	110.2	103.6
1980	109.8	116.4	106.4	110.5	118.4	106.4
1981	114.3	125.1	109.0	114.7	126.0	109.0
1982	118.3	131.5	112.0	118.5	131.8	112.0
1983	127.0	142.4	119.7	127.1	142.9	119.7
1984	138.3	154.2	130.8	138.3	154.5	130.8
1985	145.3	160.5	137.8	145.9	162.6	137.8
1986 ²	149.0	164.6	141.4	149.9	167.7	141.4
Average annual percent change:						
1958-86	3.4	4.4	2.8	3.5	4.2	3.1
1981-86	6.0	6.0	5.9	6.0	6.3	5.9

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may

differ from those previously published.

SOURCE: Output based on data from the Sales Survey and Statistical Profile of the Soft Drink Industry, National Soft Drink Association; and the Bureau of the Census. Employment and hours based on data from the Bureau of Labor Statistics.

Table 58. Bottled and canned soft drinks (SIC 2086): Indexes of output, employee hours, and employees, 1958-86 (1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	43.0	74.5	85.3	68.4	74.8	81.6	71.0
1959	46.6	77.1	87.8	71.1	76.5	81.4	73.8
1960	46.0	78.8	89.0	73.0	79.1	83.5	76.6
1961	47.5	78.2	87.7	72.8	79.4	83.3	77.2
1962	51.3	78.8	87.7	73.7	80.9	83.9	79.2
1963	54.6	81.4	92.3	75.2	82.9	86.4	80.9
1964	57.0	84.7	94.8	79.0	86.6	89.5	84.9
1965	59.2	87.3	97.2	81.7	89.3	91.8	87.8
1966	63.1	92.5	106.3	84.7	94.3	100.0	91.0
1967	62.7	94.2	107.2	86.9	96.8	102.7	93.4
1968	67.6	93.7	105.2	87.2	97.1	103.1	93.7
1969	67.2	96.4	105.0	91.4	99.3	104.0	96.7
1970	67.7	96.7	103.3	92.9	98.7	102.3	96.7
1971	71.3	96.5	102.3	93.3	97.4	101.0	95.3
1972	72.7	96.4	99.7	94.5	96.1	98.7	94.6
1973	76.5	97.7	99.7	96.5	97.2	99.2	96.1
1974	77.1	96.1	98.2	94.9	96.0	99.0	94.3
1975	80.8	92.7	93.8	92.1	92.8	94.8	91.7
1976	91.7	97.3	98.1	96.9	97.2	98.1	96.7
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	108.1	103.4	102.7	103.8	103.0	101.7	103.8
1979	111.6	105.7	102.3	107.7	105.4	101.3	107.7
1980	115.2	104.9	99.0	108.3	104.3	97.3	108.3
1981	117.3	102.6	93.8	107.6	102.3	93.1	107.6
1982	119.4	100.9	90.8	106.6	100.8	90.6	106.6
1983	124.6	98.1	87.5	104.1	98.0	87.2	104.1
1984	133.5	96.5	86.6	102.1	96.5	86.4	102.1
1985	139.5	96.0	86.9	101.2	95.6	85.8	101.2
1986 ¹	142.7	95.8	86.7	100.9	95.2	85.1	100.9
Average annual percent change:							
1958-86	4.4	1.0	(²)	1.6	.9	.2	1.3
1981-86	4.4	-1.4	-1.5	-1.4	-1.5	-1.8	-1.4

¹ Preliminary.

² Less than .05 percent.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Sales Survey and Statistical Profile of the Soft Drink Industry, National Soft Drink Association; and the Bureau of the Census. Employment and hours based on data from the Bureau of Labor Statistics.

Table 59. All tobacco products (SIC 2111, 2121, 2131): Indexes of output per employee hour and output per employee, 1958-86
(1977 = 100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	62.1	57.9	105.5	65.9	60.9	118.4
1959	65.3	61.3	102.3	69.5	64.8	114.6
1960	69.7	65.6	108.0	73.9	69.0	121.4
1961	72.1	68.4	104.4	77.1	72.5	117.4
1962	74.3	70.9	101.7	79.6	75.3	115.2
1963	78.4	74.4	112.3	84.0	78.9	126.8
1964	80.2	75.5	125.1	87.5	81.6	142.0
1965	83.4	79.2	119.5	87.2	81.9	135.1
1966	83.2	79.0	119.0	88.0	82.6	134.1
1967	83.3	79.6	112.3	87.8	82.9	126.5
1968	86.2	82.3	116.8	88.3	83.4	129.0
1969	84.8	81.6	108.8	87.6	83.5	119.5
1970	86.8	83.1	116.4	91.8	87.2	128.0
1971	91.3	88.0	117.3	95.5	91.0	128.9
1972	91.6	88.9	110.7	94.9	91.1	121.3
1973	89.5	87.2	104.4	93.4	90.3	114.7
1974	92.2	90.4	103.7	93.6	90.9	111.3
1975	93.9	93.2	97.2	95.8	94.6	102.1
1976	97.8	96.7	103.3	100.5	99.3	106.5
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	102.7	102.4	104.3	105.7	106.0	104.1
1979	102.1	103.5	94.4	105.1	107.3	94.6
1980	102.1	105.1	87.8	105.7	109.8	88.2
1981	100.5	103.8	84.6	102.9	107.2	84.9
1982	100.7	107.1	75.0	101.0	108.1	75.0
1983	105.1	114.1	72.3	104.3	113.9	71.9
1984	110.3	123.0	69.1	111.4	125.8	69.3
1985	113.4	125.6	72.6	112.3	125.3	72.7
1986 ²	114.7	126.3	75.1	114.0	126.3	75.0
Average annual percent change:						
1947-86	2.5	2.9	-5	2.4	2.9	-9
1981-86	3.1	4.5	-2.1	2.6	4.0	-2.1

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may

differ from those previously published.

SOURCE: Output based on data from the Bureau of Alcohol, Tobacco, and Firearms, U.S. Department of the Treasury; the Bureau of the Census; and Agricultural Marketing Service, U.S. Department of Agriculture. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 60. All tobacco products (SIC 2111, 2121, 2131): Indexes of output, employee hours, and employees, 1958-86
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	91.9	147.9	158.6	87.1	139.4	150.9	77.6
1959	97.3	149.1	158.7	95.1	139.9	150.2	84.9
1960	99.7	143.0	152.0	92.3	134.9	144.5	82.1
1961	99.2	137.5	145.0	95.0	128.6	136.9	84.5
1962	99.4	133.7	140.1	97.7	124.8	132.0	86.3
1963	101.6	129.6	136.5	90.5	121.0	128.7	80.1
1964	110.3	137.5	146.1	88.2	126.1	135.1	77.7
1965	107.4	128.7	135.6	89.9	123.1	131.2	79.5
1966	104.6	125.7	132.4	87.9	118.9	126.6	78.0
1967	104.1	125.0	130.7	92.7	118.6	125.5	82.3
1968	106.2	123.2	129.0	90.9	120.3	127.4	82.3
1969	102.9	121.4	126.1	94.6	117.4	123.3	86.1
1970	106.9	123.1	128.6	91.8	116.4	122.6	83.5
1971	104.5	114.4	118.8	89.1	109.4	114.8	81.1
1972	104.4	114.0	117.5	94.3	110.0	114.6	86.1
1973	107.5	120.1	123.3	103.0	115.1	119.1	93.7
1974	104.3	113.1	115.4	100.6	111.4	114.8	93.7
1975	102.1	108.7	109.5	105.0	106.6	107.9	100.0
1976	105.2	107.6	108.8	101.8	104.7	105.9	98.8
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	102.7	100.0	100.3	98.5	97.2	96.9	98.7
1979	103.0	100.9	99.5	109.1	98.0	96.0	108.9
1980	103.8	101.7	98.8	118.2	98.2	94.5	117.7
1981	106.4	105.9	102.5	125.8	103.4	99.3	125.3
1982	100.6	99.9	93.9	134.1	99.6	93.1	134.2
1983	97.4	92.7	85.4	134.8	93.4	85.5	135.4
1984	97.4	88.3	79.2	140.9	87.4	77.4	140.5
1985	95.7	84.4	76.2	131.8	85.2	76.4	131.6
1986 ¹	92.1	80.3	72.9	122.7	80.8	72.9	122.8
Average annual percent change:							
1947-86	.6	-1.8	-2.2	1.1	-1.7	-2.2	1.5
1981-86	-2.5	-5.4	-6.6	-4	-4.9	-6.2	-3

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Alcohol, Tobacco, and Firearms,

U.S. Department of the Treasury; the Bureau of the Census; and Agricultural Marketing Service, U.S. Department of Agriculture. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 61. Cigarettes, chewing and smoking tobacco (SIC 2111, 2131): Indexes of output per employee hour and output per employee, 1958-86
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	70.7	65.4	121.7	76.7	70.2	137.3
1959	72.3	67.7	112.9	78.6	72.8	127.5
1960	75.5	70.8	115.5	81.4	75.6	130.1
1961	77.1	72.6	113.5	83.5	78.1	127.5
1962	77.4	73.5	106.3	84.6	79.8	120.0
1963	80.9	76.3	116.1	88.3	82.6	130.8
1964	79.7	75.1	115.0	86.9	81.3	129.9
1965	83.3	78.8	117.1	87.3	81.6	131.9
1966	83.3	79.2	114.3	89.3	84.0	128.2
1967	84.6	80.3	117.2	90.1	84.6	131.4
1968	87.6	83.2	120.4	89.4	83.6	132.9
1969	83.9	80.4	108.6	86.6	82.0	119.4
1970	85.3	81.1	116.1	90.8	85.7	127.5
1971	89.3	85.9	112.9	93.6	89.0	124.0
1972	89.8	86.5	111.4	93.3	89.0	122.0
1973	88.7	86.2	103.4	93.1	89.6	113.6
1974	89.9	88.2	99.3	92.4	89.9	106.4
1975	93.3	92.5	97.6	95.4	94.2	102.5
1976	96.7	95.4	103.8	99.9	98.6	106.9
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	104.0	104.0	104.3	107.6	108.3	104.3
1979	102.4	104.0	94.6	105.9	108.5	95.1
1980	101.8	104.8	88.4	105.8	110.1	89.1
1981	99.6	103.0	85.2	101.8	105.9	85.8
1982	99.5	105.8	75.6	99.5	106.4	75.7
1983	104.1	113.3	73.0	103.0	112.5	73.1
1984	107.2	119.5	69.3	108.8	123.0	69.7
1985	111.7	123.8	73.8	110.6	123.0	74.1
1986 ²	111.5	122.4	75.8	110.7	122.1	76.1
Average annual percent change:						
1947-86	1.5	1.9	-1.1	1.3	1.7	-1.5
1981-86	2.7	4.0	-2.0	2.3	3.6	-2.0

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may

differ from those previously published.

SOURCE: Output based on data from the Bureau of Alcohol, Tobacco, and Firearms, U.S. Department of the Treasury; the Bureau of the Census; and Agricultural Marketing Service, U.S. Department of Agriculture. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 62. Cigarettes, chewing and smoking tobacco (SIC 2111, 2131): Indexes of output, employee hours, and employees, 1958-86
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	72.9	103.1	111.5	59.9	95.1	103.9	53.1
1959	77.0	106.5	113.8	68.2	98.0	105.8	60.4
1960	79.0	104.6	111.6	68.4	97.0	104.5	60.7
1961	80.7	104.7	111.1	71.1	96.6	103.3	63.3
1962	80.4	103.9	109.4	75.6	95.0	100.7	67.0
1963	82.8	102.4	108.5	71.3	93.8	100.2	63.3
1964	82.1	103.0	109.3	71.4	94.5	101.0	63.2
1965	83.5	100.3	106.0	71.3	95.6	102.3	63.3
1966	84.5	101.4	106.7	73.9	94.6	100.6	65.9
1967	85.8	101.4	106.8	73.2	95.2	101.4	65.3
1968	86.8	99.1	104.3	72.1	97.1	103.8	65.3
1969	84.5	100.7	105.1	77.8	97.6	103.1	70.8
1970	88.6	103.9	109.2	76.3	97.6	103.4	69.5
1971	87.8	98.3	102.2	77.8	93.8	98.6	70.8
1972	91.5	101.9	105.8	82.1	98.1	102.8	75.0
1973	97.8	110.2	113.4	94.6	105.1	109.1	86.1
1974	96.1	106.9	108.9	96.8	104.0	106.9	90.3
1975	98.2	105.3	106.2	100.6	102.9	104.3	95.8
1976	103.9	107.4	108.9	100.1	104.0	105.4	97.2
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	104.3	100.3	100.3	100.0	96.9	96.3	100.0
1979	105.7	103.2	101.6	111.7	99.8	97.4	111.1
1980	107.6	105.7	102.7	121.7	101.7	97.7	120.8
1981	110.8	111.2	107.6	130.0	108.8	104.6	129.2
1982	105.2	105.7	99.4	139.2	105.7	98.9	138.9
1983	101.6	97.6	89.7	139.2	98.6	90.3	138.9
1984	101.6	94.8	85.0	146.7	93.4	82.6	145.8
1985	100.9	90.3	81.5	136.7	91.2	82.0	136.1
1986 ¹	97.3	87.3	79.5	128.3	87.9	79.7	127.8
Average annual percent change:							
1947-86	1.6	.1	-.3	2.7	.3	-.2	3.1
1981-86	-2.2	-4.8	-6.0	-2	-4.4	-5.6	-2

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Alcohol, Tobacco, and Firearms,

U.S. Department of the Treasury; the Bureau of the Census; and Agricultural Marketing Service, U.S. Department of Agriculture. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 63. Cigars (SIC 2121): Indexes of output per employee hour and output per employee, 1958-86
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	48.8	48.5	52.3	49.9	49.3	57.9
1959	53.0	52.9	54.6	54.8	54.3	60.4
1960	58.6	58.4	61.0	60.3	59.6	68.2
1961	62.1	62.6	57.5	64.3	64.3	64.8
1962	66.5	67.1	60.5	68.4	68.3	69.4
1963	71.6	71.7	68.8	73.5	73.1	78.8
1964	79.1	77.6	98.3	85.6	83.7	113.1
1965	81.5	81.5	81.6	84.2	83.3	93.5
1966	80.6	79.8	89.9	82.5	80.9	102.6
1967	78.0	79.2	67.4	80.0	80.4	76.9
1968	80.9	81.8	72.5	83.3	83.7	80.0
1969	84.4	85.6	74.0	87.2	87.9	81.3
1970	88.4	89.4	80.2	91.6	91.9	88.0
1971	93.7	93.8	92.8	97.1	96.6	101.9
1972	93.8	95.6	77.1	96.0	97.6	84.3
1973	89.5	90.2	82.7	92.1	92.2	90.7
1974	96.9	96.3	103.4	93.7	92.4	110.9
1975	93.7	95.2	79.9	94.0	95.2	83.8
1976	99.9	100.7	92.3	99.5	99.9	95.1
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	97.0	95.6	114.8	96.9	95.6	111.6
1979	101.4	100.8	107.7	101.6	101.2	104.7
1980	106.4	106.9	102.0	107.3	108.1	99.2
1981	107.3	108.0	100.1	112.7	114.4	97.3
1982	111.4	113.8	91.4	115.0	118.4	88.8
1983	112.3	117.7	75.1	115.7	122.3	75.1
1984	141.4	149.2	90.3	138.0	146.3	87.7
1985	129.3	136.9	81.5	130.8	139.7	79.2
1986 ²	150.0	158.2	95.4	152.9	164.8	89.1
Average annual percent change:						
1947-86	4.3	4.4	2.5	4.3	4.5	2.1
1981-86	7.0	8.0	-1.1	6.1	7.4	-1.8

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may

differ from those previously published.

SOURCE: Output based on data from the Bureau of Alcohol, Tobacco, and Firearms, U.S. Department of the Treasury; and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 64. Cigars (SIC 2121): Indexes of output, employee hours, and employees, 1958-86
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	190.5	390.1	392.8	363.9	381.5	386.2	328.8
1959	202.0	381.0	382.0	370.1	368.9	372.0	334.7
1960	206.1	351.6	352.9	337.8	342.0	345.9	302.1
1961	195.7	315.2	312.7	340.5	304.2	304.4	302.1
1962	196.8	295.9	293.5	325.2	287.9	288.0	283.5
1963	198.0	276.7	276.1	287.7	269.4	270.8	251.4
1964	255.9	323.5	329.9	260.4	298.8	305.7	226.2
1965	230.2	282.5	282.5	282.1	273.3	276.2	246.3
1966	207.5	257.5	259.9	230.8	251.6	256.5	202.3
1967	197.6	253.2	249.4	293.3	246.9	245.7	257.1
1968	205.7	254.4	251.6	283.6	246.9	245.7	257.1
1969	197.2	233.7	230.4	266.6	226.2	224.3	242.7
1970	201.0	227.3	224.9	250.7	219.5	218.7	228.5
1971	189.1	201.8	201.5	203.8	194.8	195.8	185.6
1972	168.6	179.7	176.3	218.8	175.6	172.7	200.0
1973	155.5	173.7	172.3	188.0	168.9	168.6	171.5
1974	142.5	147.1	147.9	137.8	152.1	154.3	128.5
1975	119.8	127.8	125.9	149.9	127.4	125.8	142.9
1976	108.5	108.6	107.7	117.6	109.1	108.6	114.1
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	95.6	98.6	100.0	83.3	98.7	100.0	85.7
1979	89.7	88.5	89.0	83.3	88.3	88.6	85.7
1980	85.0	79.9	79.5	83.3	79.2	78.6	85.7
1981	83.4	77.7	77.2	83.3	74.0	72.9	85.7
1982	76.1	68.3	66.9	83.3	66.2	64.3	85.7
1983	75.1	66.9	63.8	100.0	64.9	61.4	100.0
1984	75.2	53.2	50.4	83.3	54.5	51.4	85.7
1985	67.9	52.5	49.6	83.3	51.9	48.6	85.7
1986 ¹	63.6	42.4	40.2	66.7	41.6	38.6	71.4
Average annual percent change:							
1947-86	-2.5	-6.4	-6.6	-4.9	-6.4	-6.6	-4.4
1981-86	-4.7	-10.9	-11.8	-3.6	-10.2	-11.3	-3.0

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Alcohol, Tobacco, and Firearms, U.S. Department of the Treasury; and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 65. Cotton and synthetic broad woven fabrics (SIC 2211, 2221): Indexes of output per employee hour and output per employee, 1972-86
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1972	85.8	85.7	86.7	89.2	89.0	90.3
1973	76.6	76.5	77.1	78.9	79.0	78.4
1974	79.2	79.4	78.0	78.8	79.0	77.5
1975	86.7	87.2	83.0	84.4	84.6	82.6
1976	86.9	86.8	88.8	87.4	87.2	88.6
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	93.5	93.6	92.6	94.8	95.0	92.6
1979	100.7	100.5	102.8	102.5	102.5	102.8
1980	104.9	105.0	104.1	105.6	105.8	104.1
1981	107.4	108.0	101.0	107.0	107.7	101.0
1982	112.5	115.5	89.9	103.8	105.6	89.9
1983	121.6	122.8	112.3	122.0	123.1	112.3
1984	119.9	120.7	112.5	118.8	119.6	112.5
1985	123.9	125.0	114.0	120.8	121.7	114.0
1986 ²	130.3	130.7	128.4	132.4	133.0	128.4
Average annual percent change:						
1972-86	3.7	3.8	3.0	3.5	3.6	2.9
1981-86	3.6	3.4	5.6	4.4	4.2	5.6

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 66. Cotton and synthetic broad woven fabrics (SIC 2211, 2221): Indexes of output, employee hours, and employees, 1972-86
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1972	89.4	104.2	104.3	103.1	100.2	100.4	99.0
1973	80.6	105.2	105.3	104.6	102.1	102.0	102.8
1974	79.7	100.6	100.4	102.2	101.1	100.9	102.8
1975	79.5	91.7	91.2	95.8	94.2	94.0	96.2
1976	89.2	102.6	102.8	100.5	102.1	102.3	100.7
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	90.4	96.7	96.6	97.6	95.4	95.2	97.6
1979	97.5	96.8	97.0	94.8	95.1	95.1	94.8
1980	98.0	93.4	93.3	94.1	92.8	92.6	94.1
1981	94.7	88.2	87.7	93.8	88.5	87.9	93.8
1982	81.2	72.2	70.3	90.3	78.2	76.9	90.3
1983	92.2	75.8	75.1	82.1	75.6	74.9	82.1
1984	90.3	75.3	74.8	80.3	76.0	75.5	80.3
1985	82.5	66.6	66.0	72.4	68.3	67.8	72.4
1986 ¹	85.5	65.6	65.4	66.6	64.6	64.3	66.6
Average annual percent change:							
1972-86 .....	.3	-3.3	-3.4	-2.7	-3.1	-3.2	-2.6
1981-86	-1.4	-4.8	-4.6	-6.6	-5.5	-5.4	-6.6

¹ Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 67. Hosiery (SIC 2251, 2252): Indexes of output per employee hour and output per employee, 1958-86
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	29.7	29.3	33.7	29.2	28.7	35.7
1959	29.5	29.0	35.6	29.9	29.3	37.7
1960	30.3	29.7	37.0	30.6	29.8	39.3
1961	33.1	32.7	37.8	33.6	33.0	39.9
1962	34.3	33.9	38.8	34.8	34.2	41.1
1963	38.8	38.1	46.3	38.9	38.0	49.1
1964	41.4	40.6	50.4	42.6	41.6	53.6
1965	41.4	40.6	50.4	42.3	41.3	53.3
1966	45.5	44.8	53.2	47.0	46.1	56.0
1967	51.1	50.7	56.0	52.1	51.4	59.2
1968	47.9	47.7	49.9	49.0	48.5	54.6
1969	55.2	55.0	57.1	56.5	56.0	61.0
1970	65.5	65.8	63.6	63.5	63.2	66.6
1971	61.8	63.2	52.6	60.3	60.9	55.4
1972	71.2	72.6	61.5	71.9	72.8	64.8
1973	74.6	76.4	63.1	72.1	73.0	64.9
1974	84.0	85.9	71.0	80.5	81.7	70.9
1975	94.3	96.4	79.8	89.2	90.3	80.1
1976	106.4	107.9	96.7	105.1	106.1	97.9
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	102.1	102.6	98.5	103.0	103.6	98.5
1979	107.9	109.8	93.4	112.0	114.5	94.0
1980	107.4	110.3	87.5	111.2	114.6	88.5
1981	122.0	125.6	96.8	127.7	132.5	97.3
1982	114.2	116.2	99.3	113.4	115.2	99.5
1983	118.0	117.6	122.6	121.3	121.1	122.6
1984	119.7	123.1	96.4	123.3	127.3	96.6
1985	118.3	119.5	109.5	123.8	125.7	109.7
1986 ²	118.6	119.9	108.3	126.5	128.8	109.0
Average annual percent change:						
1947-86	5.8	5.9	4.4	5.8	6.0	4.2
1981-86	-1	-3	1.8	.7	.5	1.8

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may

differ from those previously published.

SOURCE: Output based on data from the National Association of Hosiery Manufacturers, Inc., and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 68. Hosiery (SIC 2251, 2252): Indexes of output, employee hours, and employees, 1958-86
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	51.3	172.8	174.8	152.2	175.5	179.0	143.5
1959	54.0	182.9	186.3	151.8	180.4	184.6	143.2
1960	53.9	177.7	181.2	145.8	176.1	180.8	137.1
1961	59.0	178.0	180.4	156.0	175.6	179.0	147.7
1962	60.5	176.5	178.5	155.9	174.0	177.1	147.2
1963	62.7	161.7	164.5	135.4	161.3	165.1	127.8
1964	66.6	160.7	164.0	132.2	156.5	160.1	124.2
1965	70.2	169.6	172.8	139.4	165.9	169.8	131.7
1966	77.4	170.1	172.8	145.6	164.6	167.8	138.1
1967	85.8	167.8	169.2	153.1	164.7	166.9	144.9
1968	84.6	176.8	177.3	169.7	172.8	174.6	154.9
1969	102.7	186.1	186.6	179.8	181.7	183.3	168.3
1970	110.9	169.3	168.5	174.3	174.6	175.5	166.5
1971	92.2	149.2	146.0	175.2	152.9	151.3	166.5
1972	100.3	140.9	138.2	163.2	139.5	137.7	154.9
1973	97.3	130.4	127.4	154.1	134.9	133.2	149.9
1974	88.5	105.4	103.0	124.7	110.0	108.3	124.9
1975	90.8	96.3	94.2	113.8	101.8	100.5	113.3
1976	101.1	95.0	93.7	104.6	96.2	95.3	103.3
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	106.7	104.5	104.0	108.3	103.6	103.0	108.3
1979	119.1	110.4	108.5	127.5	106.3	104.0	126.7
1980	118.0	109.9	107.0	134.9	106.1	103.0	133.3
1981	131.4	107.7	104.6	135.8	102.9	99.2	135.0
1982	121.1	106.0	104.2	122.0	106.8	105.1	121.7
1983	132.8	112.5	112.9	108.3	109.5	109.7	108.3
1984	135.3	113.0	109.9	140.4	109.7	106.3	140.0
1985	131.6	111.2	110.1	120.2	106.3	104.7	120.0
1986 ¹	138.1	116.4	115.2	127.5	109.2	107.2	126.7
Average annual percent change:							
1947-86	3.2	-2.4	-2.5	-1.1	-2.4	-2.6	-9
1981-86	1.5	1.5	1.8	-3	.8	1.0	-3

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the National Association of Hosiery Manufacturers, Inc., and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 69. Yarn mills, except wool (SIC 2281): Indexes of output per employee hour and output per employee, 1958-86
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	59.5	58.7	71.9	54.0	52.7	74.8
1959	62.3	61.3	79.6	61.5	60.1	83.0
1960	65.3	64.2	82.0	62.0	60.5	85.0
1961	71.4	70.4	87.1	68.8	67.4	90.2
1962	74.7	73.6	94.0	73.5	71.9	97.4
1963	76.3	74.7	106.1	75.9	74.0	109.3
1964	80.6	79.9	91.3	83.1	82.4	94.4
1965	84.6	83.2	108.1	90.1	88.5	112.0
1966	81.8	79.9	120.2	85.5	83.3	123.5
1967	77.5	76.1	102.8	77.0	75.2	106.2
1968	80.2	78.9	102.4	81.9	80.0	112.2
1969	84.5	83.3	105.7	83.3	81.4	112.4
1970	84.3	83.6	96.7	82.2	80.9	101.0
1971	90.3	89.5	101.6	91.9	90.9	106.5
1972	91.0	90.2	105.3	94.6	93.5	110.5
1973	85.0	84.1	99.2	86.6	85.5	101.1
1974	89.1	89.4	87.1	84.8	84.6	86.9
1975	101.2	102.0	92.6	93.7	93.9	92.2
1976	93.5	93.1	100.1	91.8	91.2	100.6
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	104.2	104.1	105.4	103.5	103.3	105.3
1979	103.8	103.7	106.0	103.2	103.0	106.1
1980	99.7	100.4	91.3	96.9	97.4	91.4
1981	103.1	104.0	92.3	98.8	99.3	92.2
1982	118.2	119.7	101.7	109.0	109.7	101.6
1983	128.5	128.9	123.9	127.6	127.9	123.3
1984	129.6	130.7	115.4	125.2	126.2	115.8
1985	134.5	135.8	118.7	128.6	129.6	119.2
1986 ²	129.2	129.5	126.6	131.5	131.8	127.3
Average annual percent change:						
1958-86	2.5	2.6	.9	2.4	2.6	.7
1981-86	4.5	4.3	5.8	5.6	5.6	6.0

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 70. Yarn mills, except wool (SIC 2281): Indexes of output, employee hours, and employees, 1958-86
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	39.4	66.2	67.1	54.8	72.9	74.7	52.7
1959	44.8	71.9	73.1	56.3	72.9	74.6	54.0
1960	42.5	65.1	66.2	51.8	68.6	70.2	50.0
1961	45.1	63.2	64.1	51.8	65.6	66.9	50.0
1962	48.7	65.2	66.2	51.8	66.3	67.7	50.0
1963	50.3	65.9	67.3	47.4	66.3	68.0	46.0
1964	57.4	71.2	71.8	62.9	69.1	69.7	60.8
1965	66.5	78.6	79.9	61.5	73.8	75.1	59.4
1966	66.7	81.5	83.5	55.5	78.0	80.1	54.0
1967	61.7	79.6	81.1	60.0	80.1	82.0	58.1
1968	68.2	85.0	86.4	66.6	83.3	85.2	60.8
1969	74.4	88.0	89.3	70.4	89.3	91.4	66.2
1970	70.9	84.1	84.8	73.3	86.3	87.6	70.2
1971	82.0	90.8	91.6	80.7	89.2	90.2	77.0
1972	91.2	100.2	101.1	86.6	96.4	97.5	82.5
1973	88.9	104.6	105.7	89.6	102.7	104.0	87.9
1974	85.8	96.3	96.0	89.5	101.2	101.4	98.7
1975	82.2	81.2	80.6	88.8	87.7	87.5	89.2
1976	89.7	95.9	96.3	89.6	97.7	98.4	89.2
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	103.8	99.6	99.7	98.5	100.3	100.5	98.6
1979	98.9	95.3	95.4	93.3	95.8	96.0	93.2
1980	92.7	93.0	92.3	101.5	95.7	95.2	101.4
1981	90.9	88.2	87.4	98.5	92.0	91.5	98.6
1982	85.1	72.0	71.1	83.7	78.1	77.6	83.8
1983	100.0	77.8	77.6	80.7	78.4	78.2	81.1
1984	101.7	78.5	77.8	88.1	81.2	80.6	87.8
1985	96.7	71.9	71.2	81.5	75.2	74.6	81.1
1986 ¹	103.2	79.9	79.7	81.5	78.5	78.3	81.1
Average annual percent change:							
1958-86	3.4	.9	.7	2.4	.9	.8	2.6
1981-86	3.0	-1.4	-1.3	-2.6	-2.5	-2.4	-2.8

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 71. Sawmills and planing mills, general (SIC 2421): Indexes of output per employee hour and output per employee, 1958-86
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	65.2	66.7	55.3	61.3	62.0	55.6
1959	67.5	65.7	87.6	64.0	61.9	88.0
1960	67.1	65.4	86.1	65.3	63.4	86.1
1961	73.1	71.1	94.9	70.2	68.0	94.1
1962	76.4	74.0	104.4	74.1	71.6	103.0
1963	79.7	79.0	86.1	77.1	76.1	85.1
1964	84.7	84.3	87.4	83.4	82.9	86.6
1965	81.8	80.9	89.8	80.0	79.0	88.8
1966	82.7	81.6	93.0	80.6	79.3	91.4
1967	89.2	87.2	111.1	86.5	84.3	109.5
1968	91.5	90.0	106.1	89.9	88.2	106.7
1969	90.7	89.5	101.8	88.6	87.0	102.5
1970	90.0	90.1	89.2	88.0	87.7	90.6
1971	98.1	97.3	105.2	96.2	94.9	106.9
1972	107.6	106.8	114.1	107.5	106.5	116.0
1973	100.2	99.6	106.0	100.1	99.3	106.9
1974	95.4	95.9	91.5	93.2	93.5	91.3
1975	98.8	98.9	98.1	96.7	96.5	98.2
1976	103.2	103.1	103.2	102.2	102.0	103.9
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	102.3	102.9	96.8	100.5	101.0	96.9
1979	106.3	107.3	99.0	103.5	104.1	99.3
1980	104.2	107.7	82.4	101.1	103.9	83.2
1981	107.9	111.1	86.3	104.3	107.1	86.6
1982	115.1	119.3	89.0	110.2	113.5	89.4
1983	126.8	129.3	109.4	123.1	125.1	109.3
1984	132.3	134.5	116.0	128.4	130.0	116.5
1985	139.2	141.1	125.3	136.9	138.3	126.0
1986 ²	154.5	156.3	141.6	154.3	155.9	142.3
Average annual percent change:						
1958-86	2.4	2.6	1.0	2.5	2.7	1.1
1981-86	7.1	6.6	10.7	7.9	7.4	10.8

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may

differ from those previously published.

SOURCE: Output based on data from the National Forest Product Association, the Bureau of the Census, and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 72. Sawmills and planing mills, general (SIC 2421): Indexes of output, employee hours, and employees, 1958-86
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	86.0	131.9	129.0	155.6	140.3	138.6	154.6
1959	92.1	136.4	140.1	105.1	143.9	148.8	104.6
1960	89.6	133.6	137.0	104.1	137.3	141.4	104.1
1961	85.8	117.4	120.7	90.4	122.2	126.2	91.2
1962	88.7	116.1	119.8	85.0	119.7	123.9	86.1
1963	91.2	114.4	115.4	105.9	118.3	119.8	107.2
1964	94.7	111.8	112.3	108.3	113.5	114.2	109.3
1965	92.0	112.5	113.7	102.5	115.0	116.5	103.6
1966	89.6	108.4	109.8	96.3	111.2	113.0	98.0
1967	89.1	99.9	102.2	80.2	103.0	105.7	81.4
1968	90.2	98.6	100.2	85.0	100.3	102.3	84.5
1969	89.8	99.0	100.3	88.2	101.3	103.2	87.6
1970	87.3	97.0	96.9	97.9	99.2	99.6	96.4
1971	93.1	94.9	95.7	88.5	96.8	98.1	87.1
1972	102.2	95.0	95.7	89.6	95.1	96.0	88.1
1973	99.2	99.0	99.6	93.6	99.1	99.9	92.8
1974	92.3	96.7	96.2	100.9	99.0	98.7	101.1
1975	88.1	89.2	89.1	89.8	91.1	91.3	89.7
1976	98.6	95.5	95.6	95.5	96.5	96.7	94.9
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	99.4	97.2	96.6	102.7	98.9	98.4	102.6
1979	104.5	98.3	97.4	105.6	101.0	100.4	105.2
1980	101.2	97.1	94.0	122.8	100.1	97.4	121.6
1981	96.0	89.0	86.4	111.3	92.0	89.6	110.8
1982	83.0	72.1	69.6	93.3	75.3	73.1	92.8
1983	100.3	79.1	77.6	91.7	81.5	80.2	91.8
1984	104.5	79.0	77.7	90.1	81.4	80.4	89.7
1985	106.5	76.5	75.5	85.0	77.8	77.0	84.5
1986 ¹	118.8	76.9	76.0	83.9	77.0	76.2	83.5
Average annual percent change:							
1958-86 .....	.6	-1.8	-1.9	-4	-1.8	-2.0	-4
1981-86	5.4	-1.6	-1.1	-4.8	-2.2	-1.8	-4.8

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the National Forest Product Association, the Bureau of the Census, and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 73. Millwork (SIC 2431): Indexes of output per employee hour and output per employee, 1958-85
(1977 = 100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	75.6	77.0	70.7	77.2	78.3	72.8
1959	71.7	72.4	69.7	74.2	74.8	71.8
1960	73.2	74.8	67.7	73.8	75.0	69.3
1961	76.9	78.1	72.6	78.3	79.4	73.7
1962	78.1	78.8	76.3	79.8	80.6	77.1
1963	86.0	86.0	86.5	88.6	88.9	87.3
1964	86.0	85.9	87.2	88.3	88.3	88.0
1965	85.8	86.1	85.2	88.2	88.7	86.0
1966	82.7	84.0	78.4	84.4	85.7	79.3
1967	92.6	93.3	90.1	94.9	96.0	91.0
1968	93.9	93.7	96.0	95.5	95.9	94.4
1969	96.3	96.6	95.7	96.2	96.6	94.9
1970	95.9	97.6	89.7	95.7	97.2	89.8
1971	95.9	95.3	99.3	96.3	96.8	95.1
1972	107.2	104.5	121.6	107.0	106.1	111.3
1973	102.3	101.6	106.7	101.6	101.6	101.7
1974	92.7	94.4	85.5	91.3	92.8	84.6
1975	100.2	102.6	90.9	100.4	102.8	90.3
1976	99.1	99.6	97.3	98.8	99.2	97.0
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	90.3	90.2	90.6	89.9	89.7	90.6
1979	92.2	93.5	86.5	90.9	91.8	86.5
1980	93.6	97.2	79.8	92.0	95.0	79.8
1981	96.4	99.8	83.2	94.5	97.3	83.2
1982	86.1	91.2	68.3	85.0	89.6	68.3
1983	87.9	89.7	80.2	89.5	91.7	80.2
1984	88.7	89.8	83.9	89.4	90.7	83.9
1985 ²	85.7	86.8	80.9	87.3	88.8	80.9
Average annual percent change:						
1958-85 .....	.7	.8	.4	.6	.6	.3
1981-85	-2.0	-2.9	1.5	-1.1	-1.7	1.5

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Labor Statistics and the Bureau of the Census. Employment and hours based on data from the Bureau of Labor Statistics.

Table 74. Millwork (SIC 2431): Indexes of output, employee hours, and employees, 1958-85
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	58.5	77.4	76.0	82.8	75.8	74.7	80.4
1959	61.2	85.3	84.5	87.8	82.5	81.8	85.2
1960	55.7	76.1	74.5	82.3	75.5	74.3	80.4
1961	56.6	73.6	72.5	78.0	72.3	71.3	76.8
1962	59.7	76.4	75.8	78.2	74.8	74.1	77.4
1963	68.1	79.2	79.2	78.7	76.9	76.6	78.0
1964	69.2	80.5	80.6	79.4	78.4	78.4	78.6
1965	70.2	81.8	81.5	82.4	79.6	79.1	81.6
1966	66.6	80.5	79.3	84.9	78.9	77.7	84.0
1967	72.6	78.4	77.8	80.6	76.5	75.6	79.8
1968	78.7	83.8	84.0	82.0	82.4	82.1	83.4
1969	80.4	83.5	83.2	84.0	83.6	83.2	84.7
1970	77.1	80.4	79.0	86.0	80.6	79.3	85.9
1971	84.0	87.6	88.1	84.6	87.2	86.8	88.3
1972	103.6	96.6	99.1	85.2	96.8	97.6	93.1
1973	104.7	102.3	103.1	98.1	103.1	103.1	103.0
1974	84.6	91.3	89.6	99.0	92.7	91.2	100.0
1975	84.1	83.9	82.0	92.5	83.8	81.8	93.1
1976	92.5	93.3	92.9	95.1	93.6	93.2	95.4
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	94.8	105.0	105.1	104.6	105.5	105.7	104.6
1979	94.5	102.5	101.1	109.2	104.0	102.9	109.2
1980	85.9	91.8	88.4	107.6	93.4	90.4	107.6
1981	86.4	89.6	86.6	103.8	91.4	88.8	103.8
1982	73.0	84.8	80.0	106.9	85.9	81.5	106.9
1983	88.8	101.0	99.0	110.7	99.2	96.8	110.7
1984	99.2	111.9	110.5	118.3	111.0	109.4	118.3
1985 ¹	101.9	118.9	117.4	126.0	116.7	114.8	126.0
Average annual percent change:							
1958-85	2.0	1.3	1.2	1.5	1.4	1.3	1.6
1981-85	6.6	8.8	9.8	5.0	7.7	8.4	5.0

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Labor Statistics and the Bureau of the Census. Employment and hours based on data from the Bureau of Labor Statistics.

Table 75. Wood kitchen cabinets (SIC 2434): Indexes of output per employee hour and output per employee, 1972-85
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1972	82.2	80.8	90.0	84.8	85.3	82.4
1973	83.2	83.2	82.9	84.5	85.7	79.0
1974	78.0	80.7	67.1	78.5	81.3	66.5
1975	86.1	90.3	70.0	85.3	89.1	69.6
1976	81.0	81.4	78.9	81.0	81.4	78.7
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	97.8	97.4	99.5	100.4	100.5	99.5
1979	92.1	91.4	95.7	92.5	91.9	95.7
1980	98.2	100.5	87.9	97.2	99.2	87.9
1981	94.8	99.6	76.6	94.4	98.8	76.6
1982	96.1	104.3	69.2	95.5	103.0	69.2
1983	94.3	98.6	77.5	98.1	103.3	77.5
1984	94.2	95.6	87.6	99.5	102.2	87.6
1985 ²	89.1	90.8	81.6	92.5	94.9	81.6
Average annual percent change:						
1972-85	1.2	1.5	(³)	1.4	1.6	.4
1981-85	-1.4	-2.7	3.7	(³)	-9	3.7

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

³ Less than .05 percent.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

Table 76. Wood kitchen cabinets (SIC 2434): Indexes of output, employee hours, and employees, 1972-85
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1972	73.1	88.9	90.5	81.2	86.2	85.7	88.7
1973	80.1	96.3	96.3	96.6	94.8	93.5	101.4
1974	68.4	87.7	84.8	101.9	87.1	84.1	102.8
1975	60.8	70.6	67.3	86.8	71.3	68.2	87.3
1976	67.6	83.5	83.0	85.7	83.5	83.0	85.9
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	113.5	116.1	116.5	114.1	113.1	112.9	114.1
1979	113.2	122.9	123.8	118.3	122.4	123.2	118.3
1980	106.4	108.4	105.9	121.1	109.5	107.3	121.1
1981	100.4	105.9	100.8	131.0	106.3	101.6	131.0
1982	90.7	94.4	87.0	131.0	95.0	88.1	131.0
1983	108.1	114.6	109.6	139.4	110.2	104.6	139.4
1984	128.4	136.3	134.3	146.5	129.0	125.6	146.5
1985 ¹	126.4	141.8	139.2	154.9	136.7	133.2	154.9
Average annual percent change:							
1972-85	4.8	3.5	3.3	4.8	3.4	3.1	4.4
1981-85	8.4	10.0	11.4	4.6	8.4	9.4	4.6

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

Table 77. Veneer and plywood (SIC 2435, 2436): Indexes of output per employee hour and output per employee, 1958-85
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	41.7	40.4	55.2	41.4	40.0	56.7
1959	46.9	45.2	69.1	48.0	46.1	70.9
1960	49.3	47.7	67.7	48.3	46.6	69.1
1961	53.9	52.2	74.2	53.7	51.8	75.2
1962	58.3	56.1	86.1	59.0	56.7	86.8
1963	60.7	58.3	90.5	61.7	59.2	91.1
1964	62.6	60.4	89.1	64.1	61.9	89.6
1965	64.0	62.1	85.6	66.1	64.3	86.3
1966	64.3	62.5	83.3	65.8	64.0	83.9
1967	69.9	68.5	82.6	70.3	68.9	83.2
1968	73.5	71.7	91.1	75.2	73.7	89.4
1969	73.2	71.9	86.2	73.8	72.5	85.5
1970	83.2	83.0	83.7	82.2	82.0	83.7
1971	87.6	87.3	90.8	88.2	87.9	90.6
1972	89.8	88.8	98.7	93.0	92.5	98.2
1973	87.5	87.5	86.3	88.2	88.5	85.6
1974	87.8	88.8	80.7	85.9	86.7	79.9
1975	97.8	99.9	83.2	94.5	96.2	82.6
1976	97.9	98.1	96.3	97.6	97.8	96.1
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	101.7	102.3	97.6	101.3	101.8	97.6
1979	94.5	96.4	81.7	92.5	94.1	81.7
1980	102.8	105.8	82.9	98.3	100.7	82.9
1981	106.9	108.2	97.0	101.7	102.4	97.0
1982	114.4	117.3	94.9	107.0	108.8	94.9
1983	121.1	121.4	118.0	119.5	119.6	118.0
1984	120.0	119.3	126.6	118.2	117.2	126.6
1985 ²	121.3	119.7	137.5	120.2	118.5	137.5
Average annual percent change:						
1958-85	3.7	3.9	1.7	3.5	3.7	1.6
1981-85	3.1	2.2	10.4	4.4	3.7	10.4

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

Table 78. Veneer and plywood (SIC 2435, 2436): Indexes of output, employee hours, and employees, 1958-85
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	34.3	82.2	84.8	62.1	82.8	85.7	60.5
1959	43.8	93.3	97.0	63.4	91.3	95.1	61.8
1960	42.7	86.6	89.5	63.1	88.4	91.7	61.8
1961	46.5	86.2	89.1	62.7	86.6	89.7	61.8
1962	54.6	93.6	97.3	63.4	92.5	96.3	62.9
1963	56.3	92.8	96.6	62.2	91.3	95.1	61.8
1964	62.0	99.0	102.7	69.6	96.7	100.1	69.2
1965	68.2	106.5	109.8	79.7	103.1	106.1	79.0
1966	72.5	112.8	116.0	87.0	110.2	113.2	86.4
1967	70.9	101.5	103.5	85.8	100.9	102.9	85.2
1968	77.2	105.1	107.7	84.7	102.7	104.7	86.4
1969	75.9	103.7	105.6	88.0	102.9	104.7	88.8
1970	78.5	94.4	94.6	93.8	95.5	95.7	93.8
1971	88.3	100.8	101.2	97.3	100.1	100.4	97.5
1972	95.7	106.6	107.8	97.0	102.9	103.5	97.5
1973	94.1	107.6	107.5	109.1	106.7	106.3	109.9
1974	83.8	95.4	94.4	103.9	97.5	96.6	104.9
1975	80.5	82.3	80.6	96.8	85.2	83.7	97.5
1976	92.5	94.5	94.3	96.1	94.8	94.6	96.3
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	106.0	104.2	103.6	108.6	104.6	104.1	108.6
1979	96.8	102.4	100.4	118.5	104.6	102.9	118.5
1980	88.0	85.6	83.2	106.2	89.5	87.4	106.2
1981	88.7	83.0	82.0	91.4	87.2	86.6	91.4
1982	82.0	71.7	69.9	86.4	76.6	75.4	86.4
1983	97.6	80.6	80.4	82.7	81.7	81.6	82.7
1984	100.0	83.3	83.8	79.0	84.6	85.3	79.0
1985 ¹	96.8	79.8	80.9	70.4	80.5	81.7	70.4
Average annual percent change:							
1958-85	3.2	-.4	-.7	1.5	-.3	-.5	1.6
1981-85	3.8	.7	1.6	-5.9	-.6	.1	-5.9

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

Table 79. Hardwood veneer and plywood (SIC 2435): Indexes of output per employee hour and output per employee, 1972-85
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1972	84.9	83.5	97.0	87.7	86.6	96.5
1973	80.5	78.8	95.5	81.8	80.4	94.9
1974	83.4	81.7	99.6	82.7	81.1	98.6
1975	92.5	92.4	93.5	89.6	89.2	92.8
1976	89.1	88.7	93.2	89.1	88.7	93.0
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	100.7	99.8	107.7	99.5	98.6	107.7
1979	97.8	97.7	98.9	96.3	96.1	98.9
1980	104.1	104.9	97.9	100.4	100.7	97.9
1981	100.3	101.6	91.1	99.4	100.5	91.1
1982	101.4	104.6	81.9	95.1	97.2	81.9
1983	110.1	111.8	97.8	108.6	110.3	97.8
1984	103.9	104.8	98.0	102.6	103.3	98.0
1985 ²	108.9	110.0	101.8	107.5	108.4	101.8
Average annual percent change:						
1972-85	2.2	2.5	-1	1.9	2.1	(³)
1981-85	1.9	1.6	4.1	2.4	2.1	4.1

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

³ Less than .05 percent.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

Table 80. Hardwood veneer and plywood (SIC 2435): Indexes of output, employee hours, and employees, 1972-85
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1972	103.0	121.3	123.3	106.2	117.5	118.9	106.7
1973	98.0	121.8	124.3	102.6	119.8	121.9	103.3
1974	88.7	106.4	108.6	89.1	107.2	109.4	90.0
1975	77.3	83.6	83.7	82.7	86.3	86.7	83.3
1976	83.7	93.9	94.4	89.8	93.9	94.4	90.0
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	104.1	103.4	104.3	96.7	104.6	105.6	96.7
1979	102.2	104.5	104.6	103.3	106.1	106.4	103.3
1980	94.7	91.0	90.3	96.7	94.3	94.0	96.7
1981	94.1	93.8	92.6	103.3	94.7	93.6	103.3
1982	79.2	78.1	75.7	96.7	83.3	81.5	96.7
1983	94.6	85.9	84.6	96.7	87.1	85.8	96.7
1984	94.8	91.2	90.5	96.7	92.4	91.8	96.7
1985 ¹	91.6	84.1	83.3	90.0	85.2	84.5	90.0
Average annual percent change:							
1972-85	-2	-2.3	-2.6	-1	-2.0	-2.3	-1
1981-85	1.3	-6	-3	-2.7	-1.1	-9	-2.7

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

Table 81. Softwood veneer and plywood (SIC 2436): Indexes of output per employee hour and output per employee, 1972-85 (1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1972	93.5	92.7	100.4	97.3	96.9	99.9
1973	92.4	93.8	81.7	92.8	94.5	81.1
1974	91.1	93.9	72.3	88.4	90.9	71.6
1975	100.5	104.1	78.1	97.0	100.0	77.5
1976	102.1	102.8	97.1	101.7	102.3	96.9
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	102.1	103.4	92.3	102.0	103.4	92.3
1979	93.4	96.3	74.0	90.9	93.5	74.0
1980	102.7	107.1	75.9	97.8	101.4	75.9
1981	111.8	113.0	102.4	104.1	104.2	102.4
1982	122.1	124.7	103.6	114.3	115.7	103.6
1983	127.3	126.8	132.8	125.7	124.9	132.8
1984	129.6	127.7	149.3	127.7	125.5	149.3
1985 ²	128.2	124.6	168.7	127.5	123.8	168.7
Average annual percent change:						
1972-85	2.8	2.6	4.5	2.5	2.3	4.6
1981-85	3.4	2.2	14.6	5.3	4.4	14.6

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
 SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

Table 82. Softwood veneer and plywood (SIC 2436): Indexes of output, employee hours, and employees, 1972-85 (1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1972	92.1	98.5	99.3	91.7	94.7	95.0	92.2
1973	92.2	99.8	98.3	112.9	99.4	97.6	113.7
1974	81.4	89.4	86.7	112.6	92.1	89.5	113.7
1975	82.1	81.7	78.9	105.1	84.6	82.1	105.9
1976	96.9	94.9	94.3	99.8	95.3	94.7	100.0
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	106.8	104.6	103.3	115.7	104.7	103.3	115.7
1979	94.4	101.1	98.0	127.5	103.8	101.0	127.5
1980	84.9	82.7	79.3	111.8	86.8	83.7	111.8
1981	86.3	77.2	76.4	84.3	82.9	82.8	84.3
1982	83.3	68.2	66.8	80.4	72.9	72.0	80.4
1983	98.9	77.7	78.0	74.5	78.7	79.2	74.5
1984	102.4	79.0	80.2	68.6	80.2	81.6	68.6
1985 ¹	99.2	77.4	79.6	58.8	77.8	80.1	58.8
Average annual percent change:							
1972-85 .....	.6	-2.1	-2.0	-3.7	-1.9	-1.6	-3.8
1981-85	5.0	1.5	2.7	-8.4	-3	.6	-8.4

¹ Preliminary.
 NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

Table 83. Household furniture (SIC 251): Indexes of output per employee hour and output per employee, 1958-86
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	65.8	66.2	64.6	67.9	68.3	65.3
1959	67.8	66.8	75.3	72.1	71.4	76.0
1960	67.1	66.4	72.0	70.6	70.2	72.6
1961	67.7	66.9	72.8	70.8	70.4	73.1
1962	69.8	68.6	77.7	74.3	73.7	78.1
1963	73.1	72.0	80.5	77.3	76.8	80.7
1964	74.6	73.6	81.1	79.5	79.0	81.9
1965	77.2	75.6	88.3	82.0	80.8	88.8
1966	78.7	77.0	90.4	83.5	82.4	90.4
1967	78.9	77.2	90.3	82.3	80.9	90.3
1968	80.7	79.8	87.3	85.4	84.0	93.9
1969	81.6	80.6	87.8	85.8	84.5	93.3
1970	82.2	82.2	82.9	85.5	85.1	87.2
1971	86.5	86.3	88.3	89.9	89.8	90.8
1972	94.3	93.7	98.1	96.9	96.6	97.8
1973	97.3	94.7	117.8	99.2	96.8	116.5
1974	95.7	95.9	95.2	95.6	96.0	93.0
1975	97.5	98.4	92.6	94.9	95.5	91.1
1976	99.7	100.2	97.3	99.0	99.2	96.9
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	104.7	104.8	104.3	106.0	106.3	104.3
1979	101.5	102.3	96.7	102.2	103.1	97.1
1980	99.9	101.8	90.1	99.2	100.8	90.7
1981	103.0	104.8	93.4	102.5	104.1	93.7
1982	104.7	107.3	91.0	100.7	102.4	91.2
1983	110.2	111.1	105.4	109.4	110.2	105.4
1984	112.3	113.0	107.9	112.3	112.9	108.2
1985	112.5	114.0	104.5	111.7	113.0	104.8
1986 ²	116.9	117.8	112.1	117.2	117.9	112.6
Average annual percent change:						
1958-86	2.1	2.2	1.4	1.8	1.9	1.3
1981-86	2.5	2.3	3.9	2.9	2.7	4.0

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 84. Household furniture (SIC 251): Indexes of output, employee hours, and employees, 1958-86
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	51.4	78.1	77.7	79.6	75.7	75.3	78.7
1959	58.8	86.7	88.0	78.1	81.5	82.3	77.4
1960	56.0	83.5	84.4	77.8	79.3	79.8	77.1
1961	54.0	79.8	80.7	74.2	76.3	76.7	73.9
1962	59.3	85.0	86.5	76.3	79.8	80.5	75.9
1963	63.1	86.3	87.6	78.4	81.6	82.2	78.2
1964	67.4	90.3	91.6	83.1	84.8	85.3	82.3
1965	72.7	94.2	96.2	82.3	88.7	90.0	81.9
1966	77.2	98.1	100.2	85.4	92.5	93.7	85.4
1967	73.9	93.7	95.7	81.8	89.8	91.3	81.8
1968	78.9	97.8	98.9	90.4	92.4	93.9	84.0
1969	81.4	99.8	101.0	92.7	94.9	96.3	87.2
1970	77.8	94.7	94.6	93.9	91.0	91.4	89.2
1971	83.7	96.8	97.0	94.8	93.1	93.2	92.2
1972	99.2	105.2	105.9	101.1	102.4	102.7	101.4
1973	104.7	107.6	110.6	88.9	105.5	108.2	89.9
1974	96.3	100.6	100.4	101.2	100.7	100.3	103.6
1975	81.5	83.6	82.8	88.0	85.9	85.3	89.5
1976	92.5	92.8	92.3	95.1	93.4	93.2	95.5
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	108.3	103.4	103.3	103.8	102.2	101.9	103.8
1979	104.1	102.6	101.8	107.6	101.9	101.0	107.2
1980	97.1	97.2	95.4	107.8	97.9	96.3	107.0
1981	96.7	93.9	92.3	103.5	94.3	92.9	103.2
1982	85.5	81.7	79.7	94.0	84.9	83.5	93.7
1983	94.0	85.3	84.6	89.2	85.9	85.3	89.2
1984	101.6	90.5	89.9	94.2	90.5	90.0	93.9
1985	99.9	88.8	87.6	95.6	89.4	88.4	95.3
1986 ¹	104.5	89.4	88.7	93.2	89.2	88.6	92.8
Average annual percent change:							
1958-86	2.4	.3	.2	1.0	.6	.5	1.0
1981-86	2.7	.2	.4	-1.2	-.2	(²)	-1.2

¹ Preliminary.

² Less than .05 percent.

NOTE: Because of periodic revisions in source data, the measures in this table

may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 85. Wood household furniture (SIC 2511, 2517): Indexes of output per employee hour and output per employee, 1958-85
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	66.4	65.9	69.2	68.1	67.9	70.1
1959	68.4	66.8	82.3	72.5	71.1	83.3
1960	67.9	66.4	80.5	71.3	70.0	81.2
1961	68.3	66.9	78.9	70.9	69.9	79.0
1962	70.5	68.7	86.0	75.5	74.2	86.2
1963	74.8	73.0	91.7	79.7	78.2	92.2
1964	76.4	74.7	90.8	82.7	81.7	91.7
1965	78.9	76.5	101.2	84.7	82.7	101.8
1966	81.0	78.6	102.4	86.9	84.9	102.4
1967	81.1	78.8	100.5	84.5	82.6	100.5
1968	83.3	81.6	96.8	88.6	86.7	104.1
1969	85.9	84.5	97.4	90.5	89.0	103.3
1970	83.5	83.0	86.6	86.6	86.1	91.2
1971	89.5	89.0	92.7	92.2	91.8	95.2
1972	98.8	98.1	104.5	101.5	101.2	104.3
1973	103.9	98.4	179.9	105.8	100.6	178.1
1974	99.8	100.3	95.6	99.2	100.0	93.3
1975	98.0	99.5	87.2	93.1	94.2	85.8
1976	101.3	102.1	94.4	99.1	99.8	94.2
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	104.8	105.7	98.1	105.9	107.0	98.0
1979	101.6	103.2	90.7	101.9	103.6	91.0
1980	97.2	99.8	80.8	94.4	96.4	81.3
1981	97.3	99.3	83.8	95.9	97.8	83.9
1982	98.2	101.0	80.3	91.6	93.4	80.6
1983	103.9	105.7	91.9	101.0	102.3	91.9
1984	105.6	106.9	96.1	103.8	104.8	96.4
1985 ²	104.5	106.5	90.6	101.9	103.6	90.8
Average annual percent change:						
1958-85	1.8	2.0	.3	1.4	1.6	.3
1981-85	2.2	2.0	3.4	2.5	2.3	3.4

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 86. Wood household furniture (SIC 2511, 2517): Indexes of output, employee hours, and employees, 1958-85
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	49.5	74.6	75.1	71.5	72.7	72.9	70.6
1959	57.7	84.3	86.4	70.1	79.6	81.1	69.3
1960	54.9	80.9	82.7	68.2	77.0	78.4	67.6
1961	52.7	77.2	78.8	66.8	74.3	75.4	66.7
1962	59.4	84.2	86.4	69.1	78.7	80.0	68.9
1963	65.1	87.0	89.2	71.0	81.7	83.3	70.6
1964	69.5	91.0	93.1	76.5	84.0	85.1	75.8
1965	74.9	94.9	97.9	74.0	88.4	90.6	73.6
1966	80.7	99.6	102.7	78.8	92.9	95.0	78.8
1967	77.1	95.1	97.8	76.7	91.2	93.3	76.7
1968	81.2	97.5	99.5	83.9	91.6	93.7	78.0
1969	85.0	99.0	100.6	87.3	93.9	95.5	82.3
1970	75.9	90.9	91.4	87.6	87.6	88.2	83.2
1971	84.2	94.1	94.6	90.8	91.3	91.7	88.4
1972	102.1	103.3	104.1	97.7	100.6	100.9	97.9
1973	107.2	103.2	108.9	59.6	101.3	106.6	60.2
1974	100.2	100.4	99.9	104.8	101.0	100.2	107.4
1975	81.4	83.1	81.8	93.4	87.4	86.4	94.9
1976	96.8	95.6	94.8	102.5	97.7	97.0	102.8
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	109.7	104.7	103.8	111.8	103.6	102.5	111.9
1979	99.8	98.2	96.7	110.0	97.9	96.3	109.7
1980	90.6	93.2	90.8	112.1	96.0	94.0	111.4
1981	89.6	92.1	90.2	106.9	93.4	91.6	106.8
1982	80.1	81.6	79.3	99.7	87.4	85.8	99.4
1983	87.8	84.5	83.1	95.5	86.9	85.8	95.5
1984	97.5	92.3	91.2	101.5	93.9	93.0	101.1
1985 ¹	94.4	90.3	88.6	104.2	92.6	91.1	104.0
Average annual percent change:							
1958-85	2.2	.4	.2	1.9	.8	.6	1.9
1981-85	3.1	.8	1.0	-3	.5	.7	-4

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 87. Upholstered household furniture (SIC 2512): Indexes of output per employee hour and output per employee, 1958-85
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	71.7	72.2	69.7	75.4	76.4	70.4
1959	73.9	72.9	80.2	80.5	80.5	81.0
1960	72.6	72.3	74.6	78.0	78.6	75.2
1961	74.1	72.5	84.1	79.2	78.3	84.5
1962	74.9	73.2	85.3	81.6	80.9	86.2
1963	76.3	75.6	81.1	81.3	81.3	81.8
1964	78.2	77.3	83.2	82.1	81.9	84.0
1965	80.2	78.8	88.9	85.2	84.7	89.3
1966	81.9	80.5	91.1	86.2	85.6	91.4
1967	80.3	78.8	90.3	85.1	84.4	90.3
1968	80.9	79.4	90.7	86.2	84.5	97.7
1969	80.1	79.1	86.8	85.3	84.4	92.6
1970	84.4	83.5	90.1	89.5	88.7	94.8
1971	84.6	83.4	92.7	91.0	90.4	95.4
1972	89.8	88.8	95.3	94.0	93.8	95.2
1973	91.3	90.8	94.1	94.0	94.1	93.1
1974	91.9	91.1	96.0	92.8	92.7	93.6
1975	97.2	96.6	100.9	97.4	97.0	99.0
1976	98.1	97.6	101.7	98.5	98.1	101.2
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	108.8	108.0	113.1	111.0	110.5	113.0
1979	105.1	103.9	111.7	106.5	105.6	111.8
1980	102.3	102.7	100.5	105.8	106.7	101.1
1981	110.5	111.1	107.2	110.6	111.2	107.3
1982	115.9	116.9	110.7	113.3	113.5	111.3
1983	121.7	119.5	135.4	122.7	120.8	135.2
1984	122.8	122.8	122.8	125.4	125.8	123.4
1985 ²	124.7	125.1	122.6	126.0	126.6	123.1
Average annual percent change:						
1958-85	2.1	2.2	1.8	1.8	1.8	1.7
1981-85	3.0	2.9	3.8	3.7	3.7	3.9

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 88. Upholstered household furniture (SIC 2512): Indexes of output, employee hours, and employees, 1958-85
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	48.5	67.6	67.2	69.6	64.3	63.5	68.9
1959	55.8	75.5	76.5	69.6	69.3	69.3	68.9
1960	54.5	75.1	75.4	73.1	69.9	69.3	72.5
1961	52.8	71.3	72.8	62.8	66.7	67.4	62.5
1962	57.5	76.8	78.5	67.4	70.5	71.1	66.7
1963	58.1	76.1	76.9	71.6	71.5	71.5	71.0
1964	62.7	80.2	81.1	75.4	76.4	76.6	74.6
1965	67.3	83.9	85.4	75.7	79.0	79.5	75.4
1966	70.8	86.4	87.9	77.7	82.1	82.7	77.5
1967	67.4	83.9	85.5	74.6	79.2	79.9	74.6
1968	72.9	90.1	91.8	80.4	84.6	86.3	74.6
1969	75.1	93.7	95.0	86.5	88.0	89.0	81.1
1970	78.9	93.5	94.5	87.6	88.2	89.0	83.2
1971	80.8	95.5	96.9	87.2	88.8	89.4	84.7
1972	97.0	108.0	109.2	101.8	103.2	103.4	101.9
1973	100.1	109.6	110.2	106.4	106.5	106.4	107.5
1974	92.2	100.3	101.2	96.0	99.4	99.5	98.5
1975	81.3	83.6	84.2	80.6	83.5	83.8	82.1
1976	87.6	89.3	89.8	86.1	88.9	89.3	86.6
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	111.3	102.3	103.1	98.4	100.3	100.7	98.5
1979	113.5	108.0	109.2	101.6	106.6	107.5	101.5
1980	105.7	103.3	102.9	105.2	99.9	99.1	104.5
1981	103.3	93.5	93.0	96.4	93.4	92.9	96.3
1982	89.7	77.4	76.7	81.0	79.2	79.0	80.6
1983	99.9	82.1	83.6	73.8	81.4	82.7	73.9
1984	107.7	87.7	87.7	87.7	85.9	85.6	87.3
1985 ¹	107.5	86.2	85.9	87.7	85.3	84.9	87.3
Average annual percent change:							
1958-85	3.0	.9	.8	1.2	1.2	1.2	1.3
1981-85	2.7	-.4	-.2	-1.1	-1.0	-1.0	-1.2

¹ Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 89. Metal household furniture (SIC 2514): Indexes of output per employee hour and output per employee, 1958-85
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	66.7	67.5	63.6	69.1	70.2	64.1
1959	67.0	65.1	77.4	70.4	68.9	78.3
1960	64.6	63.4	71.3	67.7	66.9	72.1
1961	65.6	64.4	72.3	68.2	67.4	72.2
1962	68.9	67.2	78.1	71.7	70.3	78.6
1963	73.8	72.8	78.4	76.6	76.2	78.3
1964	74.2	73.1	80.2	77.7	77.0	81.2
1965	77.5	76.5	82.4	80.5	80.0	82.7
1966	75.8	75.3	78.2	79.9	80.3	78.0
1967	78.4	77.3	83.9	80.7	80.0	84.1
1968	81.1	81.8	78.2	84.0	83.9	84.0
1969	81.6	80.7	86.0	83.0	81.3	91.4
1970	85.6	86.5	81.5	86.6	86.7	86.0
1971	87.0	87.7	83.7	89.0	89.7	86.0
1972	94.0	93.4	97.2	93.8	93.1	97.2
1973	94.3	93.4	99.3	95.9	95.4	98.1
1974	90.1	91.2	85.6	89.2	90.5	83.6
1975	94.1	96.9	83.3	92.4	94.9	81.5
1976	96.3	97.7	90.3	96.5	98.0	90.2
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	97.7	96.8	101.4	98.7	98.2	101.4
1979	90.2	91.1	86.0	92.2	93.4	86.6
1980	93.6	93.4	94.4	92.9	92.5	95.0
1981	98.7	99.3	95.8	99.9	100.7	96.3
1982	107.5	110.9	94.1	110.5	114.4	94.7
1983	109.2	110.0	105.1	113.1	114.9	105.5
1984	121.3	120.6	124.2	123.5	123.3	123.9
1985 ²	123.9	123.7	124.5	125.5	125.7	124.2
Average annual percent change:						
1958-85	2.1	2.2	1.6	2.0	2.1	1.6
1981-85	5.9	5.4	8.3	5.8	5.3	8.1

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 90. Metal household furniture (SIC 2514): Indexes of output, employee hours, and employees, 1958-85
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	63.0	94.4	93.4	99.1	91.2	89.7	98.3
1959	68.9	102.9	105.8	89.0	97.9	100.0	88.0
1960	64.7	100.2	102.1	90.8	95.5	96.7	89.7
1961	61.0	93.0	94.7	84.4	89.4	90.5	84.5
1962	62.4	90.6	92.8	79.9	87.0	88.7	79.4
1963	67.6	91.6	92.8	86.2	88.2	88.7	86.3
1964	72.8	98.1	99.6	90.8	93.7	94.5	89.7
1965	75.6	97.6	98.8	91.7	93.9	94.5	91.4
1966	75.3	99.3	100.0	96.3	94.3	93.8	96.6
1967	75.4	96.2	97.5	89.9	93.4	94.2	89.7
1968	81.1	100.0	99.2	103.7	96.6	96.7	96.6
1969	82.0	100.5	101.6	95.4	98.8	100.8	89.7
1970	84.5	98.7	97.7	103.7	97.6	97.5	98.3
1971	84.5	97.1	96.3	100.9	94.9	94.2	98.3
1972	97.2	103.4	104.1	100.0	103.6	104.4	100.0
1973	106.6	113.0	114.1	107.4	111.1	111.7	108.7
1974	95.1	105.5	104.3	111.1	106.6	105.1	113.8
1975	78.7	83.6	81.2	94.5	85.2	82.9	96.6
1976	88.7	92.1	90.8	98.2	91.9	90.5	98.3
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	101.4	103.8	104.7	100.0	102.7	103.3	100.0
1979	95.5	105.9	104.8	111.0	103.6	102.2	110.3
1980	88.4	94.4	94.6	93.6	95.2	95.6	93.1
1981	89.7	90.9	90.3	93.6	89.8	89.1	93.1
1982	89.8	83.5	81.0	95.4	81.3	78.5	94.8
1983	96.4	88.3	87.6	91.7	85.2	83.9	91.4
1984	102.6	84.6	85.1	82.6	83.1	83.2	82.8
1985 ¹	102.8	83.0	83.1	82.6	81.9	81.8	82.8
Average annual percent change:							
1958-85	1.8	-3	-4	.2	-2	-3	.2
1981-85	4.1	-1.7	-1.2	-3.9	-1.6	-1.1	-3.6

¹ Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 91. Mattresses and bedsprings (SIC 2515): Indexes of output per employee hour and output per employee, 1958-86
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	51.2	50.0	55.1	51.9	50.9	55.8
1959	51.9	50.5	56.7	53.9	53.0	57.1
1960	53.2	52.7	54.8	54.6	54.3	55.6
1961	53.1	53.2	52.3	55.0	55.8	52.5
1962	55.5	55.4	55.6	57.1	57.5	56.1
1963	57.5	56.9	59.4	59.4	59.4	59.8
1964	59.1	58.8	59.8	61.0	61.2	60.2
1965	61.3	60.2	65.2	63.4	62.7	65.6
1966	62.4	60.6	69.1	64.2	62.8	69.1
1967	64.1	62.2	71.0	65.5	63.9	71.2
1968	66.8	65.9	69.6	70.1	68.7	75.2
1969	64.9	63.7	68.8	68.2	66.9	73.4
1970	67.7	67.2	69.0	70.5	69.9	72.4
1971	75.4	74.3	78.9	77.2	76.0	81.2
1972	83.5	82.3	87.6	84.8	83.9	87.6
1973	88.4	86.1	96.8	88.7	86.7	95.5
1974	94.3	92.4	100.8	93.2	91.5	99.0
1975	96.9	94.9	104.2	95.7	93.6	103.0
1976	99.2	98.3	101.9	99.5	99.0	101.5
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	101.5	100.2	106.1	101.0	99.4	106.6
1979	102.8	103.8	99.6	104.2	105.6	100.3
1980	112.1	114.8	104.1	111.2	113.4	104.7
1981	114.0	117.1	105.4	113.9	116.6	106.1
1982	104.3	107.1	96.2	103.1	105.2	97.0
1983	108.8	110.2	104.6	110.3	112.2	104.6
1984	109.7	109.7	109.9	110.1	109.8	110.6
1985	109.0	110.0	106.1	110.2	111.2	106.9
1986 ²	113.4	113.5	112.7	115.3	115.7	113.6
Average annual percent change:						
1958-86	3.4	3.5	3.0	3.2	3.3	3.0
1981-86 .....	.3	-.2	2.0	.7	.3	2.0

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the International Sleep Products Association, the Bureau of the Census and the Bureau of Labor Statistics.

Table 92. Mattresses and bedsprings (SIC 2515): Indexes of output, employee hours, and employees, 1958-86
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	61.0	119.2	121.9	110.8	117.5	119.9	109.4
1959	65.1	125.5	128.8	114.9	120.8	122.9	114.1
1960	61.7	115.9	117.0	112.5	113.1	113.6	110.9
1961	61.5	115.9	115.6	117.5	111.9	110.2	117.2
1962	66.7	120.2	120.4	119.9	116.8	116.1	118.8
1963	66.3	115.3	116.5	111.6	111.6	111.7	110.9
1964	68.7	116.3	116.8	114.9	112.6	112.2	114.1
1965	74.9	122.2	124.5	114.9	118.2	119.4	114.1
1966	76.6	122.8	126.5	110.8	119.3	121.9	110.9
1967	75.7	118.1	121.7	106.6	115.6	118.5	106.3
1968	83.4	124.9	126.5	119.9	119.0	121.4	110.9
1969	83.7	128.9	131.3	121.6	122.7	125.2	114.1
1970	81.5	120.4	121.2	118.2	115.6	116.6	112.5
1971	92.7	122.9	124.7	117.5	120.0	121.9	114.1
1972	98.6	118.1	119.8	112.5	116.3	117.5	112.5
1973	110.4	124.9	128.2	114.1	124.5	127.3	115.6
1974	97.4	103.3	105.4	96.6	104.5	106.4	98.4
1975	88.6	91.4	93.4	85.0	92.6	94.7	86.0
1976	95.1	95.9	96.7	93.3	95.6	96.1	93.7
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	99.9	98.4	99.7	94.2	98.9	100.5	93.7
1979	111.2	108.2	107.1	111.7	106.7	105.3	110.9
1980	114.5	102.1	99.7	110.0	103.0	101.0	109.4
1981	119.4	104.7	102.0	113.3	104.8	102.4	112.5
1982	97.0	93.0	90.6	100.8	94.1	92.2	100.0
1983	104.6	96.1	94.9	100.0	94.8	93.2	100.0
1984	107.2	97.7	97.7	97.5	97.4	97.6	96.9
1985	106.9	98.1	97.2	100.8	97.0	96.1	100.0
1986 ¹	111.8	98.6	98.5	99.2	97.0	96.6	98.4
Average annual percent change:							
1958-86	2.4	-1.0	-1.1	-.6	-.8	-.9	-.6
1981-86	(²)	-.4	.2	-2.0	-.8	-.3	-2.0

¹ Preliminary.

² Less than .05 percent.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the International Sleep Products Association, the Bureau of the Census and the Bureau of Labor Statistics.

Table 93. Office furniture (SIC 252): Indexes of output per employee hour and output per employee, 1958-86
(1977 = 100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	64.0	62.0	73.2	63.9	61.5	74.5
1959	69.8	66.6	85.0	70.9	67.4	86.4
1960	70.4	67.0	86.2	72.0	68.8	86.6
1961	72.5	69.8	84.0	74.1	71.6	84.4
1962	74.4	71.5	88.1	75.4	72.5	88.6
1963	75.9	72.7	90.3	77.7	74.8	90.3
1964	82.1	80.0	90.9	84.7	82.9	91.4
1965	84.2	81.1	98.1	88.6	86.2	98.1
1966	86.7	83.0	103.5	90.9	88.0	103.3
1967	86.5	84.2	96.0	89.1	87.3	95.9
1968	85.2	84.8	86.8	90.1	89.2	93.5
1969	88.0	89.2	84.1	91.6	92.2	89.5
1970	78.2	79.4	74.0	81.7	82.9	77.8
1971	83.9	86.6	75.3	86.5	89.5	77.3
1972	91.8	91.7	92.1	94.7	95.5	92.0
1973	90.6	89.9	93.0	92.7	92.8	92.2
1974	83.1	80.7	93.5	83.8	82.0	91.2
1975	85.5	87.4	78.8	83.4	85.1	77.6
1976	89.7	91.2	84.4	88.6	89.9	84.3
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	100.0	99.5	102.0	100.2	99.7	101.8
1979	107.2	106.5	109.8	109.1	108.9	109.9
1980	112.1	117.8	94.9	109.5	114.0	95.7
1981	108.8	112.4	97.4	109.5	113.3	97.8
1982	107.4	112.5	91.8	106.1	110.9	92.2
1983	112.0	116.9	97.1	109.8	114.0	97.1
1984	117.7	121.5	105.6	119.5	124.1	105.9
1985	116.7	123.2	97.7	117.3	124.3	98.0
1986 ²	117.2	123.3	99.2	118.5	125.3	99.5
Average annual percent change:						
1958-86	1.9	2.3	.6	1.8	2.2	.6
1981-86	1.9	2.2	1.0	2.3	2.7	1.0

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may

differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Business and Institutional Furniture Manufacturers Association, the Bureau of the Census and the Bureau of Labor Statistics.

Table 94. Office furniture (SIC 252): Indexes of output, employee hours, and employees, 1958-86
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	33.1	51.7	53.4	45.2	51.8	53.8	44.4
1959	37.5	53.7	56.3	44.1	52.9	55.6	43.4
1960	39.4	56.0	58.8	45.7	54.7	57.3	45.5
1961	38.4	53.0	55.0	45.7	51.8	53.6	45.5
1962	42.1	56.6	58.9	47.8	55.8	58.1	47.5
1963	45.6	60.1	62.7	50.5	58.7	61.0	50.5
1964	50.8	61.9	63.5	55.9	60.0	61.3	55.6
1965	57.5	68.3	70.9	58.6	64.9	66.7	58.6
1966	67.9	78.3	81.8	65.6	74.7	77.2	65.7
1967	69.7	80.6	82.8	72.6	78.2	79.8	72.7
1968	70.9	83.2	83.6	81.7	78.7	79.5	75.8
1969	81.4	92.5	91.3	96.8	88.9	88.3	90.9
1970	67.6	86.4	85.1	91.4	82.7	81.5	86.9
1971	64.8	77.2	74.8	86.0	74.9	72.4	83.8
1972	82.7	90.1	90.2	89.8	87.3	86.6	89.9
1973	87.5	96.6	97.3	94.1	94.4	94.3	94.9
1974	82.9	99.8	102.7	88.7	98.9	101.1	90.9
1975	68.2	79.8	78.0	86.6	81.8	80.1	87.9
1976	75.8	84.5	83.1	89.8	85.6	84.3	89.9
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	108.0	108.0	108.5	105.9	107.8	108.3	106.1
1979	121.0	112.9	113.6	110.2	110.9	111.1	110.1
1980	129.6	115.6	110.0	136.6	118.4	113.7	135.4
1981	131.4	120.8	116.9	134.9	120.0	116.0	134.3
1982	138.7	129.2	123.3	151.1	130.7	125.1	150.5
1983	146.1	130.4	125.0	150.5	133.1	128.2	150.5
1984	173.2	147.1	142.5	164.0	144.9	139.6	163.6
1985	178.1	152.6	144.6	182.3	151.8	143.3	181.8
1986 ¹	180.9	154.3	146.7	182.3	152.7	144.4	181.8
Average annual percent change:							
1958-86	5.9	3.8	3.5	5.2	4.0	3.6	5.3
1981-86	7.5	5.4	5.1	6.3	5.1	4.6	6.4

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Business and Institutional Furniture Manufacturers Association, the Bureau of the Census and the Bureau of Labor Statistics.

Table 95. Wood office furniture (SIC 2521): Indexes of output per employee hour and output per employee, 1958-85
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	67.1	62.5	98.0	67.7	62.7	98.0
1959	69.5	64.2	109.6	71.9	66.2	109.6
1960	68.0	63.7	96.1	71.4	67.0	96.8
1961	70.5	66.1	97.2	74.5	70.3	97.9
1962	69.9	64.8	104.2	74.9	69.9	105.0
1963	80.4	74.5	121.9	85.0	78.8	122.8
1964	84.5	79.2	116.7	88.3	83.1	118.6
1965	82.8	78.8	105.7	86.4	82.3	108.0
1966	85.9	81.5	112.5	88.3	83.5	114.9
1967	88.1	83.2	116.8	91.2	86.6	115.0
1968	87.7	83.3	113.9	95.0	90.1	121.4
1969	91.9	88.8	108.4	97.3	93.7	115.6
1970	83.9	79.6	109.6	85.3	79.9	116.9
1971	81.2	78.3	96.9	80.1	76.5	99.5
1972	84.5	81.1	102.8	85.8	82.3	103.9
1973	78.5	74.9	98.5	78.5	74.9	97.3
1974	83.0	78.4	109.7	80.8	76.0	108.3
1975	80.5	78.3	91.6	73.7	70.4	89.9
1976	81.9	79.2	96.0	78.0	74.6	95.1
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	100.7	103.3	91.0	98.4	100.7	90.7
1979	110.8	114.0	98.7	111.4	114.8	99.5
1980	109.2	117.5	84.1	100.6	105.4	85.1
1981	99.5	103.0	86.8	99.5	103.1	87.3
1982	90.3	92.0	83.5	88.0	89.1	84.0
1983	93.9	94.4	91.6	92.8	93.1	92.0
1984	96.0	97.2	91.2	96.1	97.3	91.7
1985 ²	96.2	98.6	87.6	96.6	99.0	88.0
Average annual percent change:						
1958-85	1.3	1.8	-8	1.0	1.4	-9
1981-85	-1	-3	1.1	.3	.1	1.0

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 96. Wood office furniture (SIC 2521): Indexes of output, employee hours, and employees, 1958-85
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	24.5	36.5	39.2	25.0	36.2	39.1	25.0
1959	27.4	39.4	42.7	25.0	38.1	41.4	25.0
1960	27.2	40.0	42.7	28.3	38.1	40.6	28.1
1961	27.5	39.0	41.6	28.3	36.9	39.1	28.1
1962	29.5	42.2	45.5	28.3	39.4	42.2	28.1
1963	34.5	42.9	46.3	28.3	40.6	43.8	28.1
1964	37.0	43.8	46.7	31.7	41.9	44.5	31.2
1965	40.5	48.9	51.4	38.3	46.9	49.2	37.5
1966	43.1	50.2	52.9	38.3	48.8	51.6	37.5
1967	46.7	53.0	56.1	40.0	51.2	53.9	40.6
1968	49.3	56.2	59.2	43.3	51.9	54.7	40.6
1969	57.8	62.9	65.1	53.3	59.4	61.7	50.0
1970	51.2	61.0	64.3	46.7	60.0	64.1	43.8
1971	43.6	53.7	55.7	45.0	54.4	57.0	43.8
1972	61.7	73.0	76.1	60.0	71.9	75.0	59.4
1973	60.8	77.5	81.2	61.7	77.5	81.2	62.5
1974	67.7	81.6	86.3	61.7	83.8	89.1	62.5
1975	53.4	66.3	68.2	58.3	72.5	75.8	59.4
1976	62.4	76.2	78.8	65.0	80.0	83.6	65.6
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	107.7	107.0	104.3	118.3	109.4	107.0	118.7
1979	139.9	126.3	122.7	141.7	125.6	121.9	140.6
1980	127.6	116.8	108.6	151.7	126.9	121.1	150.0
1981	120.0	120.6	116.5	138.3	120.6	116.4	137.5
1982	115.5	127.9	125.5	138.3	131.3	129.7	137.5
1983	120.7	128.6	127.8	131.7	130.0	129.7	131.2
1984	149.0	155.2	153.3	163.3	155.0	153.1	162.5
1985 ¹	143.0	148.6	145.1	163.3	148.1	144.5	162.5
Average annual percent change:							
1958-85	7.1	5.7	5.2	8.0	6.0	5.6	8.0
1981-85	6.2	6.3	6.6	5.1	5.9	6.2	5.1

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 97. Metal office furniture (SIC 2522): Indexes of output per employee hour and output per employee, 1958-85
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	64.5	62.7	71.7	64.2	62.1	72.1
1959	71.6	68.7	84.2	72.3	69.2	79.9
1960	72.7	69.3	87.4	74.0	70.7	87.9
1961	74.7	72.5	84.3	75.8	73.5	84.7
1962	77.9	75.4	88.1	77.6	74.7	88.7
1963	75.9	73.4	86.7	77.3	74.8	86.6
1964	82.9	81.5	88.6	85.4	84.3	89.0
1965	86.3	83.2	99.3	91.6	89.3	99.7
1966	88.3	84.5	104.9	93.6	90.6	105.3
1967	87.6	85.6	95.6	90.4	89.0	95.6
1968	86.2	86.4	85.3	90.6	90.3	91.5
1969	88.5	90.5	82.2	91.8	93.2	87.5
1970	78.0	80.8	69.7	82.5	85.8	73.0
1971	86.4	90.8	74.0	90.6	96.2	75.8
1972	96.7	97.9	92.6	100.4	103.2	92.2
1973	97.9	98.2	96.4	101.0	102.9	94.9
1974	84.5	82.7	91.4	86.7	85.9	88.9
1975	88.9	92.8	77.7	89.4	94.2	76.6
1976	94.8	98.6	83.7	95.3	99.5	83.2
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	99.8	97.6	108.3	101.3	99.4	108.3
1979	104.5	101.8	114.9	107.3	105.1	115.5
1980	113.9	118.1	101.2	115.0	119.7	101.9
1981	114.0	117.5	103.3	115.0	119.0	103.7
1982	116.6	124.2	96.4	116.3	123.8	96.7
1983	122.1	130.1	100.6	119.1	126.0	100.5
1984	130.4	136.4	113.1	133.4	141.0	113.2
1985 ²	128.2	137.5	103.7	129.0	139.1	103.9
Average annual percent change:						
1958-85	2.1	2.5	.9	2.1	2.4	.9
1981-85	3.5	4.2	1.7	3.7	4.5	1.6

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 98. Metal office furniture (SIC 2522): Indexes of output, employee hours, and employees, 1958-85
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	38.7	60.0	61.7	54.0	60.3	62.3	53.7
1959	44.1	61.6	64.2	52.4	61.0	63.7	55.2
1960	47.2	64.9	68.1	54.0	63.8	66.8	53.7
1961	45.5	60.9	62.8	54.0	60.0	61.9	53.7
1962	50.3	64.6	66.7	57.1	64.8	67.3	56.7
1963	53.0	69.8	72.2	61.1	68.6	70.9	61.2
1964	59.8	72.1	73.4	67.5	70.0	70.9	67.2
1965	68.5	79.4	82.3	69.0	74.8	76.7	68.7
1966	83.3	94.3	98.6	79.4	89.0	91.9	79.1
1967	84.2	96.1	98.4	88.1	93.1	94.6	88.1
1968	84.6	98.2	97.9	99.2	93.4	93.7	92.5
1969	96.6	109.1	106.7	117.5	105.2	103.6	110.4
1970	78.5	100.7	97.2	112.7	95.2	91.5	107.5
1971	78.1	90.4	86.0	105.6	86.2	81.2	103.0
1972	96.3	99.6	98.4	104.0	95.9	93.3	104.5
1973	104.8	107.1	106.7	108.7	103.8	101.8	110.4
1974	92.9	110.0	112.4	101.6	107.2	108.1	104.5
1975	77.7	87.4	83.7	100.0	86.9	82.5	101.5
1976	84.4	89.0	85.6	100.8	88.6	84.8	101.5
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	108.3	108.5	111.0	100.0	106.9	109.0	100.0
1979	110.3	105.5	108.3	96.0	102.8	104.9	95.5
1980	130.9	114.9	110.8	129.4	113.8	109.4	128.4
1981	137.7	120.8	117.2	133.3	119.7	115.7	132.8
1982	151.5	129.9	122.0	157.1	130.3	122.4	156.7
1983	160.5	131.5	123.4	159.5	134.8	127.4	159.7
1984	185.8	142.5	136.2	164.3	139.3	131.8	164.2
1985 ¹	198.4	154.8	144.3	191.3	153.8	142.6	191.0
Average annual percent change:							
1958-85	5.2	3.0	2.6	4.2	3.1	2.7	4.3
1981-85	9.8	6.1	5.4	8.0	5.8	5.0	8.0

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 99. Paper, paperboard, and pulp mills (SIC 2611, 2621, 2631, 2661): Indexes of output per employee hour and output per employee, 1958-86
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	46.2	44.1	58.2	47.9	45.2	60.0
1959	49.0	46.9	60.8	51.8	49.5	62.6
1960	50.6	48.8	59.8	52.9	50.9	61.6
1961	53.9	52.2	62.3	56.2	54.3	63.9
1962	56.0	54.2	65.4	58.5	56.5	67.3
1963	59.3	57.4	68.7	62.0	60.0	70.6
1964	62.3	60.3	73.1	65.8	63.6	75.5
1965	65.4	63.7	74.6	68.8	66.9	76.7
1966	68.7	66.9	78.1	72.8	70.9	79.9
1967	67.6	66.1	75.0	70.7	69.3	76.7
1968	71.9	69.9	82.3	75.8	73.7	84.0
1969	74.8	72.5	86.0	78.7	76.6	86.5
1970	77.5	75.8	85.7	79.5	78.0	85.1
1971	81.0	80.1	85.1	83.6	82.8	86.3
1972	87.9	86.7	93.1	91.6	90.5	96.0
1973	91.5	90.2	98.3	94.9	93.2	101.6
1974	91.5	90.5	95.2	93.6	92.4	98.2
1975	86.7	87.7	82.3	85.9	86.1	84.3
1976	95.0	95.0	95.1	95.9	95.6	96.7
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	103.2	103.7	101.1	103.5	104.3	101.1
1979	105.4	106.2	102.0	105.6	106.5	102.4
1980	105.2	106.4	100.5	105.7	106.9	101.3
1981	104.4	105.5	100.0	104.0	104.9	100.4
1982	111.3	113.7	102.5	109.6	111.6	102.9
1983	119.5	121.3	112.1	119.0	121.1	112.1
1984	121.0	123.1	113.2	121.9	124.3	113.6
1985	120.3	123.4	108.5	119.7	122.8	109.0
1986 ²	128.8	131.4	118.7	128.7	131.5	119.2
Average annual percent change:						
1947-86	3.7	4.0	2.1	3.4	3.8	2.0
1981-86	3.8	4.0	3.0	3.9	4.2	3.0

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may

differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census, the Bureau of Labor Statistics, and the American Paper Institute. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 100. Paper, paperboard, and pulp mills (SIC 2611, 2621, 2631, 2661): Indexes of output, employee hours, and employees, 1958-86
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	48.1	104.2	109.1	82.6	100.5	106.3	80.1
1959	53.6	109.4	114.4	88.1	103.4	108.3	85.6
1960	54.8	108.3	112.2	91.6	103.6	107.7	89.0
1961	56.5	104.9	108.3	90.7	100.6	104.1	88.4
1962	59.5	106.3	109.8	91.0	101.7	105.4	88.4
1963	62.7	105.8	109.2	91.3	101.1	104.5	88.8
1964	66.7	107.0	110.6	91.3	101.3	104.8	88.4
1965	70.6	107.9	110.9	94.7	102.6	105.6	92.1
1966	76.1	110.8	113.8	97.5	104.6	107.3	95.3
1967	75.9	112.2	114.8	101.2	107.3	109.6	98.9
1968	81.6	113.5	116.8	99.2	107.7	110.7	97.1
1969	85.9	114.9	118.5	99.9	109.2	112.1	99.3
1970	85.1	109.8	112.2	99.3	107.1	109.1	100.0
1971	86.0	106.2	107.3	101.0	102.9	103.9	99.6
1972	92.8	105.6	107.0	99.7	101.3	102.5	96.7
1973	97.1	106.1	107.7	98.8	102.3	104.2	95.6
1974	96.7	105.7	106.8	101.6	103.3	104.7	98.5
1975	82.1	94.7	93.6	99.7	95.6	95.3	97.4
1976	95.6	100.6	100.6	100.5	99.7	100.0	98.9
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	102.4	99.2	98.7	101.3	98.9	98.2	101.3
1979	106.0	100.6	99.8	103.9	100.4	99.5	103.5
1980	105.3	100.1	99.0	104.8	99.6	98.5	103.9
1981	102.4	98.1	97.1	102.4	98.5	97.6	102.0
1982	103.1	92.6	90.7	100.6	94.1	92.4	100.2
1983	110.9	92.8	91.4	98.9	93.2	91.6	98.9
1984	115.1	95.1	93.5	101.7	94.4	92.6	101.3
1985	113.0	93.9	91.6	104.1	94.4	92.0	103.7
1986 ¹	119.7	92.9	91.1	100.8	93.0	91.0	100.4
Average annual percent change:							
1947-86	3.5	-2	-4	1.4	.1	-2	1.5
1981-86	3.2	-6	-8	.1	-8	-1.0	.1

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census, the Bureau of Labor Statistics, and the American Paper Institute. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 101. Paper and plastic bags (SIC 2643): Indexes of output per employee hour and output per employee, 1958-85
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	57.6	56.9	61.0	58.0	56.9	63.0
1959	60.4	60.0	62.3	61.1	60.3	64.1
1960	61.1	60.3	64.9	58.7	56.9	67.0
1961	65.0	63.8	70.4	64.1	62.3	72.5
1962	66.7	65.5	72.2	65.9	64.0	74.3
1963	69.7	68.8	73.6	70.5	69.3	75.8
1964	69.3	68.7	71.7	71.2	70.5	74.2
1965	72.7	72.6	73.1	74.4	74.1	75.4
1966	72.4	71.9	74.6	75.0	74.7	76.3
1967	75.6	75.2	77.2	77.1	76.7	78.9
1968	79.7	78.9	83.2	83.1	82.6	85.2
1969	78.1	78.2	78.0	80.4	80.8	78.6
1970	75.8	74.4	82.2	76.5	75.2	81.9
1971	86.2	85.1	91.3	86.9	85.5	92.6
1972	88.9	88.7	89.4	90.5	90.0	92.1
1973	94.1	94.3	92.7	95.3	95.1	95.8
1974	98.6	96.5	108.3	99.4	96.6	112.0
1975	99.8	100.4	97.4	94.5	93.3	99.7
1976	100.5	100.1	102.1	98.6	97.3	103.6
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	100.1	99.6	102.0	101.5	101.3	102.1
1979	98.0	98.0	97.7	97.3	97.1	98.3
1980	94.6	95.0	93.1	94.5	94.6	94.2
1981	92.3	92.8	90.4	93.4	94.0	91.1
1982	95.3	95.9	93.1	94.3	94.6	93.5
1983	102.9	103.2	101.8	103.5	104.0	101.7
1984	105.6	106.4	102.9	106.1	106.6	103.8
1985 ²	107.2	106.8	108.4	108.4	108.2	108.8
Average annual percent change:						
1954-85	2.3	2.4	1.9	2.3	2.4	1.7
1981-85	4.1	3.9	4.7	4.2	4.1	4.7

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 102. Paper and plastic bags (SIC 2643): Indexes of output, employee hours, and employees, 1958-85
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	46.4	80.5	81.5	76.1	80.0	81.6	73.7
1959	50.5	83.6	84.2	81.1	82.7	83.7	78.8
1960	49.4	80.8	81.9	76.1	84.2	86.8	73.7
1961	52.0	80.0	81.5	73.9	81.1	83.5	71.7
1962	54.1	81.1	82.6	74.9	82.1	84.5	72.8
1963	61.3	88.0	89.1	83.3	86.9	88.4	80.9
1964	63.7	91.9	92.7	88.9	89.5	90.4	85.9
1965	67.0	92.1	92.3	91.6	90.1	90.4	88.9
1966	72.5	100.1	100.8	97.2	96.7	97.1	95.0
1967	73.3	97.0	97.5	95.0	95.1	95.6	92.9
1968	80.9	101.5	102.5	97.2	97.3	97.9	95.0
1969	81.8	104.7	104.6	104.9	101.8	101.2	104.1
1970	83.5	110.2	112.2	101.6	109.2	111.1	102.0
1971	89.7	104.0	105.4	98.3	103.2	104.9	96.9
1972	90.3	101.6	101.8	101.0	99.8	100.3	98.0
1973	96.8	102.9	102.6	104.4	101.6	101.8	101.0
1974	105.3	106.8	109.1	97.2	105.9	109.0	94.0
1975	94.7	94.9	94.3	97.2	100.2	101.5	95.0
1976	102.6	102.1	102.5	100.5	104.1	105.4	99.0
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	103.1	103.0	103.5	101.1	101.6	101.8	101.0
1979	105.3	107.5	107.5	107.8	108.2	108.5	107.1
1980	106.5	112.6	112.1	114.4	112.7	112.6	113.1
1981	104.9	113.6	113.0	116.1	112.3	111.6	115.2
1982	97.2	102.0	101.4	104.4	103.1	102.8	104.0
1983	106.9	103.9	103.6	105.0	103.3	102.8	105.1
1984	106.9	101.2	100.5	103.9	100.8	100.3	103.0
1985 ¹	107.7	100.5	100.8	99.4	99.4	99.5	99.0
Average annual percent change:							
1954-85	3.6	1.2	1.1	1.7	1.3	1.2	1.8
1981-85	1.5	-2.5	-2.3	-3.1	-2.6	-2.5	-3.1

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 103. Folding paperboard boxes (SIC 2651): Indexes of output per employee hour and output per employee, 1963-86
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	75.8	75.2	79.2	78.0	77.2	81.3
1964	77.5	76.8	81.3	80.6	79.8	84.2
1965	73.5	72.9	76.5	76.5	76.0	78.6
1966	74.0	73.4	77.1	76.9	76.2	79.1
1967	81.0	80.9	81.9	83.9	83.8	84.0
1968	85.8	84.8	91.3	88.6	87.5	93.1
1969	83.4	82.3	89.6	85.5	84.3	90.1
1970	77.4	77.1	78.8	77.8	77.5	78.5
1971	84.5	84.9	83.2	85.0	85.0	84.4
1972	91.6	91.6	92.5	92.5	91.6	95.3
1973	92.8	92.6	94.0	93.5	92.6	96.8
1974	98.4	99.4	94.7	98.8	99.0	97.5
1975	98.5	100.6	90.3	99.5	101.4	92.5
1976	102.8	103.7	99.7	105.1	106.0	101.1
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	104.6	105.0	103.2	104.9	105.2	103.5
1979	104.6	104.3	106.3	106.2	106.1	106.9
1980	101.6	102.1	99.7	102.2	102.6	100.6
1981	104.5	104.3	105.7	106.1	105.9	106.3
1982	104.2	105.5	98.6	104.3	105.9	98.9
1983	104.5	105.5	100.3	105.2	106.6	100.3
1984	102.4	103.6	97.5	104.7	106.5	98.1
1985	99.6	100.0	97.6	100.9	101.7	98.2
1986 ²	103.3	103.3	103.3	105.3	105.7	103.6
Average annual percent change:						
1963-86	1.7	1.7	1.3	1.6	1.7	1.2
1981-86	-6	-6	-5	-4	-4	-5

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may

differ from those previously published.

SOURCE: Output based on data from the Paperboard Packaging Council, the Bureau of the Census, and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 104. Folding paperboard boxes (SIC 2651): Indexes of output, employee hours, and employees, 1963-86
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	89.5	118.0	119.0	113.0	114.8	116.0	110.1
1964	89.8	115.9	116.9	110.5	111.4	112.6	106.7
1965	88.3	120.2	121.1	115.5	115.4	116.2	112.3
1966	93.3	126.1	127.1	121.0	121.4	122.4	118.0
1967	92.5	114.2	114.3	113.0	110.3	110.4	110.1
1968	96.3	112.2	113.6	105.5	108.7	110.0	103.4
1969	102.3	122.6	124.3	114.2	119.6	121.3	113.5
1970	84.7	109.5	109.8	107.5	108.9	109.3	107.9
1971	85.3	100.9	100.5	102.5	100.4	100.3	101.1
1972	94.3	102.9	103.0	101.9	102.0	102.9	98.9
1973	94.7	102.1	102.3	100.7	101.3	102.3	97.8
1974	95.4	97.0	96.0	100.7	96.6	96.4	97.8
1975	85.3	86.6	84.8	94.5	85.7	84.1	92.2
1976	95.4	92.8	92.0	95.7	90.8	90.0	94.4
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	107.0	102.3	101.9	103.7	102.0	101.7	103.4
1979	106.9	102.2	102.5	100.6	100.7	100.8	100.0
1980	104.0	102.4	101.9	104.3	101.8	101.4	103.4
1981	105.1	100.6	100.8	99.4	99.1	99.2	98.9
1982	101.1	97.0	95.8	102.5	96.9	95.5	102.2
1983	100.3	96.0	95.1	100.0	95.3	94.1	100.0
1984	105.9	103.4	102.2	108.6	101.1	99.4	107.9
1985	98.2	98.6	98.2	100.6	97.3	96.6	100.0
1986 ¹	101.3	98.1	98.1	98.1	96.2	95.8	97.8
Average annual percent change:							
1963-86	.7	-1.0	-1.0	-6	-8	-9	-5
1981-86	-6	(²)	(²)	-1	-2	-2	-1

¹ Preliminary.

² Less than .05 percent.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Paperboard Packaging Council, the Bureau of the Census, and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 105. Corrugated and solid fiber boxes (SIC 2653): Indexes of output per employee hour and output per employee, 1958-86
(1977 = 100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	49.9	47.9	56.9	51.7	49.6	58.6
1959	50.8	47.9	61.8	53.7	50.9	63.5
1960	50.6	48.1	59.1	52.3	49.8	60.9
1961	53.4	50.7	62.8	56.0	53.4	64.4
1962	54.1	51.1	65.4	57.2	54.3	67.1
1963	57.7	55.2	66.5	60.7	58.3	68.2
1964	58.9	56.4	67.5	63.3	61.2	69.6
1965	60.7	58.2	69.6	65.5	63.5	71.5
1966	63.2	59.6	76.8	67.4	64.0	78.6
1967	65.5	62.8	74.3	68.3	65.9	76.0
1968	67.9	64.7	78.6	71.3	68.4	80.2
1969	69.3	66.3	79.9	72.5	70.0	80.4
1970	73.1	70.8	80.4	73.4	71.3	79.8
1971	77.5	75.9	82.2	78.3	76.5	83.4
1972	79.6	77.3	87.2	82.3	79.8	89.7
1973	86.1	83.1	95.6	88.6	85.2	99.1
1974	92.0	91.8	92.3	89.7	87.8	95.1
1975	96.2	98.3	90.2	94.6	95.5	92.1
1976	101.5	101.5	101.5	101.0	100.2	103.3
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	103.4	103.0	104.7	103.0	102.3	104.7
1979	106.9	106.4	107.8	106.8	106.2	108.3
1980	111.0	113.1	105.2	109.8	111.4	105.9
1981	109.8	111.2	106.0	110.1	111.6	106.3
1982	111.9	114.2	105.5	110.5	112.4	106.1
1983	114.0	115.4	110.1	115.3	117.5	110.1
1984	118.9	118.7	119.8	120.7	120.9	120.1
1985	122.5	122.2	123.5	123.0	122.8	124.0
1986 ²	127.3	126.3	130.5	129.3	128.5	131.0
Average annual percent change:						
1958-86	3.7	4.0	2.8	3.4	3.7	2.7
1981-86	3.1	2.5	4.7	3.4	2.9	4.7

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may

differ from those previously published.

SOURCE: Output based on data from the Fiber Box Association, and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 106. Corrugated and solid fiber boxes (SIC 2653): Indexes of output, employee hours, and employment, 1958-86
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	36.1	72.3	75.4	63.5	69.8	72.8	61.6
1959	41.2	81.1	86.1	66.7	76.7	81.0	64.9
1960	41.2	81.5	85.6	69.7	78.8	82.8	67.7
1961	44.0	82.4	86.8	70.1	78.6	82.4	68.3
1962	47.0	86.8	91.9	71.9	82.1	86.6	70.0
1963	49.8	86.3	90.2	74.9	82.1	85.4	73.0
1964	53.9	91.5	95.5	79.8	85.2	88.0	77.4
1965	58.5	96.3	100.5	84.1	89.3	92.1	81.8
1966	63.8	100.9	107.1	83.1	94.7	99.7	81.2
1967	65.4	99.9	104.1	88.0	95.7	99.3	86.1
1968	70.7	104.2	109.2	90.0	99.2	103.4	88.2
1969	75.5	108.9	113.9	94.5	104.1	107.8	93.9
1970	75.8	103.7	107.0	94.3	103.2	106.3	95.0
1971	79.2	102.2	104.4	96.3	101.2	103.5	95.0
1972	87.5	109.9	113.2	100.4	106.3	109.6	97.5
1973	95.8	111.3	115.3	100.2	108.1	112.4	96.7
1974	91.0	98.9	99.1	98.6	101.5	103.7	95.7
1975	83.3	86.6	84.7	92.3	88.1	87.2	90.4
1976	94.4	93.0	93.0	93.0	93.5	94.2	91.4
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	107.3	103.8	104.2	102.5	104.2	104.9	102.5
1979	109.1	102.1	102.5	101.2	102.2	102.7	100.7
1980	105.2	94.8	93.0	100.0	95.8	94.4	99.3
1981	105.6	96.2	95.0	99.6	95.9	94.6	99.3
1982	102.7	91.8	89.9	97.3	92.9	91.4	96.8
1983	110.1	96.6	95.4	100.0	95.5	93.7	100.0
1984	117.6	98.9	99.1	96.2	97.4	97.3	97.9
1985	118.7	96.9	97.1	96.1	96.5	96.7	95.7
1986 ¹	125.9	98.9	99.7	96.5	97.4	98.0	96.1
Average annual percent change:							
1958-86	4.3	.6	.3	1.5	.8	.6	1.6
1981-86	4.0	.9	1.5	-.6	.6	1.1	-.6

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Fiber Box Association, and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 107. Industrial inorganic chemicals (SIC 281): Indexes of output per employee hour and output per employee, 1972-85
(1977 = 100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1972	97.3	94.7	103.5	96.5	93.1	103.5
1973	102.1	97.3	113.8	102.8	97.1	115.6
1974	104.1	101.2	110.7	104.7	100.5	113.6
1975	86.5	88.3	82.8	85.7	86.5	84.3
1976	94.4	96.9	89.7	94.2	96.0	91.1
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	102.6	102.9	101.9	102.8	103.2	101.9
1979	112.2	112.3	112.1	113.3	113.7	112.6
1980	94.3	98.0	87.4	93.2	96.3	88.0
1981	91.4	96.0	82.8	91.1	95.9	83.3
1982	86.3	91.8	76.6	85.0	90.1	76.9
1983	94.2	101.0	82.4	92.3	98.5	82.4
1984	106.0	113.5	93.1	105.4	113.1	93.4
1985 ²	102.6	111.0	88.2	102.5	111.8	88.6
Average annual percent change:						
1972-85	(³)	.9	-1.8	-.1	.9	-1.9
1981-85	4.5	5.2	3.3	4.6	5.5	3.2

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

³ Less than .05 percent.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 108. Industrial inorganic chemicals (SIC 281): Indexes of output, employee hours, and employees, 1972-85
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1972	90.6	93.1	95.7	87.5	93.9	97.3	87.5
1973	96.5	94.5	99.2	84.8	93.9	99.4	83.5
1974	105.1	101.0	103.9	94.9	100.4	104.6	92.5
1975	87.0	100.6	98.5	105.1	101.5	100.6	103.2
1976	95.0	100.6	98.0	105.9	100.9	99.0	104.3
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	105.6	102.9	102.6	103.6	102.7	102.3	103.6
1979	108.5	96.7	96.6	96.8	95.8	95.4	96.4
1980	95.9	101.7	97.9	109.7	102.9	99.6	109.0
1981	93.7	102.5	97.6	113.1	102.9	97.7	112.5
1982	82.7	95.8	90.1	107.9	97.3	91.8	107.5
1983	87.8	93.2	86.9	106.5	95.1	89.1	106.5
1984	98.4	92.8	86.7	105.7	93.4	87.0	105.4
1985 ¹	97.5	95.0	87.8	110.5	95.1	87.2	110.0
Average annual percent change:							
1972-85	-2	-2	-1.1	1.6	-.1	-1.1	1.7
1981-85	2.6	-1.8	-2.5	-.7	-2.0	-2.8	-.6

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 109. Alkalies and chlorine (SIC 2812): Indexes of output per employee hour and output per employee, 1972-85
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1972	102.1	96.7	117.6	101.3	95.2	117.2
1973	102.0	95.4	121.5	103.2	96.0	122.8
1974	113.3	107.4	129.8	115.1	108.0	133.6
1975	90.0	87.8	95.4	91.4	89.1	96.5
1976	98.0	100.2	93.2	99.5	101.9	94.7
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	106.6	105.7	108.5	108.3	108.7	107.6
1979	107.9	109.3	104.8	107.4	109.3	103.8
1980	115.4	119.9	105.8	107.7	108.0	106.8
1981	95.3	97.9	89.9	96.2	100.0	89.5
1982	100.8	104.2	93.7	99.1	102.1	93.3
1983	127.1	129.6	121.6	128.1	132.2	120.5
1984	146.3	142.7	155.2	150.7	148.4	156.2
1985 ²	147.4	146.1	150.2	147.2	146.1	149.6
Average annual percent change:						
1972-85	2.4	2.9	1.1	2.4	3.0	1.0
1981-85	13.3	11.8	16.5	13.5	12.0	16.7

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 110. Alkalies and chlorine (SIC 2812): Indexes of output, employee hours, and employees, 1972-85
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1972	114.2	111.8	118.1	97.1	112.7	120.0	97.4
1973	116.3	114.0	121.9	95.7	112.7	121.2	94.7
1974	133.6	117.9	124.4	102.9	116.1	123.7	100.0
1975	109.2	121.4	124.4	114.5	119.5	122.5	113.2
1976	112.1	114.4	111.9	120.3	112.7	110.0	118.4
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	99.1	93.0	93.8	91.3	91.5	91.2	92.1
1979	68.3	63.3	62.5	65.2	63.6	62.5	65.8
1980	67.5	58.5	56.3	63.8	62.7	62.5	63.2
1981	61.2	64.2	62.5	68.1	63.6	61.2	68.4
1982	63.8	63.3	61.2	68.1	64.4	62.5	68.4
1983	79.3	62.4	61.2	65.2	61.9	60.0	65.8
1984	94.5	64.6	66.2	60.9	62.7	63.7	60.5
1985 ¹	102.3	69.4	70.0	68.1	69.5	70.0	68.4
Average annual percent change:							
1972-85	-3.6	-5.9	-6.4	-4.7	-5.8	-6.4	-4.6
1981-85	15.3	1.8	3.1	-1.1	1.5	2.9	-1.2

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 111. Inorganic pigments (SIC 2816): Indexes of output per employee hour and output per employee, 1972-85
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1972	113.2	108.7	124.8	112.7	107.8	124.5
1973	114.6	106.0	140.4	117.8	108.8	141.5
1974	115.4	110.3	129.2	118.0	112.5	131.2
1975	104.2	105.5	101.6	104.3	104.8	103.4
1976	100.9	102.2	98.0	100.6	101.5	98.9
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	104.8	104.1	106.6	104.8	104.0	106.6
1979	105.0	104.4	106.5	105.8	105.8	105.9
1980	102.2	108.6	89.9	101.3	108.0	89.8
1981	105.1	113.0	90.4	102.7	110.2	90.3
1982	96.7	108.0	77.7	93.1	103.1	77.7
1983	104.0	113.8	86.9	102.4	112.7	86.4
1984	125.7	134.8	108.7	122.7	130.5	109.1
1985 ²	132.7	144.3	111.9	129.6	140.8	111.3
Average annual percent change:						
1972-85 .....	.4	1.7	-2.3	.1	1.3	-2.4
1981-85	7.6	7.4	7.9	7.7	7.5	7.9

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 112. Inorganic pigments (SIC 2816): Indexes of output, employee hours, and employees, 1972-85
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1972	121.3	107.2	111.6	97.2	107.6	112.5	97.4
1973	130.6	114.0	123.2	93.0	110.9	120.0	92.3
1974	154.7	134.0	140.2	119.7	131.1	137.5	117.9
1975	108.7	104.3	103.0	107.0	104.2	103.7	105.1
1976	109.1	108.1	106.7	111.3	108.4	107.5	110.3
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	106.6	101.7	102.4	100.0	101.7	102.5	100.0
1979	100.5	95.7	96.3	94.4	95.0	95.0	94.9
1980	101.3	99.1	93.3	112.7	100.0	93.8	112.8
1981	101.9	97.0	90.2	112.7	99.2	92.5	112.8
1982	87.6	90.6	81.1	112.7	94.1	85.0	112.8
1983	93.0	89.4	81.7	107.0	90.8	82.5	107.7
1984	97.9	77.9	72.6	90.1	79.8	75.0	89.7
1985 ¹	105.6	79.6	73.2	94.4	81.5	75.0	94.9
Average annual percent change:							
1972-85	-2.5	-2.9	-4.1	-2	-2.6	-3.8	-1
1981-85	1.8	-5.3	-5.1	-5.6	-5.4	-5.3	-5.6

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 113. Industrial inorganic chemicals, not elsewhere classified (SIC 2819 part): Indexes of output per employee hour and output per employee, 1972-85
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1972	92.9	89.2	101.9	92.6	88.2	102.0
1973	98.5	96.1	104.0	98.3	94.7	105.8
1974	102.1	100.2	106.1	101.8	98.3	109.0
1975	84.0	86.7	78.9	82.6	83.9	80.4
1976	93.9	97.0	87.8	93.1	95.3	89.2
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	101.4	101.9	100.4	101.4	102.0	100.4
1979	114.6	114.7	114.5	116.2	117.0	115.0
1980	90.3	93.8	83.7	89.9	93.2	84.5
1981	89.3	93.8	81.2	89.3	94.1	81.6
1982	80.8	85.7	72.1	78.9	83.1	72.3
1983	86.9	93.0	76.4	83.8	88.3	76.6
1984	97.5	105.5	84.3	96.2	103.8	84.6
1985 ²	95.3	104.0	81.3	94.6	103.4	81.7
Average annual percent change:						
1972-85	-4	.4	-2.1	-5	.4	-2.2
1981-85	3.2	4.2	1.6	3.2	4.2	1.6

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 114. Industrial inorganic chemicals, not elsewhere classified (SIC 2819 part): Indexes of output, employee hours, and employees, 1972-85
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1972	74.9	80.6	84.0	73.5	80.9	84.9	73.4
1973	80.7	81.9	84.0	77.6	82.1	85.2	76.3
1974	88.8	87.0	88.6	83.7	87.2	90.3	81.5
1975	77.6	92.4	89.5	98.4	93.9	92.5	96.5
1976	88.7	94.5	91.4	101.0	95.3	93.1	99.4
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	106.8	105.3	104.8	106.4	105.3	104.7	106.4
1979	120.3	105.0	104.9	105.1	103.5	102.8	104.6
1980	101.1	112.0	107.8	120.8	112.4	108.5	119.7
1981	99.1	111.0	105.7	122.0	111.0	105.3	121.4
1982	83.6	103.5	97.5	116.0	105.9	100.6	115.6
1983	87.2	100.4	93.8	114.1	104.1	98.7	113.9
1984	98.3	100.8	93.2	116.6	102.2	94.7	116.2
1985 ¹	96.3	101.0	92.6	118.5	101.8	93.1	117.9
Average annual percent change:							
1972-85	1.4	1.9	1.0	3.6	2.0	1.0	3.7
1981-85	1.1	-2.1	-3.0	-5	-2.1	-3.0	-5

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 115. Synthetic fibers (SIC 2823, 2824): Indexes of output per employee hour and output per employee, 1958-86
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	29.6	30.4	27.5	30.2	30.9	28.2
1959	33.9	33.4	35.9	34.7	34.0	36.8
1960	32.4	32.5	32.2	32.5	32.4	32.8
1961	34.8	35.1	34.0	35.2	35.4	34.4
1962	38.3	37.8	39.9	39.0	38.5	40.5
1963	37.9	38.4	36.4	38.9	39.6	37.0
1964	40.4	40.6	39.7	41.9	42.4	40.5
1965	41.8	41.6	42.1	42.9	42.9	42.7
1966	42.0	42.8	39.7	42.8	43.8	40.1
1967	45.0	45.3	44.3	45.7	46.0	44.7
1968	52.1	51.1	55.4	53.7	52.9	56.3
1969	52.5	51.8	55.2	53.9	53.3	55.8
1970	53.8	53.9	53.7	54.3	54.4	54.0
1971	63.3	62.4	66.5	63.8	62.9	66.9
1972	73.0	71.1	80.2	74.7	73.0	80.3
1973	79.5	77.0	88.7	81.7	79.3	89.9
1974	78.0	77.3	80.1	78.7	77.6	82.0
1975	84.5	86.9	77.5	83.4	85.0	78.9
1976	89.5	92.1	82.5	88.2	89.8	83.7
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	105.2	104.7	106.8	105.6	105.1	106.9
1979	115.0	113.9	118.2	115.8	114.8	118.8
1980	115.7	117.4	111.0	114.9	116.0	111.8
1981	120.9	122.7	115.5	119.9	121.3	116.0
1982	103.6	108.0	91.5	100.5	103.7	91.8
1983	126.2	128.9	118.4	124.5	126.7	118.4
1984	125.3	126.8	121.0	126.3	128.0	121.4
1985	135.8	138.7	127.0	137.1	140.8	127.7
1986 ²	148.2	148.6	146.7	149.1	149.5	147.1
Average annual percent change:						
1957-86	6.1	6.1	5.9	6.0	6.0	5.8
1981-86	5.3	5.0	6.5	6.0	5.8	6.5

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may

differ from those previously published.

SOURCE: Output based on data from the Textile Economics Bureau, Inc. and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 116. Synthetic fibers (SIC 2823, 2824): Indexes of output, employee hours, and employees, 1958-86
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	22.1	74.6	72.8	80.3	73.3	71.6	78.4
1959	26.4	77.8	79.0	73.5	76.1	77.7	71.8
1960	24.8	76.5	76.3	77.0	76.2	76.6	75.5
1961	26.1	74.9	74.3	76.8	74.2	73.8	75.8
1962	31.2	81.5	82.5	78.2	80.1	81.1	77.1
1963	33.3	87.8	86.7	91.4	85.5	84.0	90.1
1964	38.2	94.5	94.0	96.2	91.2	90.2	94.3
1965	43.8	104.9	105.3	104.0	102.2	102.1	102.6
1966	47.8	113.9	111.6	120.4	111.7	109.2	119.3
1967	48.7	108.2	107.6	109.9	106.6	105.8	108.9
1968	61.9	118.8	121.1	111.8	115.2	117.0	109.9
1969	64.2	122.2	124.0	116.4	119.1	120.4	115.0
1970	63.2	117.4	117.2	117.7	116.3	116.1	117.0
1971	72.9	115.2	116.9	109.7	114.2	115.9	108.9
1972	85.2	116.7	119.9	106.3	114.1	116.7	106.1
1973	96.3	121.1	125.0	108.6	117.8	121.5	107.1
1974	95.5	122.5	123.5	119.2	121.3	123.0	116.4
1975	85.9	101.7	98.8	110.9	103.0	101.1	108.9
1976	90.8	101.4	98.6	110.1	102.9	101.1	108.5
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	105.0	99.8	100.3	98.3	99.4	99.9	98.2
1979	113.0	98.3	99.2	95.6	97.6	98.4	95.1
1980	103.9	89.8	88.5	93.6	90.4	89.6	92.9
1981	104.2	86.2	84.9	90.2	86.9	85.9	89.8
1982	83.3	80.4	77.1	91.0	82.9	80.3	90.7
1983	96.4	76.4	74.8	81.4	77.4	76.1	81.4
1984	94.6	75.5	74.6	78.2	74.9	73.9	77.9
1985	96.0	70.7	69.2	75.6	70.0	68.2	75.2
1986 ¹	99.0	66.8	66.6	67.5	66.4	66.2	67.3
Average annual percent change:							
1957-86	5.9	-.2	-.2	(²)	-.1	-.1	.1
1981-86 .....	.4	-4.7	-4.3	-5.7	-5.2	-5.1	-5.7

¹ Preliminary.

² Less than .05 percent.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Textile Economics Bureau, Inc. and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 117. Pharmaceutical preparations (SIC 2834): Indexes of output per employee hour and output per employee, 1963-86 (1977=100)

Year	Output per hour ¹		Output per employee ¹		
	All employees	Production workers	All employees	Production workers	Nonproduction workers
Index:					
1963	52.9	49.0	54.2	50.1	59.0
1964	54.0	49.3	55.7	50.7	61.6
1965	58.5	53.8	59.6	54.7	65.4
1966	60.6	55.5	62.6	57.3	69.0
1967	64.4	59.4	64.1	59.1	70.0
1968	68.4	63.6	69.6	64.8	75.3
1969	73.0	66.6	74.1	67.7	81.9
1970	74.8	70.0	77.1	72.0	82.8
1971	81.0	80.1	82.8	81.8	83.8
1972	86.8	85.1	88.4	86.6	90.2
1973	84.8	84.5	85.5	85.2	85.6
1974	90.3	89.7	90.4	89.8	90.9
1975	92.5	94.1	90.8	92.5	89.3
1976	98.4	98.1	98.0	97.7	98.3
1977	100.0	100.0	100.0	100.0	100.0
1978	98.5	99.6	100.0	101.1	98.9
1979	105.3	102.4	101.8	99.1	104.7
1980	106.0	104.7	99.7	98.4	100.9
1981	104.2	104.8	103.6	104.1	103.0
1982	107.0	106.8	105.8	105.6	105.9
1983	115.2	115.0	112.2	111.9	112.5
1984	114.3	118.2	108.9	112.7	105.2
1985	111.9	117.7	109.9	115.4	104.7
1986 ²	114.8	121.0	114.3	120.5	108.7
Average annual percent change:					
1963-86	3.5	4.1	3.3	3.9	2.6
1981-86	1.8	3.0	1.7	2.9	.5

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table

may differ from those previously published.

SOURCE: Output based on data from the Pharmaceutical Manufacturer's Association and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 118. Pharmaceutical preparations (SIC 2834): Indexes of output, employee hours, and employees, 1963-86 (1977=100)

Year	Output	Employee hours		Employees		
		All employees	Production workers	All employees	Production workers	Nonproduction workers
Index:						
1963	36.5	69.0	74.5	67.3	72.8	61.9
1964	39.7	73.5	80.6	71.3	78.3	64.4
1965	44.6	76.2	82.9	74.8	81.5	68.2
1966	48.7	80.3	87.7	77.8	85.0	70.6
1967	51.7	80.3	87.1	80.7	87.5	73.9
1968	56.4	82.4	88.7	81.0	87.1	74.9
1969	63.2	86.6	94.9	85.3	93.4	77.2
1970	68.2	91.2	97.4	88.5	94.7	82.4
1971	74.4	91.9	92.9	89.9	91.0	88.8
1972	78.3	90.2	92.0	88.6	90.4	86.8
1973	81.7	96.4	96.7	95.6	95.9	95.4
1974	86.3	95.6	96.2	95.5	96.1	94.9
1975	88.3	95.5	93.8	97.2	95.5	98.9
1976	96.1	97.7	98.0	98.1	98.4	97.8
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	102.5	104.1	102.9	102.5	101.4	103.6
1979	104.7	99.4	102.2	102.8	105.7	100.0
1980	106.7	100.7	101.9	107.0	108.4	105.7
1981	106.9	102.6	102.0	103.2	102.7	103.8
1982	104.1	97.3	97.5	98.4	98.6	98.3
1983	109.8	95.3	95.5	97.9	98.1	97.6
1984	106.6	93.3	90.2	97.9	94.6	101.3
1985	106.9	95.5	90.8	97.3	92.6	102.1
1986 ¹	111.1	96.8	91.8	97.2	92.2	102.2
Average annual percent change:						
1963-86	4.9	1.3	.7	1.6	1.0	2.2
1981-86 .....	.7	-1.0	-2.3	-.9	-2.2	.2

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Pharmaceutical

Manufacturer's Association and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 119. Soaps and detergents (SIC 2841): Indexes of output per employee hour and output per employee, 1958-85
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	61.6	58.1	69.2	60.1	55.6	69.6
1959	66.9	63.3	74.7	65.5	61.0	75.0
1960	64.8	60.5	74.5	63.7	58.7	74.5
1961	65.5	60.6	76.5	64.7	59.4	76.3
1962	66.5	60.5	81.5	65.5	58.8	80.8
1963	72.0	64.9	89.8	70.4	62.6	89.0
1964	72.0	65.5	87.6	70.4	63.2	87.0
1965	69.9	64.5	82.4	68.5	62.5	81.6
1966	74.7	69.7	86.0	73.8	68.4	85.2
1967	79.3	74.2	90.8	77.9	72.1	90.1
1968	80.3	76.0	89.3	78.7	73.9	88.4
1969	80.2	77.2	86.3	79.0	75.8	85.2
1970	83.9	81.9	87.6	82.3	80.0	86.4
1971	86.1	85.1	87.7	83.5	81.7	86.6
1972	95.2	92.9	100.1	94.2	91.5	99.0
1973	100.8	99.4	103.4	100.2	98.2	103.6
1974	104.7	103.0	107.8	103.9	100.9	109.4
1975	97.3	95.0	101.7	96.6	93.3	102.7
1976	100.1	99.2	101.9	100.0	98.6	102.3
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	105.6	103.0	110.5	106.2	103.7	110.5
1979	104.8	102.1	110.2	105.0	102.1	110.2
1980	109.6	107.6	113.1	108.5	105.9	113.1
1981	107.3	103.9	114.4	106.1	101.7	114.4
1982	100.9	97.5	107.8	100.6	96.9	107.8
1983	97.7	94.6	103.6	98.4	95.5	103.6
1984	101.8	97.7	110.6	104.0	100.4	110.6
1985 ²	103.3	101.2	107.4	104.8	103.3	107.4
Average annual percent change:						
1958-85	2.2	2.4	1.6	2.3	2.6	1.7
1981-85	-7	-5	-1.0	.1	.7	-1.0

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

Table 120. Soaps and detergents (SIC 2841): Indexes of output, employee hours, and employees, 1958-85
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	48.1	78.1	82.8	69.5	80.0	86.5	69.1
1959	53.4	79.8	84.4	71.5	81.5	87.6	71.2
1960	53.5	82.6	88.5	71.8	84.0	91.2	71.8
1961	56.3	86.0	92.9	73.6	87.0	94.8	73.8
1962	58.6	88.1	96.8	71.9	89.5	99.6	72.5
1963	63.4	88.1	97.7	70.6	90.0	101.2	71.2
1964	66.0	91.7	100.7	75.3	93.8	104.4	75.9
1965	65.8	94.2	102.0	79.9	96.0	105.2	80.6
1966	69.8	93.4	100.1	81.2	94.6	102.0	81.9
1967	74.4	93.8	100.3	81.9	95.5	103.2	82.6
1968	78.9	98.3	103.8	88.4	100.3	106.8	89.3
1969	81.8	102.0	105.9	94.8	103.5	107.9	96.0
1970	85.8	102.3	104.7	98.0	104.3	107.2	99.3
1971	83.1	96.5	97.6	94.8	99.5	101.7	96.0
1972	93.7	98.4	100.9	93.6	99.5	102.4	94.6
1973	100.2	99.4	100.8	96.9	100.0	102.0	96.7
1974	102.1	97.5	99.1	94.7	98.3	101.2	93.3
1975	92.3	94.9	97.2	90.8	95.5	98.9	89.9
1976	97.5	97.4	98.3	95.7	97.5	98.9	95.3
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	108.3	102.6	105.1	98.0	102.0	104.4	98.0
1979	109.4	104.4	107.2	99.3	104.2	107.2	99.3
1980	116.9	106.7	108.6	103.4	107.7	110.4	103.4
1981	117.5	109.5	113.1	102.7	110.7	115.5	102.7
1982	109.2	108.2	112.0	101.3	108.5	112.7	101.3
1983	104.3	106.8	110.2	100.7	106.0	109.2	100.7
1984	106.8	104.9	109.3	96.6	102.7	106.4	96.6
1985 ¹	109.5	106.0	108.2	102.0	104.5	106.0	102.0
Average annual percent change:							
1958-85	3.2	1.0	.8	1.6	.9	.6	1.5
1981-85	-1.6	-1.0	-1.1	-6	-1.7	-2.3	-6

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

Table 121. Cosmetics and other toiletries (SIC 2844): Indexes of output per employee hour and output per employee, 1958-85
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	40.0	39.0	41.7	40.2	39.3	41.9
1959	43.9	41.9	47.7	44.3	42.3	48.0
1960	45.1	44.1	46.7	45.1	44.2	46.7
1961	46.9	47.0	46.6	47.3	47.8	46.5
1962	49.6	49.7	49.6	50.2	50.8	49.2
1963	57.0	58.1	55.4	57.9	59.8	55.0
1964	63.8	65.3	61.4	63.1	64.4	60.9
1965	65.7	66.6	64.5	66.0	67.4	64.0
1966	65.2	65.1	65.4	66.9	68.1	64.9
1967	62.5	63.1	61.6	62.8	64.0	61.2
1968	67.5	67.4	67.7	67.6	67.9	67.0
1969	64.8	64.7	65.1	65.2	65.8	64.2
1970	65.9	68.9	61.6	66.8	71.1	60.8
1971	73.3	80.4	64.2	73.4	81.4	63.3
1972	82.5	89.1	73.9	82.8	90.3	73.1
1973	87.2	97.4	74.9	87.7	97.9	75.1
1974	91.6	95.2	86.4	92.4	95.8	87.7
1975	94.0	95.6	91.6	94.8	96.4	92.5
1976	94.4	94.3	94.6	95.3	95.5	95.0
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	99.7	99.0	101.0	99.0	97.8	101.0
1979	94.0	94.7	92.8	93.5	94.0	92.8
1980	83.6	81.3	87.7	84.4	82.5	87.7
1981	76.1	70.8	86.4	76.3	71.2	86.4
1982	84.0	78.1	95.3	84.3	78.8	95.3
1983	86.2	80.0	98.6	87.6	81.9	98.6
1984	85.2	77.0	102.6	85.9	78.0	102.6
1985 ²	86.7	78.6	103.8	86.6	78.6	103.8
Average annual percent change:						
1958-85	2.9	2.6	3.3	2.9	2.6	3.3
1981-85	2.8	2.0	4.5	2.8	1.9	4.5

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

Table 122. Cosmetics and other toiletries (SIC 2844): Indexes of output, employee hours, and employees, 1958-85
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	22.7	56.8	58.2	54.5	56.4	57.8	54.2
1959	26.5	60.3	63.3	55.5	59.8	62.7	55.2
1960	26.9	59.7	61.0	57.6	59.6	60.9	57.6
1961	29.1	62.1	61.9	62.4	61.5	60.9	62.6
1962	32.0	64.5	64.4	64.5	63.8	63.0	65.0
1963	38.2	67.0	65.7	68.9	66.0	63.9	69.5
1964	42.6	66.8	65.2	69.4	67.5	66.1	70.0
1965	47.6	72.4	71.5	73.8	72.1	70.6	74.4
1966	52.1	79.9	80.0	79.7	77.9	76.5	80.3
1967	51.8	82.9	82.1	84.1	82.5	81.0	84.7
1968	59.8	88.6	88.7	88.3	88.5	88.1	89.2
1969	62.0	95.7	95.9	95.3	95.1	94.2	96.6
1970	66.8	101.4	97.0	108.5	100.0	93.9	109.9
1971	68.0	92.8	84.6	106.0	92.6	83.5	107.4
1972	77.8	94.3	87.3	105.3	94.0	86.2	106.4
1973	84.7	97.1	87.0	113.1	96.6	86.5	112.8
1974	88.1	96.2	92.5	102.0	95.3	92.0	100.5
1975	87.5	93.1	91.5	95.5	92.3	90.8	94.6
1976	95.5	101.2	101.3	101.0	100.2	100.0	100.5
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	104.9	105.2	106.0	103.9	106.0	107.3	103.9
1979	101.1	107.6	106.8	108.9	108.1	107.6	108.9
1980	91.1	109.0	112.1	103.9	107.9	110.4	103.9
1981	90.6	119.0	127.9	104.9	118.7	127.2	104.9
1982	99.0	117.9	126.7	103.9	117.4	125.7	103.9
1983	103.4	119.9	129.2	104.9	118.1	126.3	104.9
1984	107.6	126.3	139.7	104.9	125.3	137.9	104.9
1985 ¹	108.9	125.6	138.5	104.9	125.7	138.5	104.9
Average annual percent change:							
1958-85	5.9	2.9	3.2	2.5	3.0	3.2	2.5
1981-85	4.6	1.8	2.6	.1	1.8	2.7	.1

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

Table 123. Paints and allied products (SIC 2851): Indexes of output per employee hour and output per employee, 1958-86
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	55.3	53.6	57.5	56.1	53.9	59.0
1959	60.4	58.8	62.4	61.0	58.6	63.9
1960	64.9	63.0	67.6	65.4	62.5	69.0
1961	63.3	61.7	65.5	63.8	61.7	66.4
1962	66.1	64.3	68.4	67.5	66.0	69.5
1963	68.2	66.9	69.9	69.4	68.2	70.9
1964	72.5	70.4	75.4	74.6	72.8	76.8
1965	73.3	72.0	75.1	74.6	73.2	76.1
1966	76.9	75.1	79.2	78.0	76.4	79.9
1967	73.7	72.9	74.6	74.2	73.2	75.2
1968	81.0	80.1	82.1	81.9	80.5	83.5
1969	83.8	81.8	86.3	84.0	81.4	87.2
1970	74.9	73.5	76.8	74.8	72.9	77.3
1971	84.1	84.4	83.8	83.1	82.2	84.3
1972	88.0	85.9	90.7	88.5	86.6	90.8
1973	82.2	80.3	84.7	81.0	77.2	86.0
1974	90.4	91.5	89.0	90.9	90.6	91.3
1975	94.2	99.0	88.8	94.0	97.2	90.4
1976	97.3	99.6	94.2	97.7	99.4	95.7
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	104.3	105.0	103.3	103.9	104.4	103.4
1979	104.8	103.5	106.5	103.6	100.9	106.9
1980	100.8	105.0	95.7	99.1	101.5	96.5
1981	99.8	103.4	95.5	98.7	101.2	95.9
1982	106.5	113.8	98.3	104.7	110.3	98.8
1983	111.5	117.5	104.6	110.0	115.2	104.5
1984	119.0	123.0	114.3	117.4	120.0	114.6
1985	117.3	122.0	111.8	116.0	119.3	112.4
1986 ²	122.1	126.4	117.0	121.0	124.2	117.5
Average annual percent change:						
1958-86	2.6	2.9	2.2	2.4	2.7	2.1
1981-86	4.0	3.7	4.3	4.1	3.8	4.4

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 124. Paints and allied products (SIC 2851): Indexes of output, employee hours, and employees, 1958-86
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	51.9	93.9	96.9	90.2	92.5	96.3	88.0
1959	58.3	96.5	99.2	93.4	95.6	99.5	91.3
1960	60.9	93.8	96.7	90.1	93.1	97.4	88.3
1961	58.6	92.6	95.0	89.4	91.9	95.0	88.2
1962	61.9	93.7	96.3	90.5	91.7	93.8	89.1
1963	67.0	98.2	100.1	95.8	96.5	98.2	94.5
1964	71.6	98.7	101.7	94.9	96.0	98.4	93.2
1965	76.5	104.3	106.3	101.9	102.6	104.5	100.5
1966	82.5	107.3	109.9	104.2	105.8	108.0	103.3
1967	77.2	104.8	105.9	103.5	104.1	105.4	102.6
1968	83.9	103.6	104.7	102.2	102.5	104.2	100.5
1969	88.2	105.2	107.8	102.2	105.0	108.3	101.2
1970	84.0	112.2	114.3	109.4	112.3	115.3	108.7
1971	89.0	105.8	105.5	106.2	107.1	108.3	105.6
1972	95.0	108.0	110.6	104.7	107.4	109.7	104.6
1973	91.5	111.3	113.9	108.0	112.9	118.5	106.4
1974	96.1	106.3	105.0	108.0	105.7	106.1	105.3
1975	91.7	97.3	92.6	103.3	97.6	94.3	101.4
1976	96.1	98.8	96.5	102.0	98.4	96.7	100.4
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	104.1	99.8	99.1	100.8	100.2	99.7	100.7
1979	106.5	101.6	102.9	100.0	102.8	105.5	99.6
1980	100.6	99.8	95.8	105.1	101.5	99.1	104.2
1981	96.6	96.8	93.4	101.2	97.9	95.5	100.7
1982	92.2	86.6	81.0	93.8	88.1	83.6	93.3
1983	96.0	86.1	81.7	91.8	87.3	83.3	91.9
1984	105.8	88.9	86.0	92.6	90.1	88.2	92.3
1985	104.9	89.4	86.0	93.8	90.4	87.9	93.3
1986 ¹	108.8	89.1	86.1	93.0	89.9	87.6	92.6
Average annual percent change:							
1958-86	2.3	-3	-6	.1	-1	-4	.2
1981-86	3.1	-8	-5	-1.2	-9	-6	-1.2

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 125. Industrial organic chemicals, not elsewhere classified (SIC 2869): Indexes of output per employee hour and output per employee, 1963-85
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	46.7	45.2	50.0	46.6	44.5	50.7
1964	50.1	48.6	53.2	50.5	48.6	54.1
1965	55.3	52.7	61.2	55.5	52.2	62.2
1966	58.0	55.6	63.1	57.7	54.7	63.7
1967	56.3	54.7	59.8	56.1	53.8	60.4
1968	58.1	57.0	60.2	58.8	57.3	61.4
1969	61.9	60.3	65.2	62.9	61.2	65.9
1970	65.5	65.1	66.3	65.4	64.6	66.8
1971	72.6	72.5	73.0	72.0	71.2	73.4
1972	81.5	82.2	80.4	80.4	80.4	80.5
1973	90.4	89.4	92.7	90.8	88.9	94.2
1974	102.8	102.3	104.0	103.6	101.9	106.7
1975	85.3	88.3	80.1	84.2	85.7	81.5
1976	93.4	94.7	91.1	92.8	92.9	92.5
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	102.8	104.4	99.5	102.9	104.9	99.5
1979	113.4	114.5	111.4	113.7	114.9	111.9
1980	98.9	103.4	91.1	98.1	102.3	91.8
1981	103.9	108.3	96.1	104.2	109.4	96.5
1982	87.2	94.8	75.6	85.6	92.8	75.8
1983	105.3	112.4	93.8	104.0	111.0	93.8
1984	114.0	122.2	101.1	113.1	121.3	101.6
1985 ²	112.4	120.9	99.0	111.6	120.5	99.3
Average annual percent change:						
1963-85	4.1	4.6	3.0	4.0	4.6	3.0
1981-85	4.3	4.9	3.6	4.2	4.7	3.6

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 126. Industrial organic chemicals, not elsewhere classified (SIC 2869): Indexes of output, employee hours, and employees, 1963-85
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	35.5	76.0	78.5	71.0	76.1	79.8	70.0
1964	39.2	78.3	80.7	73.7	77.6	80.6	72.4
1965	45.3	81.9	85.9	74.0	81.6	86.7	72.8
1966	49.2	84.9	88.5	78.0	85.2	90.0	77.2
1967	47.5	84.3	86.8	79.4	84.7	88.3	78.6
1968	51.6	88.8	90.5	85.7	87.8	90.0	84.1
1969	56.9	91.9	94.3	87.3	90.5	92.9	86.3
1970	60.7	92.7	93.3	91.5	92.8	93.9	90.9
1971	64.2	88.4	88.6	88.0	89.2	90.2	87.5
1972	73.3	89.9	89.2	91.2	91.2	91.2	91.1
1973	83.1	91.9	93.0	89.6	91.5	93.5	88.2
1974	94.6	92.0	92.5	91.0	91.3	92.8	88.7
1975	78.6	92.1	89.0	98.1	93.4	91.7	96.4
1976	90.3	96.7	95.4	99.1	97.3	97.2	97.6
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	104.3	101.5	99.9	104.8	101.4	99.4	104.8
1979	116.7	102.9	101.9	104.8	102.6	101.6	104.3
1980	102.4	103.5	99.0	112.4	104.4	100.1	111.5
1981	103.9	100.0	95.9	108.1	99.7	95.0	107.7
1982	85.3	97.8	90.0	112.9	99.6	91.9	112.5
1983	98.8	93.8	87.9	105.3	95.0	89.0	105.3
1984	104.2	91.4	85.3	103.1	92.1	85.9	102.6
1985 ¹	95.9	85.3	79.3	96.9	85.9	79.6	96.6
Average annual percent change:							
1963-85	5.0	.9	.3	1.9	.9	.3	1.9
1981-85	.4	-3.8	-4.2	-3.0	-3.7	-4.1	-3.0

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 127. Petroleum refining (SIC 2911): Indexes of output per employee hour and output per employee, 1958-86
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	37.7	36.5	41.4	36.8	34.7	42.5
1959	42.4	41.1	46.5	41.6	39.4	47.6
1960	44.1	43.1	47.2	43.6	41.8	48.4
1961	47.5	46.7	50.3	46.9	45.1	51.3
1962	51.8	51.1	53.9	51.1	49.5	55.3
1963	55.7	54.6	58.7	54.5	52.3	60.2
1964	58.7	57.7	61.9	58.3	56.2	63.7
1965	63.6	62.5	67.2	62.7	60.4	68.8
1966	68.7	67.4	72.5	67.9	65.6	73.8
1967	70.4	69.5	72.9	70.0	68.3	74.3
1968	72.1	71.7	73.4	72.3	71.1	75.6
1969	74.2	75.8	70.4	76.6	76.4	77.1
1970	73.8	74.1	73.4	74.6	73.6	76.8
1971	77.2	78.1	75.0	77.2	76.6	78.6
1972	84.9	84.8	85.3	84.9	83.1	89.4
1973	93.6	94.7	91.1	92.6	91.3	95.4
1974	86.4	85.6	88.8	86.3	83.8	92.4
1975	88.7	89.7	86.7	87.7	86.9	89.2
1976	93.0	92.6	94.2	94.0	93.1	95.9
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	101.3	100.6	103.2	103.3	103.3	103.1
1979	94.9	96.8	90.4	96.0	97.7	90.6
1980	94.2	100.3	81.8	94.8	96.7	90.7
1981	83.7	85.7	78.7	84.9	87.9	78.9
1982	79.4	82.8	71.8	80.3	84.5	72.1
1983	81.8	86.1	72.5	83.5	89.5	72.6
1984	92.5	96.6	83.7	95.6	101.8	84.0
1985	102.6	106.3	94.1	105.5	111.4	94.4
1986 ²	114.9	113.8	118.0	120.7	121.8	118.3
Average annual percent change:						
1947-86	4.1	4.4	3.2	4.2	4.6	3.1
1981-86	7.3	6.7	8.9	8.1	7.7	8.9

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may

differ from those previously published.

SOURCE: Output based on data from the Energy Information Administration, U.S. Department of Energy; and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 128. Petroleum refining (SIC 2911): Indexes of output, employee hours, and employees, 1958-86
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	52.4	139.1	143.7	126.6	142.5	150.9	123.4
1959	55.7	131.4	135.6	119.9	133.8	141.3	116.9
1960	57.4	130.1	133.1	121.6	131.6	137.2	118.5
1961	58.8	123.7	126.0	117.0	125.5	130.3	114.6
1962	61.3	118.4	119.9	113.7	120.0	123.9	110.9
1963	62.9	113.0	115.2	107.1	115.4	120.3	104.4
1964	64.7	110.2	112.2	104.6	111.0	115.2	101.6
1965	66.5	104.5	106.4	99.0	106.0	110.1	96.6
1966	69.9	101.8	103.7	96.4	102.9	106.6	94.7
1967	72.9	103.6	104.9	100.0	104.1	106.7	98.1
1968	75.6	104.9	105.5	103.0	104.5	106.4	100.0
1969	76.9	103.7	101.4	109.3	100.4	100.7	99.7
1970	78.3	106.1	105.7	106.7	105.0	106.4	102.0
1971	80.4	104.2	102.9	107.2	104.1	104.9	102.3
1972	83.5	98.4	98.5	97.9	98.3	100.5	93.4
1973	88.4	94.4	93.3	97.0	95.5	96.8	92.7
1974	86.6	100.2	101.2	97.5	100.3	103.3	93.7
1975	85.9	96.8	95.8	99.1	98.0	98.8	96.3
1976	93.2	100.2	100.6	98.9	99.2	100.1	97.2
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	102.5	101.2	101.9	99.3	99.2	99.2	99.4
1979	101.5	107.0	104.9	112.3	105.7	102.8	112.0
1980	95.0	100.8	94.7	116.2	100.2	98.2	104.7
1981	90.1	107.7	105.1	114.5	106.1	102.5	114.2
1982	85.1	107.2	102.8	118.5	106.0	100.7	118.0
1983	34.3	103.0	97.9	116.2	101.0	94.2	116.1
1984	88.2	95.3	91.3	105.4	92.3	86.6	105.0
1985	88.2	86.0	83.0	93.7	83.6	79.2	93.4
1986 ¹	96.4	81.2	82.0	79.1	77.3	76.6	78.9
Average annual percent change:							
1947-86	2.7	-1.4	-1.7	-5	-1.5	-1.8	-5
1981-86 .....	.9	-6.0	-5.4	-7.3	-6.6	-6.3	-7.3

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Energy Information Administration, U.S. Department of Energy; and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 129. Tires and inner tubes (SIC 3011): Indexes of output per employee hour and output per employee, 1958-86
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	52.6	52.6	52.3	50.8	50.3	52.6
1959	58.3	57.0	63.0	57.3	55.8	63.3
1960	59.7	59.2	61.2	58.4	57.7	61.1
1961	61.6	62.1	59.8	60.3	60.7	59.0
1962	67.9	66.7	72.3	68.7	67.9	71.3
1963	72.9	72.4	74.3	72.3	72.1	73.3
1964	79.6	78.8	81.7	81.1	81.3	80.8
1965	81.3	80.8	82.6	83.5	84.1	81.4
1966	83.0	82.1	85.7	85.3	85.7	84.0
1967	82.7	83.6	79.7	79.6	80.1	78.0
1968	88.5	88.4	88.7	91.4	91.6	90.3
1969	85.4	85.1	86.6	89.0	89.2	88.6
1970	87.6	90.1	79.6	86.3	87.7	81.8
1971	94.3	95.7	89.2	93.0	94.0	90.6
1972	97.8	97.6	98.3	99.0	99.3	98.4
1973	95.1	96.3	90.7	93.9	94.4	92.3
1974	93.3	95.0	87.0	93.3	94.3	89.6
1975	91.8	95.5	79.9	88.8	91.4	81.5
1976	99.8	105.8	82.3	89.6	91.5	83.6
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	107.7	106.0	114.0	107.2	105.5	114.0
1979	107.3	107.1	108.2	103.6	102.3	108.6
1980	102.4	106.7	89.0	96.2	98.3	89.6
1981	118.1	117.7	118.8	113.5	111.9	119.5
1982	128.2	130.2	121.3	120.9	120.7	122.1
1983	136.1	135.4	138.7	135.4	134.5	139.0
1984	146.8	142.7	164.7	147.1	142.5	165.6
1985	146.7	145.0	153.5	140.0	136.5	154.3
1986 ²	148.1	139.9	189.7	143.5	133.8	190.6
Average annual percent change:						
1947-86	3.5	3.6	3.1	3.4	3.5	3.0
1981-86	4.7	3.6	9.6	5.0	3.8	9.6

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may

differ from those previously published.

SOURCE: Output based on data from the Rubber Manufacturers Association, and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 130. Tires and inner tubes (SIC 3011): Indexes of output, employee hours, and employees, 1958-86
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	39.8	75.7	75.6	76.1	78.4	79.2	75.6
1959	47.5	81.5	83.4	75.4	82.9	85.2	75.0
1960	47.1	78.9	79.5	77.0	80.7	81.6	77.1
1961	45.6	74.0	73.4	76.3	75.6	75.1	77.3
1962	52.0	76.6	78.0	71.9	75.7	76.6	72.9
1963	54.1	74.2	74.7	72.8	74.8	75.0	73.8
1964	61.1	76.8	77.5	74.8	75.3	75.2	75.6
1965	64.9	79.8	80.3	78.6	77.7	77.2	79.7
1966	69.6	83.9	84.8	81.2	81.6	81.2	82.9
1967	64.7	78.2	77.4	81.2	81.3	80.8	82.9
1968	78.7	88.9	89.0	88.7	86.1	85.9	87.2
1969	80.3	94.0	94.4	92.7	90.2	90.0	90.6
1970	76.1	86.9	84.5	95.6	88.2	86.8	93.0
1971	85.6	90.8	89.4	96.0	92.0	91.1	94.5
1972	93.4	95.5	95.7	95.0	94.3	94.1	94.9
1973	94.4	99.3	98.0	104.1	100.5	100.0	102.3
1974	95.9	102.8	100.9	110.2	102.8	101.7	107.0
1975	82.7	90.1	86.6	103.5	93.1	90.5	101.5
1976	81.6	81.8	77.1	99.2	91.1	89.2	97.6
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	96.7	89.8	91.2	84.8	90.2	91.7	84.8
1979	93.8	87.4	87.6	86.7	90.5	91.7	86.4
1980	73.6	71.9	69.0	82.7	76.5	74.9	82.1
1981	79.0	66.9	67.1	66.5	69.6	70.6	66.1
1982	74.6	58.2	57.3	61.5	61.7	61.8	61.1
1983	79.5	58.4	58.7	57.3	58.7	59.1	57.2
1984	90.9	61.9	63.7	55.2	61.8	63.8	54.9
1985	86.4	58.9	59.6	56.3	61.7	63.3	56.0
1986 ¹	83.1	56.1	59.4	43.8	57.9	62.1	43.6
Average annual percent change:							
1947-86	2.9	-6	-7	-1	-5	-6	-1
1981-86	2.4	-2.2	-1.2	-6.6	-2.5	-1.4	-6.6

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Rubber Manufacturers Association and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 131. Miscellaneous plastics products (SIC 3079): Indexes of output per employee hour and output per employee, 1972-85
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1972	86.6	85.4	91.7	86.8	85.8	90.5
1973	93.6	92.4	98.5	93.3	92.2	98.3
1974	86.2	86.4	85.3	85.0	84.9	85.8
1975	86.2	89.1	76.6	85.1	87.6	77.0
1976	89.5	90.3	86.5	89.1	89.8	86.6
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	100.8	100.5	102.0	101.0	100.7	102.0
1979	94.8	94.7	95.0	94.4	94.2	95.0
1980	95.7	97.3	90.1	94.8	96.1	90.1
1981	98.5	99.5	94.5	97.9	98.7	94.5
1982	110.1	113.0	100.3	108.0	110.2	100.3
1983	107.3	107.8	105.4	108.7	109.6	105.4
1984	110.5	109.8	113.3	112.4	112.3	113.3
1985 ²	113.0	113.3	112.1	114.0	114.4	112.1
Average annual percent change:						
1972-85	2.1	2.1	1.8	2.2	2.2	1.8
1981-85	2.8	2.3	4.7	3.5	3.2	4.7

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

Table 132. Miscellaneous plastics products (SIC 3079): Indexes of output, employee hours, and employees, 1972-85
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1972	70.3	81.2	82.3	76.7	81.0	81.9	77.7
1973	84.9	90.7	91.9	86.2	91.0	92.1	86.4
1974	77.3	89.7	89.5	90.6	90.9	91.1	90.1
1975	67.6	78.4	75.9	88.2	79.4	77.2	87.8
1976	80.4	89.8	89.0	92.9	90.2	89.5	92.8
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	110.7	109.8	110.1	108.5	109.6	109.9	108.5
1979	109.0	115.0	115.1	114.7	115.5	115.7	114.7
1980	103.4	108.0	106.3	114.7	109.1	107.6	114.7
1981	110.5	112.2	111.0	116.9	112.9	111.9	116.9
1982	116.4	105.7	103.0	116.1	107.8	105.6	116.1
1983	123.5	115.1	114.6	117.2	113.6	112.7	117.2
1984	142.9	129.3	130.2	126.1	127.1	127.3	126.1
1985 ¹	148.3	131.2	130.9	132.3	130.1	129.6	132.3
Average annual percent change:							
1972-85	5.7	3.5	3.5	3.8	3.4	3.4	3.8
1981-85	8.3	5.3	5.8	3.4	4.6	4.9	3.4

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

Table 133. Footwear (SIC 314): Indexes of output per employee hour and output per employee, 1958-86
(1977 = 100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	90.3	89.1	100.0	90.6	89.3	102.3
1959	94.9	93.0	110.5	97.2	95.5	113.0
1960	93.8	92.5	104.2	94.6	93.3	106.0
1961	94.2	92.8	105.5	94.6	93.2	106.1
1962	95.3	93.3	112.1	96.8	95.0	112.7
1963	98.7	96.5	118.7	100.6	98.6	119.3
1964	98.4	95.9	121.3	102.2	100.1	122.3
1965	97.9	95.5	119.5	101.1	99.0	120.2
1966	99.0	96.8	118.9	102.8	101.1	119.0
1967	96.5	94.4	116.9	99.7	97.8	117.0
1968	100.1	97.8	122.0	104.1	102.2	122.2
1969	93.4	92.0	105.7	95.2	93.9	106.9
1970	100.3	99.3	107.9	102.6	101.5	110.6
1971	102.2	101.9	105.0	104.6	104.1	108.1
1972	99.5	99.0	103.7	104.1	103.6	106.9
1973	98.5	98.3	99.7	101.5	101.2	103.1
1974	96.8	97.6	90.8	98.0	98.5	94.1
1975	101.3	101.6	98.3	101.8	101.9	100.7
1976	102.1	102.0	102.4	102.7	102.5	104.3
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	102.5	101.9	106.8	101.3	100.6	106.7
1979	100.2	101.0	94.8	99.4	99.9	95.1
1980	99.1	100.2	92.0	98.6	99.3	92.5
1981	95.6	96.1	92.1	96.4	96.9	92.4
1982	106.4	107.3	99.9	103.8	104.2	100.2
1983	103.9	104.7	98.2	103.5	104.1	98.2
1984	105.7	107.4	94.1	103.7	104.9	94.4
1985	107.3	108.8	98.1	106.9	108.2	98.6
1986 ²	107.4	109.7	92.8	105.4	107.2	93.2
Average annual percent change:						
1947-86 .....	.8	1.0	(³)	.8	.9	-.1
1981-86	1.8	2.1	-2	1.5	1.8	-.1

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

³ Less than .05 percent.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 134. Footwear (SIC 314): Indexes of output, employee hours, and employees, 1958-86
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	141.2	156.4	158.5	141.2	155.9	158.2	138.0
1959	155.2	163.5	166.8	140.5	159.6	162.5	137.3
1960	148.0	157.8	160.0	142.0	156.4	158.6	139.6
1961	148.6	157.8	160.2	140.9	157.0	159.4	140.0
1962	151.4	158.8	162.2	135.0	156.4	159.4	134.3
1963	147.1	149.0	152.4	123.9	146.2	149.2	123.3
1964	150.0	152.4	156.4	123.7	146.7	149.8	122.6
1965	151.3	154.6	158.5	126.6	149.7	152.9	125.9
1966	155.2	156.7	160.3	130.5	151.0	153.5	130.4
1967	144.5	149.7	153.1	123.6	144.9	147.7	123.5
1968	153.8	153.7	157.3	126.1	147.7	150.5	125.9
1969	137.3	147.0	149.3	129.9	144.2	146.2	128.4
1970	135.1	134.7	136.0	125.2	131.7	133.1	122.2
1971	127.5	124.7	125.1	121.4	121.9	122.5	117.9
1972	126.0	126.6	127.3	121.5	121.0	121.6	117.9
1973	118.4	120.2	120.4	118.8	116.7	117.0	114.8
1974	109.1	112.7	111.8	120.1	111.3	110.8	116.0
1975	101.9	100.6	100.3	103.7	100.1	100.0	101.2
1976	105.6	103.4	103.5	103.1	102.8	103.0	101.2
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	100.1	97.7	98.2	93.7	98.8	99.5	93.8
1979	94.5	94.3	93.6	99.7	95.1	94.6	99.4
1980	91.4	92.2	91.2	99.3	92.7	92.0	98.8
1981	88.4	92.5	92.0	96.0	91.7	91.2	95.7
1982	86.6	81.4	80.7	86.7	83.4	83.1	86.4
1983	80.6	77.6	77.0	82.1	77.9	77.4	82.1
1984	72.2	68.3	67.2	76.7	69.6	68.8	76.5
1985	63.3	59.0	58.2	64.5	59.2	58.5	64.2
1986 ¹	56.4	52.5	51.4	60.8	53.5	52.6	60.5
Average annual percent change:							
1947-86	-1.5	-2.5	-2.6	-1.6	-2.4	-2.5	-1.6
1981-86	-9.0	-10.6	-10.9	-8.8	-10.4	-10.6	-8.9

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 135. Glass containers (SIC 3221): Indexes of output per employee hour and output per employee, 1958-86
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	64.8	64.2	68.6	67.3	67.1	68.8
1959	68.8	67.9	75.6	70.3	69.8	75.7
1960	67.1	66.3	73.5	69.6	69.2	73.5
1961	68.4	67.3	76.7	70.4	69.7	76.4
1962	70.9	70.0	77.6	73.6	73.1	77.4
1963	73.5	72.3	82.5	76.2	75.4	82.2
1964	75.5	74.4	84.0	78.9	78.4	84.2
1965	80.3	79.2	88.8	82.7	82.1	88.5
1966	80.2	79.0	90.0	83.2	82.4	89.4
1967	82.3	81.1	93.0	85.6	84.8	91.6
1968	86.4	86.4	87.4	87.6	87.7	87.5
1969	89.1	88.7	92.5	91.0	90.5	95.3
1970	87.2	86.4	92.6	90.0	89.0	97.9
1971	88.8	88.7	89.0	91.1	90.9	92.9
1972	88.6	88.3	90.8	91.5	91.3	93.1
1973	92.6	92.5	93.2	93.7	93.7	93.3
1974	99.3	98.8	102.8	100.1	100.1	100.4
1975	98.5	98.5	98.1	96.7	96.7	96.8
1976	98.2	97.7	102.6	100.6	100.3	102.5
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	99.4	99.0	102.9	101.4	101.2	103.0
1979	102.4	102.2	103.5	103.5	103.3	103.9
1980	105.2	105.9	100.2	106.5	107.3	100.6
1981	110.1	111.0	103.6	110.3	111.4	103.8
1982	105.8	106.3	101.7	107.2	108.0	101.7
1983	108.5	109.2	103.4	110.3	111.3	103.1
1984	128.0	130.0	115.5	126.0	127.5	115.5
1985	127.0	128.0	121.0	131.5	133.0	121.3
1986 ²	135.8	135.0	142.0	142.0	142.0	142.0
Average annual percent change:						
1947-86	2.0	2.1	1.3	1.9	1.9	1.3
1981-86	5.2	5.0	6.5	5.9	5.8	6.5

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 136. Glass containers (SIC 3221): Indexes of output, employee hours, and employees, 1958-86
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	52.2	80.6	81.3	76.1	77.6	77.8	75.9
1959	55.9	81.3	82.3	73.9	79.5	80.1	73.8
1960	57.6	85.8	86.9	78.4	82.7	83.2	78.4
1961	59.8	87.4	88.8	78.0	85.0	85.8	78.3
1962	62.4	88.0	89.1	80.4	84.8	85.4	80.6
1963	64.5	87.8	89.2	78.2	84.7	85.6	78.5
1964	67.4	89.3	90.6	80.2	85.4	86.0	80.0
1965	71.9	89.5	90.8	81.0	86.9	87.6	81.2
1966	75.7	94.4	95.8	84.1	91.0	91.9	84.7
1967	80.6	97.9	99.4	86.7	94.2	95.0	88.0
1968	79.1	91.5	91.6	90.5	90.3	90.2	90.4
1969	91.9	103.1	103.6	99.4	101.0	101.6	96.4
1970	94.4	108.3	109.2	101.9	104.9	106.1	96.4
1971	92.9	104.6	104.7	104.4	102.0	102.2	100.0
1972	94.2	106.3	106.7	103.8	103.0	103.2	101.2
1973	96.7	104.4	104.5	103.8	103.2	103.2	103.6
1974	95.6	96.3	96.8	93.0	95.5	95.5	95.2
1975	95.6	97.1	97.1	97.5	98.9	98.9	98.8
1976	101.3	103.2	103.7	98.7	100.7	101.0	98.8
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	104.2	104.8	105.2	101.3	102.8	103.0	101.2
1979	98.9	96.6	96.8	95.6	95.6	95.7	95.2
1980	97.0	92.2	91.6	96.8	91.1	90.4	96.4
1981	95.1	86.4	85.7	91.8	86.2	85.4	91.6
1982	89.5	84.6	84.2	88.0	83.5	82.9	88.0
1983	85.7	79.0	78.5	82.9	77.7	77.0	83.1
1984	86.3	67.4	66.4	74.7	68.5	67.7	74.7
1985	81.9	64.5	64.0	67.7	62.3	61.6	67.5
1986 ¹	87.2	64.2	64.6	61.4	61.4	61.4	61.4
Average annual percent change:							
1947-86	2.6	.5	.5	1.2	.7	.6	1.2
1981-86	-2.0	-6.8	-6.6	-8.0	-7.4	-7.3	-8.0

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 137. Hydraulic cement (SIC 3241): Indexes of output per employee hour and output per employee, 1958-86
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	52.1	49.4	68.3	52.6	49.6	68.5
1959	55.9	52.5	77.6	57.2	53.6	77.8
1960	55.3	52.5	72.5	55.9	52.9	72.7
1961	61.2	58.4	76.7	61.2	58.2	76.5
1962	64.9	62.2	79.9	65.0	62.1	80.0
1963	68.7	66.7	79.3	69.3	67.2	79.3
1964	71.0	70.1	75.7	72.6	71.8	76.0
1965	73.2	72.3	77.3	73.7	72.8	77.3
1966	76.7	76.1	80.1	78.2	77.7	79.6
1967	76.9	76.4	79.1	77.0	76.5	79.0
1968	85.3	84.2	90.3	86.9	85.8	91.4
1969	86.3	85.5	90.6	89.0	87.8	94.1
1970	84.8	85.0	84.1	86.9	86.3	89.6
1971	93.4	93.3	95.0	96.1	95.2	99.5
1972	95.0	93.9	100.4	97.4	96.1	103.2
1973	99.7	98.7	104.9	102.0	101.1	105.2
1974	91.5	90.5	96.5	92.3	91.7	94.5
1975	84.7	85.3	82.7	83.9	84.3	82.2
1976	92.4	93.3	89.4	91.8	92.3	89.7
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	101.3	101.0	102.8	103.4	103.4	103.0
1979	96.0	94.9	100.7	98.1	97.2	101.8
1980	87.0	87.4	84.9	87.1	87.4	86.1
1981	91.1	92.1	87.0	90.1	90.6	87.9
1982	94.0	97.8	81.1	90.8	93.5	81.9
1983	108.4	112.6	93.7	107.5	111.3	94.4
1984	125.3	131.1	105.6	121.3	125.8	106.1
1985	128.3	136.1	103.6	129.4	137.8	104.3
1986 ²	132.6	140.9	106.6	134.4	143.5	107.2
Average annual percent change:						
1947-86	3.3	3.7	1.5	3.1	3.5	1.5
1981-86	8.8	9.8	5.5	9.5	10.8	5.4

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may

differ from those previously published.

SOURCE: Output based on data from the Bureau of Mines, U.S. Department of the Interior. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 138. Hydraulic cement (SIC 3241): Indexes of output, employee hours, and employees, 1958-86
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	77.7	149.0	157.2	113.7	147.8	156.7	113.4
1959	84.6	151.4	161.1	109.0	147.9	157.9	108.8
1960	79.2	143.2	150.9	109.2	141.6	149.8	109.0
1961	80.0	130.8	137.0	104.3	130.8	137.5	104.6
1962	83.1	128.1	133.7	104.0	127.8	133.8	103.9
1963	86.9	126.4	130.3	109.6	125.4	129.3	109.6
1964	90.5	127.4	129.1	119.5	124.6	126.0	119.1
1965	91.5	125.0	126.5	118.4	124.2	125.7	118.4
1966	94.3	122.9	123.9	117.8	120.6	121.3	118.4
1967	90.3	117.5	118.2	114.2	117.2	118.1	114.3
1968	96.3	112.9	114.4	106.6	110.8	112.2	105.4
1969	97.4	112.8	113.9	107.5	109.4	110.9	103.5
1970	94.4	111.3	111.0	112.2	108.6	109.4	105.4
1971	99.5	106.5	106.7	104.7	103.5	104.5	100.0
1972	105.1	110.6	111.9	104.7	107.9	109.4	101.8
1973	108.9	109.2	110.3	103.8	106.8	107.7	103.5
1974	102.9	112.5	113.7	106.6	111.5	112.2	108.9
1975	86.6	102.2	101.5	104.7	103.2	102.7	105.4
1976	92.8	100.4	99.5	103.8	101.1	100.5	103.5
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	106.7	105.3	105.6	103.8	103.2	103.2	103.6
1979	107.3	111.8	113.1	106.6	109.4	110.4	105.4
1980	95.3	109.6	109.0	112.3	109.4	109.0	110.7
1981	91.1	100.0	98.9	104.7	101.1	100.5	103.6
1982	80.4	85.5	82.2	99.1	88.5	86.0	98.2
1983	89.3	82.4	79.3	95.3	83.1	80.2	94.6
1984	98.6	78.7	75.2	93.4	81.3	78.4	92.9
1985	98.7	76.9	72.5	95.3	76.3	71.6	94.6
1986 ¹	99.6	75.1	70.7	93.4	74.1	69.4	92.9
Average annual percent change:							
1947-86	1.4	-1.9	-2.2	-1	-1.7	-2.1	-1
1981-86	3.4	-5.0	-5.8	-2.0	-5.6	-6.7	-1.9

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Mines, U.S. Department of the Interior. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 139. Structural clay products (SIC 325): Indexes of output per employee hour and output per employee, 1958-86
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	52.4	50.2	65.1	51.8	49.4	64.8
1959	56.4	53.5	73.6	56.4	53.4	73.3
1960	57.9	55.2	73.9	57.0	54.2	73.5
1961	59.9	57.0	77.7	59.0	55.9	76.8
1962	64.6	61.3	84.3	64.3	60.9	83.6
1963	62.1	59.5	76.8	62.8	60.3	76.2
1964	66.3	64.2	78.0	69.0	67.1	77.6
1965	67.5	64.9	82.6	68.7	66.3	81.7
1966	68.8	66.1	84.1	70.3	67.8	83.1
1967	69.3	67.7	77.3	69.8	68.4	76.4
1968	73.7	72.4	80.3	74.9	73.7	80.6
1969	74.2	73.2	79.3	75.9	74.7	81.6
1970	78.2	79.7	71.8	79.9	80.9	75.6
1971	85.1	87.0	77.6	87.1	88.6	80.6
1972	88.2	87.3	92.4	89.7	88.8	94.2
1973	91.1	88.5	104.9	91.9	89.3	104.9
1974	93.1	91.2	102.1	94.0	92.8	99.6
1975	91.0	92.0	86.7	90.0	91.1	85.1
1976	94.9	96.1	89.3	93.0	93.9	89.0
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	102.5	100.8	111.2	103.9	102.4	111.0
1979	95.9	96.3	94.1	94.3	94.2	94.5
1980	97.6	101.0	84.6	96.7	99.8	85.0
1981	100.7	102.9	92.3	99.4	101.2	92.6
1982	102.6	106.7	87.6	101.1	104.9	87.6
1983	105.0	109.1	89.8	107.7	113.0	89.7
1984	111.2	110.7	113.5	112.4	112.0	113.8
1985	111.8	112.3	109.4	114.4	115.4	109.9
1986 ²	115.9	115.8	117.1	119.2	119.7	117.4
Average annual percent change:						
1958-86	2.7	3.0	1.4	2.8	3.0	1.4
1981-86	3.0	2.2	6.2	3.8	3.2	6.2

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 140. Structural clay products (SIC 325): Indexes of output, employee hours, and employees, 1958-86
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	80.8	154.1	160.9	124.1	156.1	163.4	124.7
1959	94.9	168.4	177.3	128.9	168.4	177.6	129.5
1960	95.2	164.5	172.4	128.9	166.9	175.7	129.5
1961	94.9	158.4	166.6	122.1	160.9	169.7	123.6
1962	100.4	155.5	163.7	119.1	156.2	164.8	120.1
1963	90.5	145.7	152.1	117.8	144.0	150.0	118.8
1964	99.6	150.2	155.2	127.7	144.4	148.4	128.3
1965	101.9	150.9	156.9	123.3	148.3	153.8	124.7
1966	101.7	147.8	153.9	120.9	144.7	150.0	122.4
1967	93.5	135.0	138.1	120.9	133.9	136.6	122.4
1968	99.6	135.1	137.6	124.1	132.9	135.2	123.6
1969	100.8	135.8	137.7	127.1	132.8	135.0	123.6
1970	93.5	119.6	117.3	130.2	117.0	115.6	123.6
1971	96.8	113.8	111.3	124.7	111.2	109.3	120.1
1972	103.1	116.9	118.1	111.6	114.9	116.1	109.4
1973	104.9	115.1	118.5	100.0	114.2	117.5	100.0
1974	109.0	117.1	119.5	106.8	115.9	117.5	109.4
1975	93.1	102.3	101.2	107.4	103.5	102.2	109.4
1976	96.4	101.6	100.3	108.0	103.7	102.7	108.3
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	107.1	104.5	106.3	96.3	103.1	104.6	96.5
1979	102.2	106.6	106.1	108.6	108.4	108.5	108.2
1980	93.0	95.3	92.1	109.9	96.2	93.2	109.4
1981	86.0	85.4	83.6	93.2	86.5	85.0	92.9
1982	67.0	65.3	62.8	76.5	66.3	63.9	76.5
1983	78.1	74.4	71.6	87.0	72.5	69.1	87.1
1984	89.7	80.7	81.0	79.0	79.8	80.1	78.8
1985	89.2	79.8	79.4	81.5	78.0	77.3	81.2
1986 ¹	92.5	79.8	79.9	79.0	77.6	77.3	78.8
Average annual percent change:							
1958-86	-3	-3.0	-3.2	-1.7	-3.0	-3.2	-1.7
1981-86	4.0	1.0	1.7	-2.1	.1	.7	-2.1

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 141. Clay construction products (SIC 3251, 3253, 3259): Indexes of output per employee hour and output per employee, 1958-86
(1977 = 100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	52.0	50.1	64.4	52.0	49.9	64.5
1959	55.5	53.5	68.1	56.6	54.7	68.1
1960	57.5	55.7	68.8	57.8	56.0	68.5
1961	59.0	56.9	72.8	59.3	57.1	72.2
1962	63.7	61.3	79.3	64.8	62.3	79.1
1963	60.9	58.8	73.5	62.2	60.3	73.0
1964	65.1	63.6	74.0	68.3	67.3	73.8
1965	66.6	64.6	78.5	68.1	66.4	78.2
1966	67.3	65.2	80.7	69.5	67.7	80.0
1967	68.2	66.9	75.4	69.7	68.6	74.7
1968	73.1	71.6	81.0	75.0	73.8	81.5
1969	72.3	71.2	78.5	74.9	73.7	80.9
1970	77.4	78.3	73.0	79.6	80.1	77.2
1971	86.4	87.2	82.5	89.3	90.2	86.2
1972	89.0	87.5	96.7	91.2	89.6	99.5
1973	90.6	88.3	104.0	91.5	89.2	104.2
1974	88.7	87.4	96.6	90.2	89.4	94.2
1975	89.1	89.9	86.0	89.5	90.5	84.8
1976	94.2	95.1	90.3	93.0	93.8	89.9
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	102.2	100.4	111.9	103.2	101.6	111.6
1979	91.6	92.3	87.7	91.8	92.7	88.3
1980	94.0	96.9	82.2	94.3	97.2	82.6
1981	97.3	99.8	86.7	96.3	98.5	87.3
1982	103.3	106.6	90.3	103.2	106.4	90.8
1983	101.0	104.7	85.9	104.7	109.9	85.6
1984	110.4	109.6	114.3	112.3	111.7	114.2
1985	111.7	111.5	112.5	115.2	115.7	112.6
1986 ²	116.2	115.1	121.6	120.6	120.3	121.6
Average annual percent change:						
1958-86	2.7	2.9	1.6	2.7	2.9	1.6
1981-86	3.5	2.6	7.8	4.5	3.7	7.7

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 142. Clay construction products (SIC 3251, 3253, 3259): Indexes of output, employee hours, and employees, 1958-86
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	89.3	171.7	178.4	138.6	171.6	178.8	138.5
1959	104.5	188.2	195.3	153.5	184.6	191.2	153.5
1960	105.1	182.7	188.8	152.7	181.8	187.7	153.5
1961	104.8	177.5	184.2	143.9	176.7	183.4	145.1
1962	112.1	175.9	182.8	141.3	173.1	179.8	141.8
1963	98.6	162.0	167.6	134.2	158.6	163.6	135.0
1964	108.4	166.5	170.4	146.5	158.6	161.1	146.8
1965	109.5	164.3	169.4	139.5	160.7	165.0	140.1
1966	106.8	158.7	163.9	132.4	153.6	157.8	133.5
1967	98.5	144.5	147.3	130.7	141.4	143.5	131.8
1968	105.9	144.9	147.9	130.7	141.2	143.5	130.0
1969	103.9	143.8	145.9	132.4	138.8	140.9	128.5
1970	95.4	123.3	121.8	130.7	119.8	119.1	123.5
1971	102.1	118.2	117.1	123.7	114.3	113.2	118.4
1972	109.5	123.1	125.2	113.2	120.1	122.2	110.0
1973	109.4	120.8	123.9	105.2	119.5	122.7	105.0
1974	106.8	120.4	122.2	110.6	118.4	119.4	113.4
1975	90.5	101.6	100.7	105.2	101.1	100.0	106.7
1976	97.5	103.5	102.5	108.0	104.8	103.9	108.4
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	106.0	103.7	105.6	94.7	102.7	104.3	95.0
1979	100.0	109.2	108.3	114.0	108.9	107.9	113.3
1980	92.3	98.2	95.3	112.3	97.9	95.0	111.7
1981	82.9	85.2	83.1	95.6	86.1	84.2	95.0
1982	68.1	65.9	63.9	75.4	66.0	64.0	75.0
1983	79.9	79.1	76.3	93.0	76.3	72.7	93.3
1984	93.3	84.5	85.1	81.6	83.1	83.5	81.7
1985	95.7	85.7	85.8	85.1	83.1	82.7	85.0
1986 ¹	101.3	87.2	88.0	83.3	84.0	84.2	83.3
Average annual percent change:							
1958-86	-6	-3.3	-3.5	-2.2	-3.2	-3.5	-2.2
1981-86	6.4	2.8	3.7	-1.3	1.9	2.6	-1.2

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 143. Brick and structural clay tile (SIC 3251): Indexes of output per employee hour and output per employee, 1958-86
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	55.4	52.9	73.8	56.6	54.1	73.3
1959	59.3	56.2	82.8	60.9	57.9	82.5
1960	62.9	60.5	79.1	62.9	60.6	78.3
1961	64.6	61.3	88.8	64.7	61.4	87.3
1962	69.2	65.8	94.2	70.5	67.3	92.7
1963	63.3	60.6	82.5	65.3	62.8	81.8
1964	68.7	66.2	85.9	72.0	69.9	85.6
1965	70.5	67.7	89.8	72.6	70.1	88.2
1966	71.4	68.3	92.8	74.4	71.7	91.0
1967	70.3	68.5	81.8	71.8	70.4	80.3
1968	75.0	73.1	87.3	76.5	74.8	86.7
1969	72.5	71.0	80.9	75.4	74.2	82.5
1970	81.1	81.1	81.5	82.4	81.7	86.3
1971	89.6	90.2	87.7	92.5	93.1	90.5
1972	91.5	89.5	103.4	94.5	92.6	105.0
1973	90.1	88.1	103.1	91.9	90.3	101.8
1974	92.5	90.6	104.6	94.2	92.9	101.7
1975	93.1	93.2	93.2	93.5	94.0	91.6
1976	102.2	103.6	96.8	99.6	100.8	95.5
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	96.2	94.6	105.3	96.9	95.3	105.1
1979	85.4	87.6	75.8	85.0	87.3	75.6
1980	84.9	90.4	64.6	84.3	89.8	64.5
1981	84.3	88.3	68.5	82.6	86.3	68.5
1982	88.6	92.9	72.1	88.2	92.4	72.4
1983	85.5	91.8	63.3	88.1	96.2	62.6
1984	93.3	93.7	91.3	94.3	95.0	90.7
1985	99.5	100.1	96.6	101.4	102.7	96.0
1986 ²	103.6	102.5	109.7	106.1	105.6	108.7
Average annual percent change:						
1958-86	1.8	2.2	(³)	1.8	2.1	.1
1981-86	4.3	2.9	10.8	5.1	3.8	10.6

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

³ Less than .05 percent.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 144. Brick and structural clay tile (SIC 3251): Indexes of output, employee hours, and employees, 1958-86
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	85.9	155.1	162.5	116.4	151.8	158.8	117.2
1959	101.4	170.9	180.3	122.4	166.4	175.2	122.9
1960	105.1	167.2	173.8	132.9	167.0	173.4	134.3
1961	107.3	166.1	174.9	120.9	165.9	174.7	122.9
1962	113.9	164.7	173.2	120.9	161.6	169.3	122.9
1963	91.2	144.0	150.6	110.5	139.6	145.2	111.5
1964	102.7	149.5	155.2	119.5	142.6	147.0	120.0
1965	105.9	150.2	156.5	117.9	145.9	151.1	120.0
1966	106.7	149.5	156.2	115.0	143.5	148.8	117.2
1967	96.4	137.2	140.8	117.9	134.2	137.0	120.0
1968	101.6	135.4	139.0	116.4	132.8	135.8	117.2
1969	99.0	136.6	139.4	122.4	131.3	133.4	120.0
1970	93.7	115.5	115.5	115.0	113.7	114.7	108.6
1971	103.4	115.4	114.6	117.9	111.8	111.1	114.3
1972	111.1	121.4	124.1	107.4	117.6	120.0	105.8
1973	107.7	119.5	122.3	104.5	117.2	119.3	105.8
1974	107.6	116.3	118.7	102.9	114.2	115.8	105.8
1975	89.0	95.6	95.5	95.5	95.2	94.7	97.2
1976	98.3	96.2	94.9	101.5	98.7	97.5	102.9
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	102.1	106.1	107.9	97.0	105.4	107.1	97.1
1979	95.0	111.3	108.5	125.4	111.7	108.8	125.7
1980	83.0	97.8	91.8	128.4	98.5	92.4	128.6
1981	68.5	81.3	77.6	100.0	82.9	79.4	100.0
1982	53.8	60.7	57.9	74.6	61.0	58.2	74.3
1983	66.2	77.4	72.1	104.5	75.1	68.8	105.7
1984	77.7	83.3	82.9	85.1	82.4	81.8	85.7
1985	85.1	85.5	85.0	88.1	83.9	82.9	88.6
1986 ¹	90.1	87.0	87.9	82.1	84.9	85.3	82.9
Average annual percent change:							
1958-86	-1.1	-2.9	-3.3	-1.2	-2.9	-3.2	-1.2
1981-86	8.7	4.2	5.6	-2.0	3.4	4.7	-1.8

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 145. Ceramic wall and floor tile (SIC 3253): Indexes of output per employee hour and output per employee, 1958-85
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	49.6	48.2	56.8	49.0	47.5	56.0
1959	53.9	53.3	56.8	54.1	53.8	55.5
1960	52.4	52.2	53.3	53.0	53.2	52.1
1961	55.8	56.4	52.7	55.2	56.1	51.4
1962	61.4	60.7	64.3	61.6	61.4	62.6
1963	60.2	59.5	63.0	59.5	59.1	61.0
1964	62.8	63.2	60.7	63.5	64.6	59.2
1965	64.1	63.5	66.8	64.2	64.1	64.8
1966	64.9	63.9	69.2	65.9	65.6	66.7
1967	69.3	69.3	69.1	70.1	70.6	68.0
1968	73.4	74.3	70.1	74.7	76.1	69.1
1969	72.9	73.3	70.7	73.4	74.0	71.3
1970	72.0	74.4	62.9	74.4	76.9	65.0
1971	78.6	78.8	77.9	79.6	79.3	80.6
1972	88.2	86.7	94.9	89.2	87.9	94.9
1973	92.0	89.7	103.1	91.3	88.9	102.8
1974	87.7	87.1	90.3	87.2	87.5	85.7
1975	89.0	91.4	79.8	87.9	90.6	77.9
1976	89.0	88.9	89.5	88.5	88.8	87.0
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	115.2	111.9	132.8	117.6	114.5	132.1
1979	111.6	108.7	126.5	113.5	110.7	126.5
1980	119.8	116.8	135.9	121.9	118.9	135.9
1981	125.9	124.1	134.2	125.8	123.8	134.5
1982	128.1	127.3	131.4	127.1	126.3	131.1
1983	126.2	122.1	147.6	130.7	127.3	147.3
1984	144.0	139.0	171.4	146.4	141.6	171.1
1985 ²	131.1	127.3	150.2	134.7	131.4	150.2
Average annual percent change:						
1958-85	3.9	3.8	4.3	4.0	3.9	4.4
1981-85	2.0	1.4	5.0	2.8	2.4	5.0

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 146. Ceramic wall and floor tile (SIC 3253): Indexes of output, employee hours, and employees, 1958-85
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	82.2	165.6	170.4	144.8	167.9	173.0	146.8
1959	99.9	185.3	187.6	175.9	175.9	185.7	180.1
1960	93.8	179.0	179.8	175.9	176.9	176.2	180.1
1961	89.1	159.8	157.9	169.0	161.5	158.7	173.4
1962	104.3	170.0	171.9	162.1	169.2	169.9	166.7
1963	97.7	162.4	164.1	155.2	164.1	165.2	160.1
1964	106.7	170.0	168.8	175.9	167.9	165.2	180.1
1965	103.7	161.8	163.4	155.2	161.5	161.9	160.1
1966	97.9	150.9	153.2	141.4	148.6	149.3	146.8
1967	95.3	137.6	137.6	137.9	135.9	135.0	140.1
1968	101.5	138.2	136.7	144.8	135.9	133.3	146.8
1969	95.1	130.5	129.7	134.5	129.5	128.6	133.3
1970	86.7	120.4	116.5	137.9	116.6	112.7	133.3
1971	80.6	102.5	102.3	103.4	101.2	101.6	100.0
1972	94.9	107.6	109.4	100.0	106.4	108.0	100.0
1973	96.0	104.4	107.0	93.1	105.2	108.0	93.4
1974	102.8	117.2	118.0	113.8	117.9	117.5	120.0
1975	93.5	105.1	102.3	117.2	106.4	103.2	120.0
1976	98.7	110.9	111.0	110.3	111.5	111.2	113.4
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	114.5	99.4	102.3	86.2	97.4	100.0	86.7
1979	126.5	113.4	116.4	100.0	111.5	114.3	100.0
1980	135.9	113.4	116.4	100.0	111.5	114.3	100.0
1981	143.5	114.0	115.6	106.9	114.1	115.9	106.7
1982	122.3	95.5	96.1	93.1	96.2	96.8	93.3
1983	137.4	108.9	112.5	93.1	105.1	107.9	93.3
1984	159.6	110.8	114.8	93.1	109.0	112.7	93.3
1985 ¹	150.2	114.6	118.0	100.0	111.5	114.3	100.0
Average annual percent change:							
1958-85	1.6	-2.2	-2.1	-2.5	-2.2	-2.1	-2.6
1981-85	3.6	1.6	2.2	-1.3	.8	1.3	-1.3

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 147. Clay refractories (SIC 3255): Indexes of output per employee hour and output per employee, 1958-86
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	53.7	52.2	60.2	50.3	48.1	60.0
1959	59.6	54.3	92.4	54.4	48.8	90.8
1960	59.3	54.1	91.9	52.9	47.3	90.4
1961	63.6	58.8	91.4	56.7	51.3	89.9
1962	67.7	62.6	96.6	60.7	55.0	94.7
1963	67.2	63.9	83.0	65.1	61.5	82.1
1964	72.0	68.6	88.0	71.4	67.9	87.3
1965	71.6	67.7	90.9	71.4	67.3	90.5
1966	75.6	72.0	93.4	73.8	70.0	91.1
1967	74.4	72.8	81.1	71.2	69.2	79.4
1968	77.0	77.5	75.3	74.9	74.7	75.5
1969	83.1	83.7	81.3	81.0	80.3	83.2
1970	82.1	86.7	69.0	81.9	85.2	71.9
1971	81.3	88.2	63.5	79.9	84.9	66.2
1972	86.5	89.7	76.6	85.4	87.5	78.3
1973	93.6	91.0	105.0	93.7	91.0	104.5
1974	107.5	104.6	120.1	105.9	103.4	115.2
1975	95.5	97.5	89.1	90.6	91.8	86.4
1976	97.1	100.2	87.8	92.5	94.3	86.4
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	103.5	101.8	110.4	105.7	104.4	110.4
1979	110.2	109.5	113.6	101.6	98.7	113.3
1980	109.6	116.0	91.1	104.1	108.5	91.2
1981	111.1	111.7	108.8	108.7	108.8	108.2
1982	100.0	107.3	80.1	94.2	99.7	79.2
1983	121.6	128.0	102.7	119.0	125.3	101.0
1984	115.1	116.1	111.9	113.3	114.3	110.0
1985	114.1	119.0	99.3	111.9	116.8	97.6
1986 ²	117.3	122.9	100.4	114.7	120.3	98.5
Average annual percent change:						
1958-86	2.7	3.2	.9	2.9	3.4	.9
1981-86	1.8	2.0	.9	2.1	2.6	.7

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 148. Clay refractories (SIC 3255): Indexes of output, employee hours, and employees, 1958-86
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	55.2	102.7	105.7	91.7	109.7	114.8	92.0
1959	65.4	109.8	120.4	70.8	120.3	134.1	72.0
1960	65.1	109.8	120.4	70.8	123.0	137.5	72.0
1961	64.7	101.8	110.1	70.8	114.2	126.2	72.0
1962	64.4	95.1	102.8	66.7	106.1	117.1	68.0
1963	65.7	97.8	102.8	79.2	100.9	106.9	80.0
1964	73.3	101.8	106.8	83.3	102.7	108.0	84.0
1965	79.6	111.2	117.6	87.6	111.5	118.3	88.0
1966	87.5	115.7	121.6	93.7	118.5	125.0	96.0
1967	79.4	106.7	109.1	97.9	111.5	114.8	100.0
1968	81.5	105.9	105.1	108.3	108.8	109.1	108.0
1969	93.2	112.1	111.3	114.6	115.1	116.0	112.0
1970	89.1	108.5	102.8	129.2	108.8	104.6	124.0
1971	82.1	101.0	93.1	129.2	102.7	96.7	124.0
1972	84.6	97.8	94.3	110.5	99.1	96.7	108.0
1973	92.0	98.3	101.1	87.6	98.2	101.1	88.0
1974	115.2	107.2	110.1	95.9	108.8	111.4	100.0
1975	100.2	104.9	102.8	112.5	110.6	109.1	116.0
1976	93.3	96.1	93.1	106.3	100.9	98.9	108.0
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	110.4	106.7	108.5	100.0	104.4	105.7	100.0
1979	108.8	98.7	99.4	95.8	107.1	110.2	96.0
1980	94.9	86.6	81.8	104.2	91.2	87.5	104.0
1981	95.2	85.7	85.2	87.5	87.6	87.5	88.0
1982	63.4	63.4	59.1	79.2	67.3	63.6	80.0
1983	72.7	59.8	56.8	70.8	61.1	58.0	72.0
1984	79.2	68.8	68.2	70.8	69.9	69.3	72.0
1985	70.3	61.6	59.1	70.8	62.8	60.2	72.0
1986 ¹	67.0	57.1	54.5	66.7	58.4	55.7	68.0
Average annual percent change:							
1958-86 .....	.9	-1.8	-2.2	(²)	-1.9	-2.4	(²)
1981-86	-3.8	-5.5	-5.7	-4.7	-5.8	-6.2	-4.5

¹ Preliminary.

² Less than .05 percent.

NOTE: Because of periodic revisions in source data, the measures in this table

may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 149. Concrete products (SIC 3271, 3272): Indexes of output per employee hour and output per employee, 1958-85
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	59.1	58.0	64.5	60.0	58.5	64.5
1959	60.2	57.1	74.6	63.1	59.9	74.4
1960	57.6	54.5	72.4	62.2	59.4	72.1
1961	58.7	55.8	72.1	63.5	61.2	71.5
1962	59.8	56.7	74.6	65.2	62.6	74.2
1963	64.8	63.1	73.1	68.4	67.2	72.7
1964	68.7	67.2	75.6	72.9	72.0	75.5
1965	71.3	69.6	80.0	74.4	72.8	79.4
1966	75.7	75.2	80.1	77.5	76.9	79.2
1967	78.9	75.6	91.0	81.1	78.4	90.0
1968	85.2	81.9	96.9	88.3	85.6	97.3
1969	84.2	81.5	93.9	88.8	86.3	96.9
1970	82.3	79.6	92.1	86.9	83.7	97.5
1971	88.0	86.1	94.4	90.2	87.7	98.6
1972	89.7	87.9	95.4	91.9	90.1	97.7
1973	92.4	90.4	98.6	95.0	93.9	98.8
1974	93.7	91.1	102.9	94.9	93.1	100.2
1975	91.9	92.4	90.0	91.5	92.4	88.7
1976	95.0	94.6	96.0	96.5	96.6	95.9
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	97.6	97.5	98.1	97.4	97.2	98.0
1979	92.7	93.1	91.4	93.0	93.5	91.7
1980	90.4	93.5	82.0	90.5	93.5	82.6
1981	88.5	91.4	80.7	88.7	91.6	81.0
1982	91.0	93.8	83.5	90.4	93.0	83.8
1983	97.6	100.2	90.2	97.4	100.1	90.2
1984	99.2	102.7	90.1	99.8	103.4	90.4
1985 ²	100.5	102.5	94.8	101.6	104.2	95.1
Average annual percent change:						
1947-85	2.5	2.8	1.1	2.3	2.6	1.1
1981-85	3.5	3.3	4.1	3.8	3.7	4.0

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 150. Concrete products (SIC 3271, 3272): Indexes of output, employee hours, and employees, 1958-85
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	51.5	87.2	88.8	79.9	85.9	88.0	79.9
1959	55.5	92.2	97.2	74.4	88.0	92.6	74.6
1960	56.1	97.4	103.0	77.5	90.2	94.5	77.8
1961	56.2	95.7	100.7	78.0	88.5	91.9	78.6
1962	58.1	97.1	102.5	77.9	89.1	92.8	78.3
1963	64.8	100.0	102.7	88.6	94.7	96.5	89.1
1964	70.6	102.8	105.0	93.4	96.9	98.0	93.5
1965	76.9	107.8	110.5	96.1	103.3	105.7	96.8
1966	81.9	108.2	108.9	102.2	105.7	106.5	103.4
1967	78.6	99.6	104.0	86.4	96.9	100.2	87.3
1968	85.5	100.4	104.4	88.2	96.8	99.9	87.9
1969	87.9	104.4	107.9	93.6	99.0	101.9	90.7
1970	91.4	111.0	114.8	99.2	105.2	109.2	93.7
1971	97.1	110.3	112.8	102.9	107.6	110.7	98.5
1972	103.5	115.4	117.8	108.5	112.6	114.9	105.9
1973	110.8	119.9	122.5	112.4	116.6	118.0	112.2
1974	99.8	106.5	109.6	97.0	105.2	107.2	99.6
1975	90.5	98.5	97.9	100.5	98.9	97.9	102.0
1976	92.6	97.5	97.9	96.5	96.0	95.9	96.6
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	101.8	104.3	104.4	103.8	104.5	104.7	103.9
1979	101.0	109.0	108.5	110.5	108.6	108.0	110.2
1980	91.0	100.7	97.3	111.0	100.6	97.3	110.2
1981	87.7	99.1	96.0	108.7	98.9	95.7	108.3
1982	80.1	88.0	85.4	95.9	88.6	86.1	95.6
1983	84.9	87.0	84.7	94.1	87.2	84.8	94.1
1984	91.3	92.0	88.9	101.3	91.5	88.3	101.0
1985 ¹	92.8	92.3	90.5	97.9	91.3	89.1	97.6
Average annual percent change:							
1947-85	3.2	.7	.4	2.1	.9	.6	2.1
1981-85	2.5	-1.0	-8	-1.5	-1.3	-1.2	-1.5

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 151. Ready-mixed concrete (SIC 3273): Indexes of output per employee hour, output per employee, output, employee hours, and employees, 1958-85
(1977=100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees
Index:					
1958	77.4	76.5	54.1	69.9	70.7
1959	79.2	78.5	60.4	76.3	76.9
1960	77.9	79.8	58.8	75.5	73.7
1961	76.7	79.8	59.3	77.3	74.3
1962	78.7	80.6	61.1	77.6	75.8
1963	85.8	88.5	72.0	83.9	81.4
1964	86.2	88.8	73.0	84.7	82.2
1965	90.3	91.1	79.0	87.5	86.7
1966	90.7	91.3	78.3	86.3	85.8
1967	95.0	96.2	81.5	85.8	84.7
1968	97.7	98.3	81.7	83.6	83.1
1969	93.7	97.2	82.8	88.4	85.2
1970	91.1	90.6	78.7	86.4	86.9
1971	97.2	93.1	81.3	83.6	87.3
1972	99.5	99.0	96.5	97.0	97.5
1973	103.5	101.4	99.7	96.3	98.3
1974	100.3	98.3	97.5	97.2	99.2
1975	97.5	93.1	88.2	90.5	94.7
1976	98.8	94.5	88.0	89.1	93.1
1977	100.0	100.0	100.0	100.0	100.0
1978	103.1	102.9	108.3	105.0	105.2
1979	99.9	98.4	109.7	109.8	111.5
1980	93.1	91.3	95.6	102.7	104.7
1981	95.4	93.5	91.3	95.7	97.6
1982	90.6	88.0	81.7	90.2	92.8
1983	93.7	93.1	88.7	94.7	95.3
1984	96.3	97.7	92.6	96.2	94.8
1985 ¹	97.4	98.3	93.4	95.9	95.0
Average annual percent change:					
1958-85 .....	.8	.7	1.9	1.1	1.2
1981-85	1.0	2.1	1.7	.7	-3

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of the Census.

Table 152. Steel (SIC 331): Indexes of output per employee hour and output per employee, 1958-86
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	67.4	65.6	74.6	63.1	60.8	72.6
1959	75.7	73.4	85.0	74.8	72.6	82.7
1960	71.2	68.8	80.8	67.5	64.8	78.4
1961	73.4	71.4	81.4	70.7	68.6	78.8
1962	77.1	74.9	86.2	74.6	72.5	83.3
1963	80.6	77.0	96.1	79.7	76.4	93.0
1964	84.1	79.3	106.5	84.8	80.7	103.0
1965	87.5	82.6	110.7	88.3	84.0	107.1
1966	89.2	84.8	109.5	89.6	85.7	105.8
1967	86.4	83.6	98.0	85.5	83.1	94.8
1968	89.5	87.6	96.8	90.4	88.6	97.3
1969	90.0	87.7	98.9	91.5	89.6	99.3
1970	87.6	86.0	93.4	86.9	85.1	94.0
1971	91.9	91.0	95.4	90.4	89.0	95.4
1972	97.3	95.5	104.4	97.9	95.9	105.4
1973	106.6	103.3	119.9	109.5	106.6	121.2
1974	106.5	103.7	117.7	108.5	106.0	118.8
1975	93.3	93.5	92.4	91.3	91.3	91.5
1976	99.0	98.5	100.4	98.5	98.1	99.9
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	108.3	106.9	113.7	110.9	109.7	114.8
1979	106.9	105.1	113.2	108.6	107.0	114.0
1980	102.9	104.3	98.5	100.4	101.3	97.1
1981	112.0	112.9	109.0	111.5	112.5	108.3
1982	90.9	97.0	74.5	86.3	90.7	73.4
1983	116.8	122.5	100.7	115.1	119.4	101.9
1984	131.3	133.9	122.4	132.3	134.3	125.7
1985	139.5	142.8	129.0	141.8	144.7	132.3
1986 ²	141.9	145.3	131.4	146.8	149.8	136.1
Average annual percent change:						
1947-86	1.8	2.2	.2	1.9	2.3	.4
1981-86	7.7	7.4	8.3	9.0	8.8	9.3

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may

differ from those previously published.

SOURCE: Output based on data from the American Iron and Steel Institute; the Energy Information Administration, U.S. Department of Energy; and the Bureau of the Census. Employment and hours based on data from the Bureau of Labor Statistics.

Table 153. Steel (SIC 331): Indexes of output, employee hours, and employees, 1958-86
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	68.4	101.5	104.2	91.7	108.4	112.5	94.2
1959	79.1	104.5	107.8	93.1	105.8	109.0	95.7
1960	79.3	111.4	115.2	98.2	117.4	122.3	101.1
1961	75.9	103.4	106.3	93.3	110.6	107.3	96.3
1962	79.8	103.5	106.6	92.6	106.9	110.1	95.8
1963	84.7	105.1	110.0	88.1	106.3	110.8	91.1
1964	96.2	114.4	121.3	90.3	113.4	119.2	93.4
1965	104.6	119.6	126.7	94.5	118.4	124.5	97.7
1966	105.3	118.0	124.2	96.2	117.5	122.9	99.5
1967	97.9	113.3	117.1	99.9	114.5	117.8	103.3
1968	103.7	115.9	118.4	107.1	114.7	117.1	106.6
1969	106.3	118.1	121.2	107.5	116.2	118.7	107.0
1970	98.3	112.2	114.3	105.2	113.1	115.5	104.6
1971	93.5	101.7	102.8	98.0	103.4	105.1	98.0
1972	100.3	103.1	105.0	96.1	102.5	104.6	95.2
1973	119.4	112.0	115.6	99.6	109.0	112.0	98.5
1974	119.3	112.0	115.0	101.4	110.0	112.6	100.4
1975	90.3	96.8	96.6	97.7	98.9	98.9	98.7
1976	97.6	98.6	99.1	97.2	99.1	99.5	97.7
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	112.0	103.4	104.8	98.5	101.0	102.1	97.6
1979	111.7	104.5	106.3	98.7	102.9	104.4	98.0
1980	92.7	90.1	88.9	94.1	92.3	91.5	95.5
1981	101.8	90.9	90.2	93.4	91.3	90.5	94.0
1982	61.7	67.9	63.6	82.8	71.5	68.0	84.1
1983	70.8	60.6	57.8	70.3	61.5	59.3	69.5
1984	79.8	60.8	59.6	65.2	60.3	59.4	63.5
1985	77.4	55.5	54.2	60.0	54.6	53.5	58.5
1986 ¹	72.8	51.3	50.1	55.4	49.6	48.6	53.5
Average annual percent change:							
1947-86	.4	-1.4	-1.8	.2	-1.5	-1.9	(²)
1981-86	-2.5	-9.4	-9.2	-9.9	-10.5	-10.4	-10.8

¹ Preliminary.

² Less than .05 percent.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the American Iron and Steel Institute; the Energy Information Administration, U.S. Department of Energy; and the Bureau of the Census. Employment and hours based on data from the Bureau of Labor Statistics.

Table 154. Gray iron foundries (SIC 3321): Indexes of output per employee hour and output per employee, 1958-86
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	63.3	63.3	63.5	58.9	57.9	64.7
1959	65.3	63.9	76.0	64.8	62.9	77.3
1960	65.0	64.4	68.4	62.2	61.0	69.8
1961	66.7	66.4	68.9	63.1	61.9	70.1
1962	69.2	68.1	77.1	68.5	66.8	78.7
1963	70.7	69.1	82.8	72.2	70.2	84.6
1964	75.1	72.6	94.2	79.6	77.1	96.7
1965	78.8	76.2	98.8	84.1	81.5	101.0
1966	79.3	76.7	98.3	83.3	80.8	100.1
1967	75.1	73.3	87.2	75.8	73.8	88.6
1968	79.6	77.9	91.5	82.6	80.4	96.2
1969	83.8	81.6	99.1	86.7	84.3	101.9
1970	79.8	78.8	86.6	78.7	77.3	87.1
1971	85.6	84.7	91.2	84.4	83.4	90.1
1972	90.2	88.3	103.4	92.2	90.9	99.6
1973	94.5	92.1	110.8	96.9	94.9	107.8
1974	97.7	95.7	111.2	98.2	96.4	108.3
1975	97.0	96.9	97.3	94.0	93.6	95.5
1976	96.4	96.4	96.4	95.7	95.6	95.9
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	102.1	102.0	102.4	101.4	101.2	102.4
1979	96.8	98.1	90.2	94.7	95.6	90.7
1980	90.8	94.8	73.0	86.5	89.5	73.7
1981	92.7	95.8	78.2	88.6	90.8	78.5
1982	93.7	100.2	68.0	84.6	88.5	68.3
1983	98.3	102.1	80.3	93.9	97.0	80.3
1984	106.8	109.2	95.1	105.9	108.2	95.5
1985	104.2	107.1	90.1	103.9	106.8	90.6
1986 ²	102.2	104.8	89.4	103.1	105.9	89.7
Average annual percent change:						
1954-86	1.9	2.1	.5	1.8	2.0	.4
1981-86	2.6	2.1	4.9	4.4	4.2	4.9

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 155. Gray iron foundries (SIC 3321): Indexes of output, employee hours, and employees, 1958-86
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	47.8	75.5	75.5	75.3	81.1	82.5	73.9
1959	58.8	90.0	92.0	77.4	90.7	93.5	76.1
1960	54.5	83.9	84.6	79.7	87.6	89.4	78.1
1961	51.7	77.5	77.9	75.0	81.9	83.5	73.7
1962	58.8	85.0	86.4	76.3	85.9	88.0	74.7
1963	62.7	88.7	90.8	75.7	86.8	89.3	74.1
1964	72.5	96.5	99.9	77.0	91.1	94.0	75.0
1965	81.7	103.7	107.2	82.7	97.1	100.3	80.9
1966	84.5	106.6	110.1	86.0	101.4	104.6	84.4
1967	75.3	100.3	102.7	86.4	99.4	102.1	85.0
1968	80.9	101.6	103.9	88.4	98.0	100.6	84.1
1969	89.9	107.3	110.2	90.7	103.7	106.6	88.2
1970	80.0	100.2	101.5	92.4	101.6	103.5	91.8
1971	80.6	94.2	95.2	88.4	95.5	96.6	89.5
1972	91.9	101.9	104.1	88.9	99.7	101.1	92.3
1973	106.3	112.5	115.4	95.9	109.7	112.0	98.6
1974	107.3	109.8	112.1	96.5	109.3	111.3	99.1
1975	93.4	96.3	96.4	96.0	99.4	99.8	97.8
1976	93.8	97.3	97.3	97.3	98.0	98.1	97.8
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	109.0	106.8	106.9	106.4	107.5	107.7	106.4
1979	103.8	107.2	105.8	115.1	109.6	108.6	114.5
1980	81.7	90.0	86.2	111.9	94.4	91.3	110.9
1981	82.0	88.5	85.6	104.9	92.6	90.3	104.5
1982	59.3	63.3	59.2	87.2	70.1	67.0	86.8
1983	62.1	63.2	60.8	77.3	66.1	64.0	77.3
1984	75.1	70.3	68.8	79.0	70.9	69.4	78.6
1985	66.3	63.6	61.9	73.6	63.8	62.1	73.2
1986 ¹	60.7	59.4	57.9	67.9	58.9	57.3	67.7
Average annual percent change:							
1954-86	1.1	-.7	-.9	.6	-.7	-.9	.7
1981-86	-2.8	-5.2	-4.7	-7.3	-6.8	-6.7	-7.3

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 156. Steel foundries (SIC 3324, 3325): Indexes of output per employee hour and output per employee, 1958-86
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	75.8	75.5	76.6	71.9	70.4	78.2
1959	81.5	78.2	100.9	81.0	76.9	102.6
1960	80.7	78.7	92.0	79.6	76.7	93.8
1961	81.8	80.1	89.8	80.2	77.7	91.5
1962	85.8	82.8	102.3	86.4	82.8	104.5
1963	91.2	87.7	111.2	92.3	88.1	113.6
1964	91.7	86.6	122.5	95.9	90.5	125.9
1965	94.1	88.8	126.4	99.4	93.9	129.1
1966	95.6	90.4	127.9	102.0	96.8	130.3
1967	93.5	90.2	111.8	95.8	92.2	113.8
1968	91.1	89.5	98.6	92.4	90.0	103.9
1969	93.3	90.5	107.7	95.8	92.4	110.9
1970	90.6	88.4	101.7	91.0	88.6	102.4
1971	94.9	94.5	96.6	94.1	93.7	95.7
1972	100.7	98.7	110.3	99.3	97.8	106.0
1973	101.9	99.1	116.9	102.8	100.2	113.8
1974	112.4	108.4	134.1	112.1	108.2	131.2
1975	107.5	105.0	120.1	107.9	105.6	118.6
1976	105.7	105.3	107.3	104.4	103.7	106.8
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	98.4	97.4	103.1	97.9	96.7	103.1
1979	100.6	97.9	113.7	101.5	98.8	114.1
1980	99.8	99.7	100.2	97.8	97.0	101.3
1981	91.6	93.0	86.3	89.4	90.1	86.7
1982	89.0	95.4	69.2	82.7	86.7	69.6
1983	89.9	97.3	67.5	86.3	92.7	67.8
1984	98.8	100.8	90.9	98.9	100.9	91.3
1985	95.6	98.7	83.7	96.4	99.8	84.2
1986 ²	91.9	95.3	80.0	94.0	98.3	80.4
Average annual percent change:						
1954-86 .....	.7	1.0	-.5	.6	.9	-.6
1981-86 .....	.9	.7	1.4	2.4	2.7	1.4

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 157. Steel foundries (SIC 3324, 3325): Indexes of output, employee hours, and employees, 1958-86
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	54.1	71.4	71.7	70.6	75.2	76.8	69.2
1959	67.0	82.2	85.7	66.4	82.7	87.1	65.3
1960	61.9	76.7	78.7	67.3	77.8	80.7	66.0
1961	57.4	70.2	71.7	63.9	71.6	73.9	62.7
1962	66.8	77.9	80.7	65.3	77.3	80.7	63.9
1963	80.3	88.0	91.6	72.2	87.0	91.1	70.7
1964	91.0	99.2	105.1	74.3	94.9	100.6	72.3
1965	99.7	106.0	112.3	78.9	100.3	106.2	77.2
1966	110.6	115.7	122.4	86.5	108.4	114.3	84.9
1967	101.5	108.5	112.5	90.8	105.9	110.1	89.2
1968	94.2	103.4	105.2	95.5	101.9	104.7	90.7
1969	101.5	108.8	112.1	94.2	106.0	109.8	91.5
1970	85.1	93.9	96.3	83.7	93.5	96.1	83.1
1971	81.7	86.1	86.5	84.6	86.8	87.2	85.4
1972	88.1	87.5	89.3	79.9	88.7	90.1	83.1
1973	95.5	93.7	96.4	81.7	92.9	95.3	83.9
1974	114.0	101.4	105.2	85.0	101.7	105.4	86.9
1975	107.6	100.1	102.5	89.6	99.7	101.9	90.7
1976	100.2	94.8	95.2	93.4	96.0	96.6	93.8
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	103.9	105.6	106.7	100.8	106.1	107.5	100.8
1979	119.4	118.7	121.9	105.0	117.6	120.8	104.6
1980	115.3	115.5	115.6	115.1	117.9	118.9	113.8
1981	95.4	104.1	102.6	110.5	106.7	105.9	110.0
1982	68.0	76.4	71.3	98.3	82.2	78.4	97.7
1983	53.7	59.7	55.2	79.5	62.2	57.9	79.2
1984	63.9	64.7	63.4	70.3	64.6	63.3	70.0
1985	60.9	63.7	61.7	72.8	63.2	61.0	72.3
1986 ¹	56.9	61.9	59.7	71.1	60.5	57.9	70.8
Average annual percent change:							
1954-86 .....	.3	-.4	-.6	.8	-.3	-.6	.9
1981-86	-7.5	-8.4	-8.2	-8.8	-9.7	-10.0	-8.8

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 158. Primary copper, lead, and zinc (SIC 3331, 3332, 3333): Indexes of output per employee hour and output per employee, 1958-86
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	62.6	61.2	69.3	63.7	62.1	71.0
1959	58.9	58.1	63.0	59.0	57.8	64.5
1960	65.7	63.2	78.6	68.0	65.3	80.6
1961	68.7	66.3	81.2	71.7	69.2	83.2
1962	73.0	70.2	87.7	75.9	73.0	90.2
1963	74.7	71.3	92.9	77.0	73.3	95.5
1964	77.6	73.8	99.0	79.2	74.9	102.3
1965	80.0	75.8	104.6	83.2	78.4	107.8
1966	79.0	74.8	103.6	82.9	78.5	106.1
1967	66.6	67.0	64.8	68.6	69.2	66.3
1968	78.5	75.6	93.1	80.9	77.4	98.0
1969	80.7	76.3	106.5	83.3	78.7	108.7
1970	78.1	74.6	96.5	80.8	77.3	98.4
1971	81.5	79.9	88.8	83.0	81.5	89.5
1972	90.9	86.7	114.0	92.3	88.4	112.0
1973	94.8	91.5	110.9	95.0	92.0	109.3
1974	86.0	84.8	91.3	87.4	86.8	90.0
1975	85.3	86.4	80.7	85.6	87.2	80.5
1976	96.0	96.2	95.1	96.6	97.0	94.9
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	96.5	95.8	99.7	97.7	97.3	99.7
1979	106.5	105.1	112.6	106.7	105.1	113.4
1980	103.7	106.1	94.8	101.2	102.6	96.3
1981	118.6	121.4	108.4	118.1	120.8	109.0
1982	128.0	131.8	114.4	130.7	135.0	115.8
1983	141.2	142.6	135.3	145.1	147.1	137.8
1984	148.4	155.6	124.6	151.9	159.7	127.3
1985	181.3	194.4	141.2	182.7	196.6	142.6
1986 ²	200.9	211.8	165.7	202.8	213.2	170.0
Average annual percent change:						
1947-86	2.9	3.2	1.4	2.7	3.0	1.3
1981-86	11.2	12.2	7.9	11.3	12.3	8.2

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

differ from those previously published.

SOURCE: Output based on data from the Bureau of Mines, U.S. Department of the Interior. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may

Table 159. Primary copper, lead, and zinc (SIC 3331, 3332, 3333): Indexes of output, employee hours, and employees, 1958-86
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	85.8	137.0	140.2	123.8	134.7	138.1	120.8
1959	71.2	120.8	122.6	113.1	120.6	123.2	110.4
1960	92.4	140.6	146.1	117.5	135.9	141.4	114.6
1961	93.8	136.5	141.5	115.5	130.8	135.5	112.8
1962	98.5	135.0	140.3	112.3	129.7	134.9	109.2
1963	97.5	130.5	136.8	104.9	126.7	133.0	102.1
1964	102.4	131.9	138.7	103.4	129.3	136.8	100.1
1965	108.1	135.1	142.7	103.3	130.0	137.8	100.3
1966	111.2	140.7	148.7	107.3	134.1	141.6	104.8
1967	76.1	114.3	113.6	117.4	110.9	109.9	114.7
1968	100.5	128.1	133.0	108.0	124.3	129.8	102.5
1969	122.1	151.3	160.1	114.7	146.5	155.2	112.3
1970	122.4	156.7	164.0	126.8	151.4	158.4	124.4
1971	111.3	136.6	139.3	125.4	134.1	136.6	124.4
1972	120.2	132.2	138.6	105.4	130.2	135.9	107.3
1973	122.8	129.6	134.2	110.7	129.2	133.5	112.3
1974	112.0	130.2	132.0	122.7	128.2	129.1	124.4
1975	100.1	117.4	115.8	124.1	116.9	114.8	124.4
1976	106.6	111.0	110.8	112.1	110.4	109.9	112.3
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	99.7	103.3	104.1	100.0	102.0	102.5	100.0
1979	105.1	98.7	100.0	93.3	98.5	100.0	92.7
1980	82.2	79.3	77.5	86.7	81.2	80.1	85.4
1981	98.3	82.9	81.0	90.7	83.2	81.4	90.2
1982	76.3	59.6	57.9	66.7	58.4	56.5	65.9
1983	74.0	52.4	51.9	54.7	51.0	50.3	53.7
1984	71.4	48.1	45.9	57.3	47.0	44.7	56.1
1985	69.6	38.4	35.8	49.3	38.1	35.4	48.8
1986 ¹	66.3	33.0	31.3	40.0	32.7	31.1	39.0
Average annual percent change:							
1947-86	(?)	-2.8	-3.1	-1.4	-2.7	-3.0	-1.3
1981-86	-6.3	-15.8	-16.5	-13.2	-15.8	-16.5	-13.4

¹ Preliminary.

² Less than .05 percent.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Mines, U.S. Department of the Interior. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 160. Primary copper (SIC 3331): Indexes of output per employee hour and output per employee, 1958-86
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	65.1	62.6	79.5	67.1	64.4	81.1
1959	61.4	60.1	68.0	59.2	57.2	69.4
1960	68.4	64.6	92.5	70.1	66.1	94.3
1961	69.7	67.4	82.7	72.3	69.9	84.2
1962	75.7	73.0	91.2	79.0	76.2	93.4
1963	75.4	71.7	98.3	78.8	75.0	100.7
1964	80.2	76.4	103.0	81.9	77.7	105.8
1965	81.9	76.9	116.3	86.2	80.9	119.0
1966	79.9	75.9	104.7	84.9	80.9	106.7
1967	69.0	70.4	63.3	69.9	71.3	64.5
1968	82.3	79.9	94.7	84.0	80.8	100.6
1969	82.6	78.4	108.7	85.1	80.6	111.1
1970	79.8	76.6	97.9	83.6	80.7	99.1
1971	81.9	80.7	87.2	82.8	81.9	86.9
1972	87.0	83.4	107.0	88.5	85.6	103.8
1973	90.6	87.5	107.1	93.3	91.0	104.5
1974	81.3	81.5	80.5	82.5	83.5	78.8
1975	83.0	85.3	74.0	84.4	87.5	73.4
1976	95.2	96.6	88.7	97.2	99.5	88.4
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	99.4	98.2	105.1	101.4	100.6	104.8
1979	113.3	111.3	123.6	115.4	113.3	124.8
1980	105.3	109.6	89.6	101.5	104.5	90.7
1981	124.4	126.3	116.3	126.8	129.2	117.7
1982	128.5	132.1	114.2	132.8	138.2	113.2
1983	138.3	140.5	130.3	144.0	147.2	131.4
1984	151.9	158.1	129.0	159.2	168.0	130.2
1985	189.8	204.5	143.3	195.2	213.4	142.7
1986 ²	214.8	234.0	156.6	217.6	240.6	154.8
Average annual percent change:						
1947-86	2.6	2.9	.9	2.4	2.7	.8
1981-86	12.1	13.8	6.4	12.0	13.9	6.0

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may

differ from those previously published.

SOURCE: Output based on data from the Bureau of Mines, U.S. Department of the Interior. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 161. Primary copper (SIC 3331): Indexes of output, employee hours, and employees, 1958-86
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	75.4	115.8	120.4	94.9	112.4	117.0	93.0
1959	59.4	96.8	98.9	87.3	100.4	103.8	85.6
1960	86.3	126.1	133.5	93.3	123.1	130.6	91.5
1961	85.0	121.9	126.1	102.8	117.6	121.6	100.9
1962	92.0	121.5	126.1	100.9	116.5	120.7	98.5
1963	90.0	119.3	125.5	91.6	114.2	120.0	89.4
1964	93.1	116.1	121.9	90.4	113.7	119.8	88.0
1965	100.0	122.1	130.1	86.0	116.0	123.6	84.0
1966	102.4	128.2	135.0	97.8	120.6	126.5	96.0
1967	61.9	89.7	87.9	97.8	88.6	86.8	96.0
1968	88.5	107.5	110.7	93.5	105.4	109.5	88.0
1969	111.1	134.5	141.7	102.2	130.6	137.8	100.0
1970	114.9	144.0	150.0	117.4	137.5	142.4	115.9
1971	104.3	127.4	129.2	119.6	126.0	127.3	120.0
1972	116.3	133.7	139.4	108.7	131.4	135.9	112.0
1973	121.1	133.7	138.4	113.1	129.8	133.1	115.9
1974	110.3	135.7	135.4	137.0	133.7	132.1	139.9
1975	99.8	120.3	117.0	134.8	118.3	114.1	136.0
1976	106.1	111.5	109.8	119.6	109.2	106.6	120.0
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	100.6	101.2	102.4	95.7	99.2	100.0	96.0
1979	104.8	92.5	94.2	84.8	90.8	92.5	84.0
1980	79.8	75.8	72.8	89.1	78.6	76.4	88.0
1981	103.6	83.3	82.0	89.1	81.7	80.2	88.0
1982	77.0	59.9	58.3	67.4	58.0	55.7	68.0
1983	73.6	53.2	52.4	56.5	51.1	50.0	56.0
1984	72.9	48.0	46.1	56.5	45.8	43.4	56.0
1985	68.5	36.1	33.5	47.8	35.1	32.1	48.0
1986 ¹	68.1	31.7	29.1	43.5	31.3	28.3	44.0
Average annual percent change:							
1947-86 .....	.7	-1.9	-2.2	-3	-1.7	-2.1	-2
1981-86	-6.8	-16.8	-18.1	-12.4	-16.7	-18.1	-12.1

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Mines, U.S. Department of the Interior. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 162. Primary aluminum (SIC 3334): Indexes of output per employee hour and output per employee, 1958-86
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	57.8	59.2	52.1	59.5	61.4	53.0
1959	68.6	68.2	70.6	71.5	71.4	71.9
1960	71.7	71.9	70.5	73.9	74.5	71.7
1961	74.7	75.9	70.0	76.7	78.5	71.1
1962	78.4	78.5	77.2	80.1	80.5	78.9
1963	81.0	80.9	81.1	82.6	82.6	82.6
1964	83.4	81.8	90.0	81.3	78.8	92.2
1965	85.4	84.1	90.7	86.0	84.4	92.4
1966	88.3	87.3	93.0	90.1	89.2	94.5
1967	87.6	86.7	91.0	88.0	86.9	92.3
1968	81.9	82.0	81.2	82.5	81.8	85.3
1969	90.0	89.0	94.5	91.5	90.2	96.4
1970	92.5	92.2	94.0	92.3	91.7	94.2
1971	100.7	101.7	96.7	99.3	100.2	95.6
1972	99.9	101.3	94.4	97.5	99.5	90.5
1973	99.4	97.8	106.6	99.2	98.0	103.9
1974	110.8	109.1	118.8	109.0	107.4	115.4
1975	96.2	100.1	82.6	95.1	99.4	81.3
1976	101.4	102.1	98.4	101.1	101.9	98.0
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	99.6	98.6	103.8	101.9	101.3	104.0
1979	99.7	99.2	102.1	100.5	100.2	101.9
1980	100.0	102.3	91.6	98.5	100.3	92.3
1981	103.8	107.6	90.4	102.9	106.7	90.3
1982	103.0	112.0	76.7	99.3	107.3	76.9
1983	111.5	115.8	96.8	108.8	112.4	96.3
1984	125.4	126.2	122.5	126.6	127.5	123.0
1985	125.4	129.0	112.3	123.4	126.7	112.0
1986 ²	128.2	144.5	86.7	127.1	143.7	87.2
Average annual percent change:						
1947-86	3.1	3.3	2.2	2.9	3.1	2.1
1981-86	5.2	5.8	3.4	5.5	6.2	3.5

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may

differ from those previously published.

SOURCE: Output based on data from the Bureau of Mines, U.S. Department of the Interior; and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 163. Primary aluminum (SIC 3334): Indexes of output, employee hours, and employees, 1958-86
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	36.1	62.5	61.0	69.3	60.7	58.8	68.1
1959	45.0	65.6	66.0	63.7	62.9	63.0	62.6
1960	46.1	64.3	64.1	65.4	62.4	61.9	64.3
1961	43.5	58.2	57.3	62.1	56.7	55.4	61.2
1962	48.2	61.5	61.4	62.4	60.2	59.9	61.1
1963	52.4	64.7	64.8	64.6	63.4	63.4	63.4
1964	57.7	69.2	70.5	64.1	71.0	73.2	62.6
1965	62.1	72.7	73.8	68.5	72.2	73.6	67.2
1966	66.6	75.4	76.3	71.6	73.9	74.7	70.5
1967	73.2	83.6	84.4	80.4	83.2	84.2	79.3
1968	72.1	88.0	87.9	88.8	87.4	88.1	84.5
1969	83.1	92.3	93.4	87.9	90.8	92.1	86.2
1970	86.1	93.1	93.4	91.6	93.3	93.9	91.4
1971	84.0	83.4	82.6	86.9	84.6	83.8	87.9
1972	87.3	87.4	86.2	92.5	89.5	87.7	96.5
1973	96.7	97.3	98.9	90.7	97.5	98.7	93.1
1974	105.5	95.2	96.7	88.8	96.8	98.2	91.4
1975	84.1	87.4	84.0	101.8	88.4	84.6	103.4
1976	92.9	91.6	91.0	94.4	91.9	91.2	94.8
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	105.8	106.2	107.3	101.9	103.8	104.4	101.7
1979	110.7	111.0	111.6	108.4	110.1	110.5	108.6
1980	113.0	113.0	110.5	123.4	114.7	112.7	122.4
1981	109.0	105.0	101.3	120.6	105.9	102.2	120.7
1982	79.5	77.2	71.0	103.7	80.1	74.1	103.4
1983	81.4	73.0	70.3	84.1	74.8	72.4	84.5
1984	99.6	79.4	78.9	81.3	78.7	78.1	81.0
1985	85.0	67.8	65.9	75.7	68.9	67.1	75.9
1986 ¹	73.7	57.5	51.0	85.0	58.0	51.3	84.5
Average annual percent change:							
1947-86	5.1	1.8	1.5	2.7	2.0	1.8	2.8
1981-86	-4.3	-9.0	-9.6	-7.5	-9.3	-9.9	-7.6

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Mines, U.S. Department of the Interior; and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 164. Copper rolling and drawing (SIC 3351): Indexes of output per employee hour and output per employee, 1958-86
(1977 = 100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	54.9	54.7	56.0	53.2	52.2	57.0
1959	60.4	58.5	68.9	61.0	58.8	70.0
1960	58.2	57.0	63.7	56.2	54.2	64.8
1961	63.1	62.9	64.1	62.3	61.5	65.1
1962	67.6	66.9	70.3	67.7	66.6	71.7
1963	74.0	71.3	86.5	74.7	71.3	88.3
1964	81.5	78.6	95.3	83.0	79.4	97.9
1965	86.1	82.6	103.0	87.9	83.9	105.0
1966	91.0	86.6	113.8	94.5	89.7	115.3
1967	77.3	75.9	83.5	75.3	72.9	85.0
1968	80.3	79.5	83.4	79.4	77.3	87.7
1969	85.6	83.9	92.6	86.5	84.2	95.2
1970	76.8	76.9	76.3	74.3	73.8	76.5
1971	85.8	84.9	89.2	83.7	82.7	87.6
1972	88.0	85.3	100.0	88.5	86.5	96.0
1973	93.2	90.0	108.3	94.1	91.2	105.2
1974	85.2	84.2	89.7	84.5	83.7	87.3
1975	76.8	80.4	65.5	72.5	75.2	64.6
1976	86.1	85.6	87.8	85.5	85.1	87.0
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	99.2	99.4	98.7	98.7	98.8	98.6
1979	97.5	97.3	98.6	95.7	94.9	98.7
1980	93.5	96.1	84.5	91.5	93.5	85.1
1981	97.3	100.1	87.3	93.9	95.8	87.9
1982	105.4	112.9	83.2	97.5	102.3	83.6
1983	120.2	125.9	102.2	115.3	119.5	102.3
1984	127.4	128.6	122.4	128.1	129.4	123.0
1985	121.3	124.5	110.1	118.1	120.2	110.7
1986 ²	129.9	131.5	124.0	126.9	127.4	124.9
Average annual percent change:						
1958-86	2.4	2.7	1.5	2.3	2.6	1.4
1981-86	5.7	4.9	8.3	6.4	5.8	8.3

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may

differ from those previously published.

SOURCE: Output based on data from the Copper Development Association Inc., the Bureau of the Census, and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 165. Copper rolling and drawing (SIC 3351): Indexes of output, employee hours, and employees, 1958-86
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	68.5	124.7	125.3	122.3	128.8	131.2	120.2
1959	84.0	139.1	143.6	121.9	137.7	142.8	120.0
1960	71.1	122.1	124.8	111.7	126.4	131.2	109.8
1961	78.4	124.2	124.6	122.4	125.9	127.4	120.5
1962	89.1	131.8	133.1	126.7	131.7	133.8	124.2
1963	92.8	125.4	130.1	107.3	124.3	130.1	105.1
1964	104.7	128.4	133.2	109.9	126.1	131.8	107.0
1965	110.9	128.8	134.2	107.7	126.1	132.2	105.6
1966	123.4	135.6	142.5	108.4	130.6	137.5	107.0
1967	96.9	125.3	127.7	116.0	128.7	133.0	114.0
1968	101.2	126.1	127.3	121.3	127.4	130.9	115.4
1969	113.8	133.0	135.6	122.9	131.5	135.1	119.6
1970	92.6	120.6	120.4	121.3	124.6	125.5	121.1
1971	98.7	115.0	116.2	110.7	117.9	119.4	112.7
1972	106.8	121.4	125.2	106.8	120.7	123.5	111.2
1973	119.9	128.6	133.2	110.7	127.4	131.4	114.0
1974	102.0	119.7	121.2	113.7	120.7	121.8	116.9
1975	74.5	97.0	92.7	113.7	102.8	99.1	115.4
1976	93.1	108.1	108.7	106.0	108.9	109.4	107.0
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	105.7	106.5	106.3	107.1	107.1	107.0	107.2
1979	110.2	113.0	113.3	111.8	115.1	116.1	111.6
1980	91.2	97.5	94.9	107.9	99.7	97.5	107.2
1981	94.2	96.8	94.1	107.9	100.3	98.3	107.2
1982	72.7	69.0	64.4	87.4	74.6	71.1	87.0
1983	84.5	70.3	67.1	82.7	73.3	70.7	82.6
1984	96.3	75.6	74.9	78.7	75.2	74.4	78.3
1985	85.0	70.1	68.3	77.2	72.0	70.7	76.8
1986 ¹	86.9	66.9	66.1	70.1	68.5	68.2	69.6
Average annual percent change:							
1958-86 .....	.1	-2.2	-2.4	-1.3	-2.1	-2.4	-1.3
1981-86 .....	.6	-4.8	-4.1	-7.1	-5.5	-5.0	-7.1

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Copper Development Association Inc.,

the Bureau of the Census, and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 166. Aluminum rolling and drawing (SIC 3353, 3354, 3355): Indexes of output per employee hour and output per employee, 1958-86
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	38.1	38.9	34.8	38.6	39.5	35.5
1959	41.1	40.6	42.9	42.5	42.2	43.7
1960	39.0	39.7	36.1	40.1	41.0	36.7
1961	42.8	43.3	40.8	44.2	45.0	41.4
1962	46.5	47.0	44.7	47.8	48.3	45.7
1963	51.5	51.8	49.9	52.9	53.5	51.1
1964	54.8	55.2	53.4	56.7	57.1	54.8
1965	60.0	60.0	60.5	63.1	63.5	61.7
1966	60.4	59.6	64.1	63.4	63.0	65.2
1967	59.8	60.0	58.7	60.8	61.0	59.7
1968	62.4	63.5	58.1	62.8	63.3	61.0
1969	64.1	64.8	60.9	65.5	66.3	62.5
1970	66.0	68.6	56.5	64.6	67.0	56.9
1971	72.5	74.9	63.7	70.0	72.1	62.8
1972	85.1	84.7	86.4	85.8	86.5	83.3
1973	94.0	92.8	99.5	95.5	95.2	96.7
1974	96.4	96.1	97.3	94.9	94.9	94.8
1975	87.5	92.5	70.9	82.6	86.8	69.8
1976	101.7	102.7	97.6	100.3	101.2	96.9
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	104.0	104.2	102.6	102.5	102.6	102.4
1979	100.3	101.2	96.5	100.2	101.2	96.6
1980	100.0	103.6	87.0	98.1	101.3	87.5
1981	96.8	100.6	83.0	95.2	98.8	83.4
1982	99.2	105.2	79.4	94.8	99.8	79.6
1983	110.4	113.7	98.2	108.3	111.2	98.2
1984	116.2	118.1	108.1	115.1	117.1	108.3
1985	115.9	118.5	106.0	116.3	119.2	106.1
1986 ²	125.8	125.8	125.8	128.3	128.9	126.3
Average annual percent change:						
1958-86	4.3	4.4	4.0	4.1	4.1	3.9
1981-86	5.4	4.4	9.1	6.4	5.6	9.1

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 167. Aluminum rolling and drawing (SIC 3353, 3354, 3355): Indexes of output, employee hours, and employees, 1958-86
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	28.9	75.8	74.2	83.0	74.9	73.2	81.5
1959	37.6	91.5	92.5	87.6	88.4	89.1	86.1
1960	33.7	86.5	84.8	93.4	84.1	82.1	91.8
1961	36.8	85.9	85.0	90.2	83.2	81.8	88.8
1962	41.5	89.2	88.3	92.9	86.9	85.9	90.9
1963	45.9	89.1	88.6	91.9	86.7	85.8	89.9
1964	50.8	92.7	92.1	95.1	89.6	88.9	92.7
1965	58.0	96.6	96.7	95.9	91.9	91.4	94.0
1966	64.2	106.3	107.8	100.2	101.2	101.9	98.5
1967	59.7	99.9	99.5	101.7	98.2	97.8	100.0
1968	66.2	106.1	104.3	114.0	105.4	104.6	108.6
1969	71.3	111.3	110.0	110.0	108.9	107.6	114.1
1970	67.1	101.7	97.8	118.7	103.8	100.2	118.0
1971	72.1	99.5	96.3	113.1	103.0	100.0	114.8
1972	87.2	102.5	102.9	100.9	101.6	100.8	104.7
1973	104.2	110.9	112.3	104.7	109.1	109.4	107.8
1974	99.3	103.0	103.3	102.1	104.6	104.6	104.7
1975	69.8	79.8	75.5	98.4	84.5	80.4	100.0
1976	93.9	92.3	91.4	96.2	93.6	92.8	96.9
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	110.4	106.2	105.9	107.6	107.7	107.6	107.8
1979	108.7	108.4	107.4	112.7	108.5	107.4	112.5
1980	102.5	102.5	98.9	117.8	104.5	101.2	117.2
1981	96.4	99.6	95.8	116.1	101.3	97.6	115.6
1982	84.5	85.2	80.3	106.4	89.1	84.7	106.2
1983	97.4	88.2	85.7	99.2	89.9	87.6	99.2
1984	104.9	90.3	88.8	97.0	91.1	89.6	96.9
1985	107.8	93.0	91.0	101.7	92.7	90.4	101.6
1986 ¹	112.5	89.4	89.4	89.4	87.7	87.3	89.1
Average annual percent change:							
1958-86	4.5	.2	.1	.5	.4	.3	.6
1981-86	4.6	-.7	.2	-4.1	-1.7	-1.0	-4.1

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 168. Metal cans (SIC 3411): Indexes of output per employee hour and output per employee, 1958-86
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	62.3	61.2	69.5	59.9	58.1	71.3
1959	64.5	63.0	75.6	64.1	62.0	77.3
1960	66.1	64.6	76.2	65.0	63.0	77.8
1961	69.7	68.1	81.1	68.9	66.8	82.7
1962	67.4	65.6	80.9	68.4	66.2	82.7
1963	67.0	65.4	78.9	67.2	65.1	80.6
1964	68.5	66.9	79.1	69.7	67.9	81.1
1965	70.3	69.5	75.6	73.4	72.7	77.2
1966	72.2	70.1	87.6	72.5	70.0	89.1
1967	74.7	72.6	90.8	76.3	73.8	92.3
1968	78.1	75.9	94.9	80.0	77.6	95.1
1969	80.0	78.2	93.4	80.2	77.7	96.3
1970	78.8	77.5	87.6	79.5	77.3	93.2
1971	78.5	77.7	83.8	77.4	75.9	86.1
1972	80.8	79.3	91.3	80.5	78.9	90.3
1973	81.6	79.8	95.0	82.3	80.1	96.0
1974	84.7	84.2	87.6	84.4	83.4	90.0
1975	87.0	87.9	81.5	86.5	87.2	83.0
1976	93.4	93.9	90.3	92.5	92.5	91.5
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	102.2	102.6	99.8	100.8	100.9	100.3
1979	103.6	104.1	101.1	103.3	103.6	101.6
1980	102.6	104.0	94.7	102.2	103.6	95.6
1981	107.8	110.5	94.8	106.5	108.9	95.5
1982	118.5	120.5	107.7	112.7	113.5	108.1
1983	120.4	122.0	112.0	116.2	117.1	112.0
1984	122.9	123.9	116.9	120.3	120.8	117.7
1985	125.8	126.3	122.4	122.9	122.9	122.7
1986 ²	129.5	129.7	129.0	127.0	126.5	130.0
Average annual percent change:						
1947-86	2.6	2.7	1.9	2.6	2.7	1.8
1981-86	3.2	2.8	5.8	3.4	3.0	5.8

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may

differ from those previously published.

SOURCE: Output based on data from the Can Manufacturing Association, the Bureau of the Census, and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 169. Metal cans (SIC 3411): Indexes of output, employee hours, and employees, 1958-86
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	54.3	87.1	88.7	78.1	90.7	93.4	76.2
1959	57.6	89.3	91.5	76.2	89.9	92.9	74.5
1960	58.2	88.1	90.1	76.4	89.5	92.4	74.8
1961	61.5	88.2	90.3	75.8	89.2	92.1	74.4
1962	60.7	90.0	92.6	75.0	88.7	91.7	73.4
1963	59.8	89.2	91.5	75.8	89.0	91.9	74.2
1964	64.2	93.7	95.9	81.2	92.1	94.6	79.2
1965	67.3	95.7	96.9	89.0	91.7	92.6	87.2
1966	71.2	98.6	101.5	81.3	98.2	101.7	79.9
1967	76.9	102.9	105.9	84.7	100.8	104.2	83.3
1968	85.2	109.1	112.2	89.8	106.5	109.8	89.6
1969	87.3	109.1	111.7	93.5	108.9	112.3	90.7
1970	93.2	118.3	120.3	106.4	117.2	120.5	100.0
1971	88.9	113.2	114.4	106.1	114.8	117.1	103.2
1972	92.2	114.1	116.3	101.0	114.5	116.9	102.1
1973	96.0	117.6	120.3	101.1	116.7	119.9	100.0
1974	97.5	115.1	115.8	111.3	115.5	116.9	108.3
1975	90.7	104.3	103.2	111.3	104.8	104.0	109.3
1976	94.4	101.1	100.5	104.5	102.1	102.0	103.2
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	99.3	97.2	96.8	99.5	98.5	98.4	99.0
1979	99.5	96.0	95.6	98.4	96.3	96.0	97.9
1980	91.6	89.3	88.1	96.7	89.6	88.4	95.8
1981	89.6	83.1	81.1	94.5	84.1	82.3	93.8
1982	92.3	77.9	76.6	85.7	81.9	81.3	85.4
1983	89.8	74.6	73.6	80.2	77.3	76.7	80.2
1984	91.9	74.8	74.2	78.6	76.4	76.1	78.1
1985	90.8	72.2	71.9	74.2	73.9	73.9	74.0
1986 ¹	93.5	72.2	72.1	72.5	73.6	73.9	71.9
Average annual percent change:							
1947-86	2.6	(²)	-1	.7	(²)	-1	.8
1981-86	5	-2.6	-2.2	-5.0	-2.8	-2.4	-5.0

¹ Preliminary.

² Less than .05 percent.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Can Manufacturing Association, the Bureau of the Census, and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 170. Hand and edge tools (SIC 3423): Indexes of output per employee hour and output per employee, 1958-85
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	74.0	75.2	69.7	73.2	73.7	71.2
1959	79.0	78.8	79.9	81.0	80.9	81.7
1960	77.0	77.5	74.5	78.7	79.4	76.3
1961	79.8	81.3	74.6	81.8	83.5	76.0
1962	81.5	82.2	79.1	84.8	86.0	80.9
1963	84.0	85.1	80.1	84.9	85.7	82.1
1964	86.1	87.0	82.9	88.4	89.4	85.1
1965	91.2	91.1	91.3	93.5	93.5	93.4
1966	88.8	87.6	93.8	93.4	93.0	95.5
1967	93.9	92.2	101.0	95.9	94.2	102.8
1968	95.5	94.2	100.9	97.1	96.0	101.5
1969	97.2	96.3	101.0	99.1	97.9	104.1
1970	91.0	90.8	92.0	93.1	91.9	98.0
1971	94.4	93.6	98.0	96.0	94.8	100.6
1972	101.2	99.9	106.2	101.8	100.9	104.8
1973	101.8	101.4	103.4	102.7	102.2	104.7
1974	96.9	96.2	99.4	97.4	96.2	102.4
1975	93.9	94.5	91.5	93.7	93.8	93.3
1976	97.6	98.4	94.8	97.0	97.3	96.6
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	100.4	98.6	107.6	100.7	99.0	107.6
1979	103.9	104.8	100.4	102.8	103.3	100.7
1980	98.4	102.3	85.7	94.6	97.1	86.4
1981	95.2	97.4	87.5	94.4	96.3	88.0
1982	92.8	100.1	72.3	88.6	94.3	72.6
1983	89.3	95.6	71.2	86.4	91.6	71.4
1984	90.1	94.6	75.9	89.4	93.8	76.1
1985 ²	90.6	94.9	77.0	87.7	91.1	77.3
Average annual percent change:						
1958-85 .....	.7	.9	.2	.5	.6	.1
1981-85	-1.3	-1.1	-2.0	-1.4	-1.2	-2.1

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 171. Hand and edge tools (SIC 3423): Indexes of output, employee hours, and employees, 1958-85
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	47.2	63.8	62.8	67.7	64.5	64.0	66.3
1959	55.0	69.6	69.8	68.8	67.9	68.0	67.3
1960	52.1	67.7	67.2	69.9	66.2	65.6	68.3
1961	55.7	69.8	68.5	74.7	68.1	66.7	73.3
1962	60.8	74.6	74.0	76.9	71.7	70.7	75.2
1963	56.9	67.7	66.9	71.0	67.0	66.4	69.3
1964	61.5	71.4	70.7	74.2	69.6	68.8	72.3
1965	70.2	77.0	77.1	76.9	75.1	75.1	75.2
1966	75.6	85.1	86.3	80.6	80.9	81.3	79.2
1967	73.3	78.1	79.5	72.6	76.4	77.8	71.3
1968	74.4	77.9	79.0	73.7	76.6	77.5	73.3
1969	80.4	82.7	83.5	79.6	81.1	82.1	77.2
1970	74.7	82.1	82.3	81.2	80.2	81.3	76.2
1971	72.7	77.0	77.7	74.2	75.7	76.7	72.3
1972	85.1	84.1	85.2	80.1	83.6	84.3	81.2
1973	92.2	90.6	90.9	89.2	89.8	90.2	88.1
1974	87.1	89.9	90.5	87.6	89.4	90.5	85.1
1975	75.8	80.7	80.2	82.8	80.9	80.8	81.2
1976	85.1	87.2	86.5	89.8	87.7	87.5	88.1
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	107.6	107.2	109.1	100.0	106.8	108.7	100.0
1979	111.7	107.5	106.6	111.3	108.7	108.1	110.9
1980	95.0	96.5	92.9	110.8	100.4	97.8	109.9
1981	95.0	99.8	97.5	108.6	100.6	98.6	107.9
1982	76.2	82.1	76.1	105.4	86.0	80.8	105.0
1983	73.5	82.3	76.9	103.2	85.1	80.2	103.0
1984	77.6	86.1	82.0	102.2	86.8	82.7	102.0
1985 ¹	75.8	83.7	79.9	98.4	86.4	83.2	98.0
Average annual percent change:							
1958-85	2.0	1.3	1.1	1.8	1.5	1.4	1.9
1981-85	-4.2	-3.0	-3.2	-2.3	-2.9	-3.1	-2.2

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 172. Heating equipment, except electric (SIC 3433): Indexes of output per employee hour and output per employee, 1972-85 (1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1972	85.5	86.2	83.7	86.4	88.0	82.5
1973	85.0	85.0	85.1	88.0	88.7	86.0
1974	78.9	81.2	73.3	80.2	82.2	75.4
1975	80.4	85.4	69.2	79.2	83.0	70.7
1976	84.5	88.3	75.4	86.0	90.1	76.8
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	101.6	101.6	101.5	101.8	101.8	101.7
1979	95.8	96.8	93.2	97.1	98.6	93.5
1980	99.7	102.6	92.4	98.9	101.4	92.8
1981	94.6	103.7	76.2	92.5	100.8	76.1
1982	102.3	114.0	79.9	99.9	110.2	80.3
1983	93.2	100.6	77.4	93.0	101.0	77.1
1984	102.0	110.3	84.6	102.8	111.7	84.8
1985 ²	97.7	102.9	85.7	99.9	106.5	85.6
Average annual percent ³ change:						
1972-85	1.6	2.2	.3	1.5	2.1	.2
1981-85 .....	.6	-.5	3.0	1.8	1.2	2.9

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 173. Heating equipment, except electric (SIC 3433): Indexes of output, employee hours, and employees, 1972-85 (1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1972	103.5	121.0	120.0	123.7	119.8	117.6	125.4
1973	109.1	128.3	128.3	128.2	124.0	123.0	126.8
1974	94.5	119.8	116.4	129.0	117.8	115.0	125.4
1975	86.6	107.7	101.4	125.2	109.3	104.3	122.5
1976	80.0	94.7	90.6	106.1	93.0	88.8	104.2
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	113.2	111.4	111.4	111.5	111.2	111.2	111.3
1979	115.9	121.0	119.7	124.4	119.4	117.6	123.9
1980	124.2	124.6	121.1	134.4	125.6	122.5	133.8
1981	96.5	102.0	93.1	126.7	104.3	95.7	126.8
1982	100.7	98.4	88.3	126.0	100.8	91.4	125.4
1983	93.4	100.2	92.8	120.6	100.4	92.5	121.1
1984	95.6	93.7	86.7	113.0	93.0	85.6	112.7
1985 ¹	92.9	95.1	90.3	108.4	93.0	87.2	108.5
Average annual percent change:							
1972-85	-.1	-1.7	-2.2	-.4	-1.6	-2.1	-.3
1981-85	-1.3	-1.9	-.8	-4.1	-3.1	-2.5	-4.1

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 174. Fabricated structural metal (SIC 3441): Indexes of output per employee hour and output per employee, 1958-85
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	80.2	79.3	83.2	81.3	80.0	85.2
1959	78.6	79.7	75.2	79.7	80.7	76.8
1960	81.1	81.0	81.1	84.7	85.3	82.9
1961	85.2	84.4	87.8	87.3	86.3	89.4
1962	88.5	86.7	94.0	91.6	90.1	95.9
1963	91.9	90.4	95.8	93.4	91.8	97.8
1964	92.9	91.5	97.7	96.5	95.1	100.2
1965	97.1	94.9	103.9	99.5	97.3	106.2
1966	95.0	92.3	103.4	97.0	94.4	105.1
1967	96.6	94.8	102.3	99.4	97.8	104.1
1968	100.3	98.5	105.9	102.7	101.3	106.2
1969	99.8	99.0	102.2	102.9	102.0	105.5
1970	102.2	102.2	102.0	105.8	104.6	108.5
1971	107.6	106.9	109.5	109.7	108.7	112.8
1972	110.8	109.8	113.3	110.6	109.9	112.3
1973	113.0	112.7	113.8	112.8	111.9	115.3
1974	106.9	106.0	109.4	108.0	106.3	112.6
1975	97.4	96.9	98.6	97.1	95.8	100.7
1976	98.9	98.7	99.0	98.7	98.1	100.6
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	100.5	99.4	104.0	100.3	99.0	104.0
1979	102.1	100.3	107.6	102.0	100.0	107.9
1980	102.1	99.8	109.4	102.4	99.8	110.3
1981	98.5	95.8	107.4	98.9	96.0	107.8
1982	99.5	99.8	98.4	100.6	101.2	99.0
1983	103.0	105.0	97.6	103.7	106.2	97.6
1984	107.9	108.2	107.1	108.1	108.2	107.5
1985 ²	117.7	117.5	118.3	116.4	115.6	118.8
Average annual percent change:						
1958-85 .....	.9	1.0	.8	.8	.8	.8
1981-85	4.5	5.0	2.8	4.1	4.5	2.8

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 175. Fabricated structural metal (SIC 3441): Indexes of output, employee hours, and employees, 1958-85
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	74.7	93.1	94.2	89.8	91.9	93.4	87.7
1959	66.3	84.4	83.2	88.2	83.2	82.2	86.3
1960	74.9	92.4	92.5	92.3	88.4	87.8	90.4
1961	74.0	86.9	87.7	84.3	84.8	85.7	82.8
1962	73.1	82.6	84.3	77.8	79.8	81.1	76.2
1963	80.3	87.4	88.8	83.8	86.0	87.5	82.1
1964	85.6	92.1	93.6	87.6	88.7	90.0	85.4
1965	93.2	96.0	98.2	89.7	93.7	95.8	87.8
1966	95.2	100.2	103.1	92.1	98.1	100.9	90.6
1967	107.6	111.4	113.5	105.2	108.2	110.0	103.4
1968	107.9	107.6	109.5	101.9	105.1	106.5	101.6
1969	108.3	108.5	109.4	106.0	105.2	106.2	102.7
1970	106.4	104.1	104.1	104.3	100.6	101.7	98.1
1971	106.4	98.9	99.5	97.2	97.0	97.9	94.3
1972	116.1	104.8	105.7	102.5	105.0	105.6	103.4
1973	119.7	105.9	106.2	105.2	106.1	107.0	103.8
1974	112.6	105.3	106.2	102.9	104.3	105.9	100.0
1975	101.1	103.8	104.3	102.5	104.1	105.5	100.4
1976	96.0	97.1	97.3	97.0	97.3	97.9	95.4
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	101.6	101.1	102.2	97.7	101.3	102.6	97.7
1979	112.0	109.7	111.7	104.1	109.8	112.0	103.8
1980	121.5	119.0	121.7	111.1	118.7	121.8	110.2
1981	115.1	116.9	120.2	107.2	116.4	119.9	106.8
1982	104.9	105.4	105.1	106.6	104.3	103.7	106.0
1983	98.0	95.1	93.3	100.4	94.5	92.3	100.4
1984	100.2	92.9	92.6	93.6	92.7	92.6	93.2
1985 ¹	106.2	90.2	90.4	89.8	91.2	91.9	89.4
Average annual percent change:							
1958-85	1.5	.5	.5	.6	.7	.7	.7
1981-85	-2.0	-6.2	-6.7	-4.7	-5.9	-6.2	-4.7

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 176. Metal doors, sash, and trim (SIC 3442): Indexes of output per employee hour and output per employee, 1967-85 (1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1967	81.7	82.9	78.0	83.4	84.7	79.5
1968	85.6	86.5	83.1	86.2	87.1	83.3
1969	83.7	85.0	79.4	85.0	86.0	81.9
1970	82.1	85.9	71.6	83.9	86.8	76.1
1971	91.4	93.8	84.4	92.5	94.3	86.8
1972	93.1	93.9	90.3	93.9	95.4	89.5
1973	92.0	94.1	86.0	92.8	94.8	87.1
1974	87.2	88.6	82.9	87.5	88.2	85.4
1975	89.3	92.1	81.3	88.2	90.0	83.1
1976	92.9	93.6	90.9	93.6	93.9	92.6
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	94.8	95.9	91.2	94.8	96.0	91.3
1979	92.8	94.9	86.4	92.8	94.9	86.8
1980	90.6	93.0	83.3	90.0	92.1	84.0
1981	90.4	92.9	83.1	91.8	94.6	83.6
1982	96.0	101.9	80.7	95.8	101.7	81.1
1983	99.7	103.4	89.0	98.0	101.2	89.1
1984	102.8	107.0	91.0	102.9	107.2	91.3
1985 ²	106.3	110.9	93.4	107.2	112.2	93.9
Average annual percent change:						
1967-85	1.1	1.2	.7	1.0	1.1	.5
1981-85	4.0	4.1	3.6	3.9	4.0	3.6

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 177. Metal doors, sash, and trim (SIC 3442): Indexes of output, employee hours, and employees, 1967-85 (1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1967	81.0	99.1	97.7	103.8	97.1	95.6	101.9
1968	81.7	95.4	94.5	98.3	94.8	93.8	98.1
1969	81.9	97.9	96.4	103.1	96.4	95.2	100.0
1970	79.5	96.8	92.6	111.1	94.7	91.6	104.5
1971	88.5	96.8	94.4	104.8	95.7	93.8	101.9
1972	100.9	108.4	107.4	111.8	107.4	105.8	112.7
1973	98.2	106.7	104.4	114.2	105.8	103.6	112.7
1974	88.6	101.6	100.0	106.9	101.2	100.4	103.8
1975	72.0	80.6	78.2	88.6	81.6	80.0	86.6
1976	80.2	86.3	85.7	88.2	85.7	85.4	86.6
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	102.9	108.6	107.3	112.8	108.5	107.2	112.7
1979	103.4	111.4	108.9	119.7	111.4	109.0	119.1
1980	96.3	106.3	103.5	115.6	107.0	104.6	114.6
1981	100.1	110.7	107.8	120.4	109.1	105.8	119.7
1982	96.6	100.6	94.8	119.7	100.8	95.0	119.1
1983	105.0	105.3	101.5	118.0	107.1	103.8	117.8
1984	107.0	104.1	100.0	117.6	104.0	99.8	117.2
1985 ¹	116.0	109.1	104.6	124.2	108.2	103.4	123.6
Average annual percent change:							
1967-85	1.7	.6	.5	1.0	.7	.5	1.1
1981-85	4.1	.1	-.1	.4	.1	(?)	.5

¹ Preliminary.

² Less than .05 percent.

NOTE: Because of periodic revisions in source data, the measures in this table

may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 178. Metal stampings (SIC 3465, 3466, 3469): Indexes of output per employee hour and output per employee, 1963-85 (1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	87.5	87.5	87.8	90.2	90.4	89.6
1964	84.0	83.1	89.1	87.3	86.5	91.3
1965	88.8	88.2	92.4	92.4	92.0	94.4
1966	87.1	85.6	96.3	88.9	87.3	97.8
1967	87.7	87.8	87.0	87.3	87.1	88.5
1968	91.0	90.0	96.6	93.5	92.8	96.8
1969	89.4	89.2	90.5	90.6	90.1	93.3
1970	86.4	88.4	77.6	87.8	89.0	82.5
1971	93.8	95.2	86.9	93.2	94.1	89.3
1972	97.6	97.6	97.5	97.8	98.0	96.6
1973	97.1	96.5	100.6	98.2	97.5	101.9
1974	96.3	97.7	90.0	94.0	94.3	92.6
1975	93.2	96.3	79.6	88.8	90.6	81.3
1976	97.2	98.0	93.2	96.3	96.6	94.7
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	101.3	100.8	103.5	99.7	99.0	103.4
1979	102.3	102.4	101.4	98.3	97.6	101.7
1980	99.9	102.3	88.6	93.7	94.8	89.1
1981	101.4	103.5	91.4	96.8	97.9	91.7
1982	98.1	103.5	76.7	94.0	98.4	76.9
1983	104.7	107.6	91.7	104.8	108.0	91.7
1984	110.4	112.1	102.1	110.7	112.6	102.5
1985 ²	104.7	106.5	96.8	106.3	108.4	97.1
Average annual percent change:						
1963-85	1.0	1.2	.2	.7	.9	.1
1981-85	1.8	1.4	4.1	3.6	3.4	4.1

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 179. Metal stampings (SIC 3465, 3466, 3469): Indexes of output, employee hours, and employees, 1963-85 (1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	67.5	77.1	77.1	76.9	74.8	74.7	75.3
1964	68.6	81.7	82.6	77.0	78.6	79.3	75.1
1965	79.1	89.1	89.7	85.6	85.6	86.0	83.8
1966	82.6	94.8	96.5	85.8	92.9	94.6	84.5
1967	81.0	92.4	92.3	93.1	92.8	93.0	91.5
1968	89.1	97.9	99.0	92.2	95.3	96.0	92.0
1969	88.9	99.4	99.7	98.2	98.1	98.7	95.3
1970	76.9	89.0	87.0	99.1	87.6	86.4	93.2
1971	79.7	85.0	83.7	91.7	85.5	84.7	89.2
1972	89.7	91.9	91.9	92.0	91.7	91.5	92.9
1973	98.7	101.6	102.3	98.1	100.5	101.2	96.9
1974	89.1	92.5	91.2	99.0	94.8	94.5	96.2
1975	72.3	77.6	75.1	90.8	81.4	79.8	88.9
1976	88.0	90.5	89.8	94.4	91.4	91.1	92.9
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	102.5	101.2	101.7	99.0	102.8	103.5	99.1
1979	99.6	97.4	97.3	98.2	101.3	102.0	97.9
1980	85.4	85.5	83.5	96.4	91.1	90.1	95.8
1981	85.5	84.3	82.6	93.5	88.3	87.3	93.2
1982	76.2	77.7	73.6	99.4	81.1	77.4	99.1
1983	88.9	84.9	82.6	96.9	84.8	82.3	96.9
1984	104.4	94.6	93.1	102.3	94.3	92.7	101.9
1985 ¹	101.7	97.1	95.5	105.1	95.7	93.8	104.7
Average annual percent change:							
1963-85	1.1	.1	(²)	.9	.4	.2	1.0
1981-85	6.8	4.9	5.4	2.7	3.2	3.3	2.6

¹ Preliminary.

² Less than .05 percent.

NOTE: Because of periodic revisions in source data, the measures in this table

may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 180. Automotive stampings (SIC 3465): Indexes of output per employee hour and output per employee, 1972-85
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1972	95.9	97.3	88.6	95.9	97.5	87.5
1973	94.8	95.5	90.5	95.7	96.5	91.5
1974	94.9	97.3	81.9	90.3	91.4	84.3
1975	94.1	96.9	79.5	87.3	88.5	81.0
1976	96.4	97.3	90.5	94.4	94.9	91.9
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	101.9	102.0	101.3	98.9	98.6	101.1
1979	102.9	104.1	96.1	96.6	96.6	96.2
1980	101.6	105.9	80.7	91.5	93.6	81.1
1981	105.0	108.5	86.5	96.5	98.4	86.7
1982	106.7	111.3	84.5	99.7	103.0	84.8
1983	122.3	123.5	115.3	123.0	124.5	115.3
1984	127.9	127.9	127.1	129.7	130.1	127.4
1985 ²	120.1	120.5	118.0	122.9	123.7	118.3
Average annual percent change:						
1972-85	2.2	2.2	2.2	2.2	2.3	2.2
1981-85	4.6	3.5	10.8	7.8	7.2	10.8

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 181. Automotive stampings (SIC 3465): Indexes of output, employee hours, and employees, 1972-85
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1972	89.3	93.1	91.8	100.8	93.1	91.6	102.0
1973	97.9	103.3	102.5	108.2	102.3	101.4	107.0
1974	83.0	87.5	85.3	101.4	91.9	90.8	98.5
1975	70.8	75.2	73.1	89.1	81.1	80.0	87.4
1976	87.8	91.1	90.2	97.0	93.0	92.5	95.5
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	102.1	100.2	100.1	100.8	103.2	103.6	101.0
1979	91.4	88.8	87.8	95.1	94.6	94.6	95.0
1980	69.7	68.6	65.8	86.4	76.2	74.5	85.9
1981	69.3	66.0	63.9	80.1	71.8	70.4	79.9
1982	68.2	63.9	61.3	80.7	68.4	66.2	80.4
1983	89.8	73.4	72.7	77.9	73.0	72.1	77.9
1984	110.1	86.1	86.1	86.6	84.9	84.6	86.4
1985 ¹	110.6	92.1	91.8	93.7	90.0	89.4	93.5
Average annual percent change:							
1972-85 .....	.5	-1.7	-1.7	-1.7	-1.7	-1.8	-1.7
1981-85	15.2	10.1	11.2	3.9	6.9	7.5	3.9

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 182. Metal stampings, not elsewhere classified (SIC 3469): Indexes of output per employee hour and output per employee, 1972-85
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1972	100.0	98.2	107.7	100.2	98.7	106.3
1973	99.8	97.1	113.0	101.0	98.0	114.2
1974	98.4	98.0	100.2	98.6	97.6	102.9
1975	91.7	95.2	79.5	90.0	92.6	81.0
1976	98.0	98.8	94.9	97.8	98.2	96.1
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	100.2	98.8	106.7	100.5	99.0	106.4
1979	101.5	99.6	109.9	100.4	98.1	110.3
1980	98.1	97.6	100.7	96.2	95.0	101.3
1981	98.0	97.4	100.5	97.3	96.6	100.7
1982	89.3	94.4	73.0	88.1	93.0	73.2
1983	89.3	92.5	77.9	89.6	93.1	77.9
1984	96.1	98.6	87.1	95.5	97.9	87.4
1985 ²	90.1	92.4	81.4	90.9	93.7	81.7
Average annual percent change:						
1972-85	-.6	-.3	-2.0	-.7	-.3	-2.0
1981-85	-.9	-.6	-2.4	-.6	-.1	-2.4

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 183. Metal stampings, not elsewhere classified (SIC 3469): Indexes of output, employee hours, and employees, 1972-85
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1972	89.3	89.3	90.9	82.9	89.1	90.5	84.0
1973	99.7	99.9	102.7	88.2	98.7	101.7	87.3
1974	96.6	98.2	98.6	96.4	98.0	99.0	93.9
1975	72.6	79.2	76.3	91.3	80.7	78.4	89.6
1976	87.1	88.9	88.2	91.8	89.1	88.7	90.6
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	103.4	103.2	104.7	96.9	102.9	104.4	97.2
1979	111.3	109.7	111.8	101.3	110.9	113.5	100.9
1980	106.1	108.1	108.7	105.4	110.3	111.7	104.7
1981	106.4	108.6	109.2	105.9	109.3	110.2	105.7
1982	85.7	96.0	90.8	117.4	97.3	92.2	117.0
1983	89.3	100.0	96.5	114.6	99.7	95.9	114.6
1984	102.3	106.5	103.8	117.4	107.1	104.5	117.0
1985 ¹	94.4	104.8	102.2	115.9	103.8	100.7	115.6
Average annual percent change:							
1972-85 .....	.6	1.2	.9	2.6	1.3	.9	2.7
1981-85	-.6	.3	(²)	1.8	-.1	-.5	1.8

¹ Preliminary.

² Less than .05 percent.

NOTE: Because of periodic revisions in source data, the measures in this table

may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 184. Valves and pipe fittings (SIC 3494): Indexes of output per employee hour and output per employee, 1958-85
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	72.2	69.8	78.9	73.0	70.1	80.8
1959	76.5	73.0	86.7	77.3	73.2	88.7
1960	75.0	73.3	79.6	75.1	72.7	81.4
1961	81.3	80.4	83.5	82.1	80.9	85.0
1962	83.4	82.0	87.3	85.3	83.7	89.1
1963	84.3	81.7	91.7	86.2	83.5	93.5
1964	86.6	83.4	95.9	91.2	88.3	98.6
1965	96.4	93.5	104.7	100.1	97.6	106.9
1966	95.1	91.7	104.7	100.2	97.7	106.5
1967	91.3	89.2	97.0	94.5	92.9	98.6
1968	92.3	90.8	96.5	93.9	92.8	96.7
1969	94.1	92.7	97.8	97.3	95.8	100.9
1970	93.6	95.5	89.4	96.7	97.3	95.2
1971	98.3	99.1	96.4	99.8	100.1	99.2
1972	100.7	100.3	101.4	101.5	102.1	100.3
1973	103.3	102.8	104.2	105.6	105.6	105.5
1974	94.3	92.7	98.3	100.5	100.2	101.3
1975	92.4	95.3	85.8	92.7	95.1	87.6
1976	91.1	92.8	87.1	92.0	93.5	88.5
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	101.3	100.9	102.6	101.2	100.5	102.7
1979	105.3	105.7	104.5	105.6	105.9	104.9
1980	102.8	104.8	98.2	103.0	104.7	99.0
1981	105.4	108.4	98.6	105.7	108.8	99.1
1982	101.3	109.1	85.8	99.2	106.2	86.2
1983	103.6	111.6	88.0	101.9	109.2	88.2
1984	105.1	109.8	95.0	105.3	110.3	95.3
1985 ²	104.5	110.2	92.7	104.3	109.9	93.1
Average annual percent change:						
1954-85	1.2	1.6	(³)	1.0	1.5	-1
1981-85 .....	.2	.4	-2	.3	.6	-2

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

³ Less than .05 percent.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 185. Valves and pipe fittings (SIC 3494): Indexes of output, employee hours, and employees, 1958-85
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	51.6	71.5	73.9	65.4	70.7	73.6	63.9
1959	54.0	70.6	74.0	62.3	69.9	73.8	60.9
1960	51.8	69.1	70.7	65.1	69.0	71.3	63.6
1961	57.7	71.0	71.8	69.1	70.3	71.3	67.9
1962	63.8	76.5	77.8	73.1	74.8	76.2	71.6
1963	63.8	75.7	78.1	69.6	74.0	76.4	68.2
1964	68.7	79.3	82.4	71.6	75.3	77.8	69.7
1965	81.0	84.0	86.6	77.4	80.9	83.0	75.8
1966	85.0	89.4	92.7	81.2	84.8	87.0	79.8
1967	82.9	90.8	92.9	85.5	87.7	89.2	84.1
1968	82.5	89.4	90.9	85.5	87.9	88.9	85.3
1969	86.1	91.5	92.9	88.0	88.5	89.9	85.3
1970	86.7	92.6	90.8	89.7	89.7	89.1	91.1
1971	86.5	88.0	87.3	89.7	86.7	86.4	87.2
1972	88.1	87.5	87.8	86.9	86.8	86.3	87.8
1973	98.4	95.3	95.7	94.4	93.2	93.2	93.3
1974	99.5	105.5	107.3	101.2	99.0	99.3	98.2
1975	87.3	94.5	91.6	101.8	94.2	91.8	99.7
1976	86.9	95.4	93.6	99.8	94.5	92.9	98.2
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	105.2	103.8	104.3	102.5	104.0	104.7	102.4
1979	113.9	108.2	107.8	109.0	107.9	107.6	108.6
1980	111.1	108.1	106.0	113.1	107.9	106.1	112.2
1981	115.2	109.3	106.3	116.8	109.0	105.9	116.2
1982	105.2	103.9	96.4	122.6	106.0	99.1	122.0
1983	94.6	91.3	84.8	107.5	92.8	86.6	107.3
1984	103.5	98.5	94.3	109.0	98.3	93.8	108.6
1985 ¹	100.2	95.9	90.9	108.1	96.1	91.2	107.6
Average annual percent change:							
1954-85	2.5	1.4	.9	2.6	1.5	1.0	2.7
1981-85	-2.9	-3.1	-3.3	-2.7	-3.2	-3.5	-2.7

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 186. Fabricated pipe and fittings (SIC 3498): Indexes of output per employee hour and output per employee, 1958-85
(1977 = 100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	84.9	87.4	77.6	88.7	92.1	79.3
1959	94.7	97.0	87.9	101.3	105.5	90.4
1960	84.9	88.4	75.2	90.4	95.6	77.5
1961	97.5	101.7	85.9	101.9	107.3	87.8
1962	98.5	102.5	87.7	104.7	110.3	89.8
1963	93.0	97.6	80.4	97.6	103.4	82.7
1964	97.3	98.3	93.9	103.0	105.1	96.6
1965	100.9	101.8	98.3	105.1	106.9	100.0
1966	100.3	103.2	92.3	107.3	112.5	93.7
1967	96.9	98.4	92.2	102.9	106.1	94.1
1968	100.1	98.9	104.8	106.7	107.1	105.1
1969	105.8	104.8	108.8	116.1	117.3	112.6
1970	94.0	92.9	97.5	100.5	99.7	103.2
1971	97.0	96.5	98.8	100.0	99.3	101.9
1972	106.0	105.5	107.9	108.4	109.1	106.5
1973	110.2	110.5	109.0	112.8	113.8	109.9
1974	111.4	111.7	110.6	115.8	116.3	114.4
1975	104.0	104.7	101.7	106.4	107.1	104.1
1976	97.4	95.4	104.6	99.0	96.8	106.8
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	100.7	99.5	104.6	100.7	99.5	104.9
1979	90.2	86.7	103.9	91.9	88.6	104.2
1980	90.1	89.7	91.3	90.7	90.4	92.1
1981	93.5	92.6	96.4	94.4	93.6	97.2
1982	89.5	92.8	80.4	91.5	95.4	81.1
1983	87.1	88.7	82.3	88.7	90.9	82.5
1984	97.9	98.6	96.0	99.7	100.9	96.2
1985 ²	90.4	93.4	81.6	89.4	92.1	82.0
Average annual percent change:						
1958-85	(³)	-.1	.4	-.2	-.4	.3
1981-85 .....	.2	.8	-1.5	-.2	.2	-1.7

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

³ Less than .05 percent.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 187. Fabricated pipe and fittings (SIC 3498): Indexes of output, employee hours, and employees, 1958-85
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	47.8	56.3	54.7	61.6	53.9	51.9	60.3
1959	47.8	50.5	49.3	54.4	47.2	45.3	52.9
1960	43.3	51.0	49.0	57.6	47.9	45.3	55.9
1961	42.6	43.7	41.9	49.6	41.8	39.7	48.5
1962	44.9	45.6	43.8	51.2	42.9	40.7	50.0
1963	45.0	48.4	46.1	56.0	46.1	43.5	54.4
1964	51.1	52.5	52.0	54.4	49.6	48.6	52.9
1965	57.4	56.9	56.4	58.4	54.6	53.7	57.4
1966	62.0	61.8	60.1	67.2	57.8	55.1	66.2
1967	66.4	68.5	67.5	72.0	64.5	62.6	70.6
1968	69.6	69.5	70.4	66.4	65.2	65.0	66.2
1969	67.9	64.2	64.8	62.4	58.5	57.9	60.3
1970	57.7	61.4	62.1	59.2	57.4	57.9	55.9
1971	58.5	60.3	60.6	59.2	58.5	58.9	57.4
1972	67.3	63.5	63.8	62.4	62.1	61.7	63.2
1973	77.6	70.4	70.2	71.2	68.8	68.2	70.6
1974	85.8	77.0	76.8	77.6	74.1	73.8	75.0
1975	78.1	75.1	74.6	76.8	73.4	72.9	75.0
1976	89.5	91.9	93.8	85.6	90.4	92.5	83.8
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	107.9	107.2	108.4	103.2	107.1	108.4	102.9
1979	107.2	118.8	123.6	103.2	116.7	121.0	102.9
1980	103.0	114.3	114.8	112.8	113.5	114.0	111.8
1981	107.2	114.7	115.8	111.2	113.5	114.5	110.3
1982	106.1	118.5	114.3	132.0	116.0	111.2	130.9
1983	92.2	105.8	103.9	112.0	103.9	101.4	111.8
1984	89.1	91.0	90.4	92.8	89.4	88.3	92.6
1985 ¹	79.6	88.1	85.2	97.6	89.0	86.4	97.1
Average annual percent change:							
1958-85	3.5	3.5	3.7	3.2	3.8	4.0	3.3
1981-85	-7.4	-7.6	-8.1	-5.9	-7.2	-7.6	-5.8

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 188. Internal combustion engines, not elsewhere classified (SIC 3519): Indexes of output per employee hour and output per employee, 1967-85
(1977 = 100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1967	70.3	68.8	75.1	71.7	70.7	74.6
1968	72.2	71.4	74.7	73.8	72.4	77.8
1969	75.4	74.6	77.8	77.2	76.2	79.9
1970	76.4	76.6	75.7	75.8	75.4	76.8
1971	81.8	82.5	79.9	79.9	79.4	81.5
1972	87.9	86.9	90.9	88.6	87.2	92.6
1973	91.0	88.9	97.8	93.4	91.4	99.7
1974	93.9	91.9	100.9	96.8	94.9	102.4
1975	86.7	89.5	79.1	84.3	86.0	80.1
1976	92.8	94.3	88.7	91.9	92.7	89.9
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	105.1	105.7	103.5	105.5	106.3	103.4
1979	98.2	99.2	95.3	96.2	96.5	95.7
1980	94.3	98.0	84.6	93.6	97.1	85.3
1981	93.2	96.6	84.5	93.2	96.6	84.8
1982	82.0	93.9	59.4	76.8	85.7	59.6
1983	86.8	100.3	61.9	82.1	93.2	61.9
1984	99.8	104.1	88.7	98.9	103.1	89.0
1985 ²	102.7	109.7	85.9	99.8	105.6	86.4
Average annual percent change:						
1967-85	1.6	2.2	(³)	1.3	1.9	-.2
1981-85	4.0	3.6	4.4	4.0	3.7	4.5

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

³ Less than .05 percent.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 189. Internal combustion engines, not elsewhere classified (SIC 3519): Indexes of output, employee hours, and employees, 1967-85
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1967	51.4	73.1	74.7	68.4	71.7	72.7	68.9
1968	54.9	76.0	76.9	73.5	74.4	75.8	70.6
1969	65.6	87.0	87.9	84.3	85.0	86.1	82.1
1970	59.1	77.4	77.2	78.1	78.0	78.4	77.0
1971	59.3	72.5	71.9	74.2	74.2	74.7	72.8
1972	69.7	79.3	80.2	76.7	78.7	79.9	75.3
1973	79.8	87.7	89.8	81.6	85.4	87.3	80.0
1974	88.1	93.8	95.9	87.3	91.0	92.8	86.0
1975	73.6	84.9	82.2	93.1	87.3	85.6	91.9
1976	82.6	89.0	87.6	93.1	89.9	89.1	91.9
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	113.9	108.4	107.8	110.1	108.0	107.2	110.2
1979	109.6	111.6	110.5	115.0	113.9	113.6	114.5
1980	94.3	100.0	96.2	111.5	100.7	97.1	110.6
1981	93.5	100.3	96.8	110.6	100.3	96.8	110.2
1982	68.7	83.8	73.2	115.7	89.5	80.2	115.3
1983	65.3	75.2	65.1	105.5	79.5	70.1	105.5
1984	87.1	87.3	83.7	98.2	88.1	84.5	97.9
1985 ¹	81.2	79.1	74.0	94.5	81.4	76.9	94.0
Average annual percent change:							
1967-85	2.5	.9	.3	2.5	1.2	.6	2.6
1981-85	-.4	-4.2	-4.0	-4.7	-4.2	-4.0	-4.7

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 190. Farm and garden machinery (SIC 352): Indexes of output per employee hour and output per employee, 1958-85
(1977 = 100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	65.1	64.9	65.5	66.2	66.0	66.8
1959	65.1	63.4	70.3	67.5	66.1	71.4
1960	60.5	61.3	58.6	63.0	64.5	59.2
1961	62.9	61.3	67.7	64.9	63.9	67.7
1962	65.1	65.1	64.8	66.8	67.7	64.6
1963	66.6	64.3	74.3	69.4	67.8	74.1
1964	70.2	66.9	82.0	73.7	71.1	82.0
1965	72.2	68.6	84.8	75.6	72.8	84.5
1966	76.7	72.3	92.7	80.9	77.6	92.0
1967	76.8	73.3	88.8	78.5	75.6	88.1
1968	76.7	75.0	82.1	79.1	77.0	85.6
1969	73.8	73.2	75.9	75.5	74.7	77.9
1970	75.7	75.2	77.3	76.8	76.2	78.4
1971	82.4	83.0	81.0	83.8	84.3	82.4
1972	90.1	87.0	99.9	92.9	90.0	101.8
1973	94.8	90.7	109.2	97.4	93.2	111.3
1974	98.2	92.6	118.3	102.2	96.9	120.1
1975	97.7	95.3	105.2	100.9	99.0	106.4
1976	101.1	100.5	103.1	102.2	101.4	104.3
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	98.9	98.1	101.2	98.9	98.2	101.2
1979	100.5	98.8	105.5	101.9	100.6	105.8
1980	93.3	96.3	85.5	92.5	95.1	86.1
1981	95.1	100.1	83.1	93.2	97.2	83.4
1982	94.9	106.5	72.5	92.7	102.9	72.8
1983	95.3	105.6	74.7	93.7	103.1	74.8
1984	105.2	109.9	93.7	104.9	109.6	94.0
1985 ²	101.7	107.5	88.0	101.7	107.7	88.3
Average annual percent change:						
1958-85	2.1	2.4	1.2	1.9	2.1	1.2
1981-85	2.4	1.8	3.8	3.0	2.7	3.8

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 191. Farm and garden machinery (SIC 352): Indexes of output, employee hours, and employees, 1958-85
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	49.4	75.9	76.1	75.4	74.6	74.8	74.0
1959	52.5	80.7	82.8	74.7	77.8	79.4	73.5
1960	42.9	70.9	70.0	73.2	68.1	66.5	72.5
1961	45.7	72.7	74.5	67.5	70.4	71.5	67.5
1962	48.8	75.0	75.0	75.3	73.0	72.1	75.5
1963	53.7	80.6	83.5	72.3	77.4	79.2	72.5
1964	60.1	85.6	89.9	73.3	81.5	84.5	73.3
1965	64.0	88.6	93.3	75.5	84.7	87.9	75.7
1966	76.4	99.6	105.6	82.4	94.4	98.5	83.0
1967	73.6	95.8	100.4	82.9	93.7	97.4	83.5
1968	70.8	92.3	94.4	86.2	89.5	92.0	82.7
1969	65.8	89.1	89.9	86.7	87.1	88.1	84.5
1970	65.1	86.0	86.6	84.2	84.8	85.4	83.0
1971	66.2	80.3	79.8	81.7	79.0	78.5	80.3
1972	77.1	85.6	88.6	77.2	83.0	85.7	75.7
1973	93.5	98.6	103.1	85.6	96.0	100.3	84.0
1974	106.9	108.9	115.4	90.4	104.6	110.3	89.0
1975	100.0	102.4	104.9	95.1	99.1	101.0	94.0
1976	98.9	97.8	98.4	95.9	96.8	97.5	94.8
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	93.8	94.8	95.6	92.7	94.8	95.5	92.7
1979	111.6	111.1	112.9	105.8	109.5	110.9	105.5
1980	94.3	101.1	97.9	110.3	101.9	99.2	109.5
1981	88.4	93.0	88.3	106.4	94.9	90.9	106.0
1982	70.0	73.8	65.7	96.6	75.5	68.0	96.2
1983	62.6	65.7	59.3	83.8	66.8	60.7	83.7
1984	68.6	65.2	62.4	73.2	65.4	62.6	73.0
1985 ¹	60.0	59.3	56.1	68.5	59.3	56.0	68.3
Average annual percent change:							
1958-85	2.1	(²)	-3	.9	.2	(²)	.9
1981-85	-7.6	-9.7	-9.1	-10.9	-10.3	-10.0	-10.9

¹ Preliminary.

² Less than .05 percent.

NOTE: Because of periodic revisions in source data, the measures in this table

may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 192. Farm machinery and equipment (SIC 3523): Indexes of output per employee hour and output per employee, 1972-85 (1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1972	90.2	86.3	103.3	93.1	89.3	105.4
1973	95.6	91.1	111.5	98.2	93.6	113.8
1974	97.3	91.0	120.5	101.7	95.7	122.6
1975	98.8	95.6	109.2	102.1	99.3	110.5
1976	102.2	101.3	104.7	102.8	101.7	106.1
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	97.4	96.7	99.6	97.8	97.3	99.6
1979	98.3	96.7	103.2	99.9	98.7	103.6
1980	91.3	93.8	84.6	90.4	92.4	85.2
1981	94.1	99.2	82.3	92.0	95.9	82.6
1982	92.6	105.3	69.1	89.6	100.2	69.5
1983	92.0	104.5	68.8	89.8	101.1	68.8
1984	104.6	112.4	87.3	104.0	111.6	87.7
1985 ²	98.8	108.4	78.9	98.2	107.5	79.4
Average annual percent change:						
1972-85 .....	.1	1.5	-3.5	-.3	1.0	-3.6
1981-85	2.2	2.5	1.5	2.8	3.4	1.5

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 193. Farm machinery and equipment (SIC 3523): Indexes of output, employee hours, and employees, 1972-85 (1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1972	74.2	82.3	86.0	71.8	79.7	83.1	70.4
1973	92.1	96.3	101.1	82.6	93.8	98.4	80.9
1974	102.7	105.6	112.9	85.2	101.0	107.3	83.8
1975	101.1	102.3	105.7	92.6	99.0	101.8	91.5
1976	99.7	97.6	98.4	95.2	97.0	98.0	94.0
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	90.2	92.6	93.3	90.6	92.2	92.7	90.6
1979	106.8	108.7	110.5	103.5	106.9	108.2	103.1
1980	91.8	100.6	97.9	108.5	101.6	99.4	107.7
1981	87.6	93.1	88.3	106.5	95.2	91.3	106.0
1982	65.5	70.7	62.2	94.8	73.1	65.4	94.3
1983	56.1	61.0	53.7	81.5	62.5	55.5	81.5
1984	59.7	57.1	53.1	68.4	57.4	53.5	68.1
1985 ¹	50.2	50.8	46.3	63.6	51.1	46.7	63.2
Average annual percent change:							
1972-85	-4.1	-4.2	-5.5	-6	-3.8	-5.0	-5
1981-85	-11.4	-13.3	-13.5	-12.7	-13.8	-14.3	-12.7

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 194. Lawn and garden equipment (SIC 3524): Indexes of output per employee hour and output per employee, 1972-85
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1972	88.8	90.8	83.3	91.0	93.6	84.1
1973	89.8	88.2	95.2	92.6	91.4	96.6
1974	103.0	102.1	105.8	104.5	103.8	106.6
1975	89.6	92.7	81.5	92.3	96.2	82.3
1976	94.3	94.8	92.5	98.0	99.6	93.5
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	108.1	107.4	110.2	105.7	104.4	109.7
1979	113.5	112.0	118.1	113.3	111.9	117.7
1980	106.5	113.2	90.3	106.8	113.6	90.8
1981	101.0	105.7	88.9	101.1	106.1	88.4
1982	106.9	112.8	91.9	110.6	119.0	91.7
1983	111.9	112.8	109.1	113.2	114.6	109.1
1984	111.4	107.7	124.0	112.3	109.0	123.5
1985 ²	115.7	111.7	129.6	118.3	114.9	130.0
Average annual percent change:						
1972-85	1.9	1.8	2.1	1.8	1.7	2.0
1981-85	3.2	.6	11.1	3.3	.7	11.3

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

² Preliminary.

Table 195. Lawn and garden equipment (SIC 3524): Indexes of output, employee hours, and employees, 1972-85
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1972	96.1	108.2	105.8	115.4	105.6	102.7	114.3
1973	102.5	114.1	116.2	107.7	110.7	112.2	106.1
1974	134.9	131.0	132.1	127.5	129.1	129.9	126.5
1975	92.3	103.0	99.6	113.2	100.0	95.9	112.2
1976	93.5	99.2	98.6	101.1	95.4	93.9	100.0
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	118.7	109.8	110.5	107.7	112.3	113.7	108.2
1979	144.1	127.0	128.7	122.0	127.2	128.8	122.4
1980	111.2	104.4	98.2	123.1	104.1	97.9	122.4
1981	93.8	92.9	88.7	105.5	92.8	88.4	106.1
1982	101.0	94.5	89.5	109.9	91.3	84.9	110.2
1983	109.1	97.5	96.7	100.0	96.4	95.2	100.0
1984	133.6	119.9	124.0	107.7	119.0	122.6	108.2
1985 ¹	135.3	116.9	121.1	104.4	114.4	117.8	104.1
Average annual percent change:							
1972-85	1.5	-4	-3	-6	-3	-2	-5
1981-85	10.7	7.2	10.0	-4	7.1	9.9	-6

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 196. Construction machinery and equipment (SIC 3531): Indexes of output per employee hour and output per employee, 1958-86 (1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	74.2	77.0	67.8	73.5	75.4	69.1
1959	69.6	68.4	73.5	73.6	73.2	74.5
1960	62.3	63.7	59.3	63.4	65.0	59.8
1961	68.2	68.5	67.5	69.4	70.2	67.4
1962	74.1	72.8	77.8	76.3	76.0	77.5
1963	75.0	72.2	83.4	78.3	76.6	83.0
1964	77.9	73.8	91.4	82.2	79.2	91.4
1965	80.0	75.4	95.1	84.3	80.8	94.7
1966	81.2	75.1	104.1	87.1	82.1	103.0
1967	82.5	79.1	93.0	84.1	81.3	92.2
1968	82.2	80.3	87.5	84.9	82.6	91.0
1969	83.0	79.9	92.6	86.8	84.0	94.7
1970	83.4	82.0	87.3	85.9	84.8	88.5
1971	85.6	85.3	86.6	87.1	86.6	88.1
1972	91.9	89.0	100.5	95.9	93.5	102.2
1973	94.0	90.0	106.2	99.1	95.9	108.2
1974	100.2	96.0	112.9	105.3	102.0	114.6
1975	93.9	92.3	98.2	96.9	95.9	99.3
1976	96.3	97.8	92.3	96.5	97.7	93.3
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	105.9	104.4	109.9	108.1	107.4	109.9
1979	100.3	101.3	98.0	97.8	97.6	98.3
1980	97.4	102.1	86.8	96.1	100.0	87.4
1981	96.1	99.8	87.6	95.2	98.3	88.0
1982	88.9	105.9	62.8	82.1	93.3	63.0
1983	88.2	103.8	63.2	82.3	93.5	63.2
1984	102.6	110.7	86.3	102.1	109.9	86.5
1985	104.1	114.3	84.5	103.4	113.4	84.7
1986 ²	105.3	116.6	84.0	105.5	117.0	84.2
Average annual percent change:						
1958-86	1.5	2.0	.4	1.3	1.6	.4
1981-86	3.1	3.1	2.9	4.1	4.7	2.8

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 197. Construction machinery and equipment (SIC 3531): Indexes of output, employee hours, and employees, 1958-86 (1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	45.1	60.8	58.6	66.5	61.4	59.8	65.3
1959	53.4	76.7	78.1	72.7	72.6	73.0	71.7
1960	45.6	73.2	71.6	76.9	71.9	70.2	76.2
1961	42.5	62.3	62.0	63.0	61.2	60.5	63.1
1962	48.7	65.7	66.9	62.6	63.8	64.1	62.8
1963	52.7	70.3	73.0	63.2	67.3	68.8	63.5
1964	61.6	79.1	83.5	67.4	74.9	77.8	67.4
1965	65.9	82.4	87.4	69.3	78.2	81.6	69.6
1966	68.0	83.7	90.6	65.3	78.1	82.8	66.0
1967	72.1	87.4	91.2	77.5	85.7	88.7	78.2
1968	75.2	91.5	93.7	85.9	88.6	91.0	82.6
1969	77.2	93.0	96.6	83.4	88.9	91.9	81.5
1970	71.7	86.0	87.4	82.1	83.5	84.6	81.0
1971	68.0	79.4	79.7	78.5	78.1	78.5	77.2
1972	82.6	89.9	92.8	82.2	86.1	88.3	80.8
1973	96.4	102.6	107.1	90.8	97.3	100.5	89.1
1974	106.8	106.6	111.2	94.6	101.4	104.7	93.2
1975	93.7	99.8	101.5	95.4	96.7	97.7	94.4
1976	89.9	93.4	91.9	97.4	93.2	92.0	96.4
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	117.6	111.1	112.6	107.0	108.8	109.5	107.0
1979	110.3	110.0	108.9	112.6	112.8	113.0	112.2
1980	97.7	100.3	95.7	112.5	101.7	97.7	111.8
1981	89.4	93.0	89.6	102.0	93.9	90.9	101.6
1982	61.0	68.6	57.6	97.2	74.3	65.4	96.8
1983	48.7	55.2	46.9	77.1	59.2	52.1	77.1
1984	63.0	61.4	56.9	73.0	61.7	57.3	72.8
1985	60.9	58.5	53.3	72.1	58.9	53.7	71.9
1986 ¹	57.7	54.8	49.5	68.7	54.7	49.3	68.5
Average annual percent change:							
1958-86	1.6	.1	-.4	1.2	.3	(?)	1.2
1981-86	-5.4	-8.3	-8.2	-8.0	-9.1	-9.7	-8.0

¹ Preliminary.

² Less than .05 percent.

NOTE: Because of periodic revisions in source data, the measures in this table

may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 198. Mining machinery and equipment (SIC 3532): Indexes of output per employee hour and output per employee, 1972-85
(1977 = 100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1972	103.3	100.9	108.1	102.7	98.9	110.3
1973	108.7	104.5	117.8	109.8	105.1	119.6
1974	115.2	108.3	131.7	116.4	108.8	133.4
1975	111.5	104.8	127.4	112.8	105.6	128.8
1976	95.1	90.3	105.9	97.1	92.3	107.4
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	93.9	96.0	90.0	92.1	93.2	90.1
1979	95.6	97.7	91.7	94.9	96.5	92.0
1980	98.6	102.8	91.5	97.4	100.3	92.4
1981	97.8	102.5	89.7	97.4	102.1	89.9
1982	91.0	104.4	73.1	87.0	96.7	73.4
1983	91.3	109.8	68.8	87.4	102.6	68.6
1984	98.5	110.2	81.5	96.1	105.9	81.9
1985 ²	101.4	115.9	81.6	97.9	109.6	81.9
Average annual percent change:						
1972-85	-1.0	.7	-4.0	-1.4	.2	-4.1
1981-85	1.5	3.0	-8	1.1	2.4	-8

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 199. Mining machinery and equipment (SIC 3532): Indexes of output, employee hours, and employees, 1972-85
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1972	69.6	67.4	69.0	64.4	67.8	70.4	63.1
1973	78.7	72.4	75.3	66.8	71.7	74.9	65.8
1974	93.8	81.4	86.6	71.2	80.6	86.2	70.3
1975	105.6	94.7	100.8	82.9	93.6	100.0	82.0
1976	98.7	103.8	109.3	93.2	101.6	106.9	91.9
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	90.9	96.8	94.7	101.0	98.7	97.5	100.9
1979	90.3	94.5	92.4	98.5	95.2	93.6	98.2
1980	92.4	93.7	89.9	101.0	94.9	92.1	100.0
1981	87.5	89.5	85.4	97.6	89.8	85.7	97.3
1982	68.1	74.8	65.2	93.2	78.3	70.4	92.8
1983	47.0	51.5	42.8	68.3	53.8	45.8	68.5
1984	51.7	52.5	46.9	63.4	53.8	48.8	63.1
1985 ¹	50.2	49.5	43.3	61.5	51.3	45.8	61.3
Average annual percent change:							
1972-85	-4.1	-3.1	-4.8	-1	-2.7	-4.3	(?)
1981-85	-12.9	-14.3	-15.5	-12.3	-13.9	-15.0	-12.3

¹ Preliminary.

² Less than .05 percent.

NOTE: Because of periodic revisions in source data, the measures in this table

may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 200. Oilfield machinery and equipment (SIC 3533): Indexes of output per employee hour and output per employee, 1967-86 (1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1967	86.3	86.6	85.4	85.4	85.8	84.5
1968	87.2	86.3	89.1	87.8	86.3	91.0
1969	82.1	80.6	86.0	83.0	81.1	87.1
1970	86.4	87.2	84.7	84.7	84.7	84.9
1971	90.7	95.1	82.0	88.7	91.8	82.7
1972	99.7	103.1	92.8	99.3	102.1	94.0
1973	105.7	107.3	102.2	108.0	110.3	103.1
1974	121.4	120.4	123.5	124.2	124.0	124.5
1975	107.9	105.0	115.0	109.8	107.3	115.6
1976	100.7	100.9	100.6	99.3	98.4	100.9
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	109.3	107.2	114.8	111.4	109.9	114.8
1979	105.6	104.6	107.9	105.7	104.6	107.9
1980	104.0	102.7	107.3	105.8	105.1	107.3
1981	104.7	101.1	114.5	108.9	106.4	114.5
1982	98.4	99.7	95.6	96.6	97.1	95.6
1983	91.8	97.9	79.9	87.1	90.9	79.9
1984	87.5	92.7	77.4	86.0	90.7	77.4
1985	80.1	86.1	69.1	79.1	84.9	69.1
1986 ²	77.4	90.2	58.4	74.0	84.6	58.4
Average annual percent change:						
1967-86	-1	.3	-8	-2	.1	-9
1981-86	-6.0	-3.0	-11.7	-7.0	-4.3	-11.7

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 201. Oilfield machinery and equipment (SIC 3533): Indexes of output, employee hours, and employees, 1967-86 (1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1967	49.1	56.9	56.7	57.5	57.5	57.2	58.1
1968	52.5	60.2	60.8	58.9	59.8	60.8	57.7
1969	54.5	66.4	67.6	63.4	65.7	67.2	62.6
1970	54.7	63.3	62.7	64.6	64.6	64.6	64.4
1971	52.5	57.9	55.2	64.0	59.2	57.2	63.5
1972	59.7	59.9	57.9	64.3	60.1	58.5	63.5
1973	70.6	66.8	65.8	69.1	65.4	64.0	68.5
1974	92.5	76.2	76.8	74.9	74.5	74.6	74.3
1975	98.4	91.2	93.7	85.6	89.6	91.7	85.1
1976	94.5	93.8	93.7	93.9	95.2	96.0	93.7
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	124.1	113.5	115.8	108.1	111.4	112.9	108.1
1979	128.8	122.0	123.1	119.4	121.9	123.1	119.4
1980	147.4	141.7	143.5	137.4	139.3	140.3	137.4
1981	191.9	183.2	189.9	167.6	176.2	180.3	167.6
1982	157.2	159.7	157.7	164.4	162.7	161.9	164.4
1983	85.7	93.4	87.5	107.2	98.4	94.3	107.2
1984	80.9	92.5	87.3	104.5	94.1	89.2	104.5
1985	75.0	93.6	87.1	108.6	94.8	88.3	108.6
1986 ¹	51.8	66.9	57.4	88.7	70.0	61.2	88.7
Average annual percent change:							
1967-86	3.8	3.8	3.5	4.6	4.0	3.6	4.6
1981-86	-22.3	-17.3	-19.9	-11.9	-16.4	-18.8	-11.9

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 202. Machine tools (SIC 3541, 3542): Indexes of output per employee hour and output per employee, 1958-86
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	71.5	68.6	78.1	69.5	64.9	79.5
1959	88.0	80.9	106.6	87.8	79.4	108.2
1960	84.7	77.6	103.1	84.8	77.0	104.0
1961	84.5	78.8	98.6	82.5	75.6	98.5
1962	88.5	81.5	106.8	89.0	81.4	106.5
1963	90.1	84.0	105.3	93.0	87.4	105.0
1964	99.9	90.9	124.4	106.0	98.0	124.2
1965	101.4	91.7	128.6	108.3	99.5	128.4
1966	111.7	99.8	146.3	120.0	109.4	145.3
1967	101.8	92.2	128.4	107.1	98.4	127.6
1968	97.9	92.4	111.4	102.1	95.5	116.0
1969	100.1	95.2	111.5	103.7	98.5	114.3
1970	91.7	89.8	96.0	93.0	90.7	97.2
1971	87.9	91.6	81.6	86.3	88.4	83.1
1972	98.0	97.0	100.2	99.1	97.4	102.1
1973	107.3	101.7	120.5	111.3	105.8	122.8
1974	109.4	102.7	125.4	112.7	105.9	127.4
1975	103.0	101.7	106.0	102.2	99.5	107.2
1976	98.4	97.4	100.4	96.5	93.7	101.6
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	102.6	99.3	109.9	104.0	100.9	110.0
1979	102.0	97.8	111.5	103.2	98.8	112.0
1980	98.8	96.5	103.7	98.7	95.6	104.5
1981	96.5	95.9	97.8	96.0	94.7	98.3
1982	88.5	99.0	73.2	84.0	91.2	73.6
1983	83.5	94.5	67.7	78.5	86.1	67.7
1984	94.0	102.9	80.5	89.9	95.9	80.8
1985	92.0	100.0	79.5	88.9	94.7	79.9
1986 ²	95.2	103.4	82.1	91.6	97.8	82.4
Average annual percent change:						
1958-86 .....	.3	.9	-1.0	.1	.7	-1.0
1981-86 .....	.5	1.4	-1.3	.2	1.1	-1.3

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 203. Machine tools (SIC 3541, 3542): Indexes of output, employee hours, and employees, 1958-86
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	63.0	88.1	91.9	80.7	90.6	97.0	79.2
1959	79.2	90.0	97.9	74.3	90.2	99.8	73.2
1960	82.8	97.8	106.7	80.3	97.6	107.6	79.6
1961	77.4	91.6	98.2	78.5	93.8	102.4	78.6
1962	88.0	99.4	108.0	82.4	98.9	108.1	82.6
1963	93.0	103.2	110.7	88.3	100.0	106.4	88.6
1964	112.3	112.4	123.6	90.3	105.9	114.6	90.4
1965	125.3	123.6	136.6	97.4	115.7	125.9	97.6
1966	156.1	139.8	156.4	106.7	130.1	142.7	107.4
1967	149.9	147.3	162.6	116.7	139.9	152.4	117.5
1968	137.6	140.5	148.9	123.5	134.8	144.1	118.6
1969	137.8	137.7	144.7	123.6	132.9	139.9	120.6
1970	112.0	122.1	124.7	116.7	120.4	123.5	115.2
1971	81.4	92.6	88.9	99.8	94.3	92.1	98.0
1972	91.2	93.1	94.0	91.0	92.0	93.6	89.3
1973	116.3	108.4	114.3	96.5	104.5	109.9	94.7
1974	127.4	116.5	124.1	101.6	113.0	120.3	100.0
1975	109.1	105.9	107.3	102.9	106.7	109.6	101.8
1976	93.9	95.4	96.4	93.5	97.3	100.2	92.4
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	111.9	109.1	112.7	101.8	107.6	110.9	101.7
1979	119.2	116.9	121.9	106.9	115.5	120.6	106.4
1980	118.2	119.6	122.5	114.0	119.8	123.6	113.1
1981	113.4	117.5	118.2	116.0	118.1	119.7	115.4
1982	78.5	88.7	79.3	107.3	93.5	86.1	106.7
1983	55.0	65.9	58.2	81.3	70.1	63.9	81.2
1984	63.2	67.2	61.4	78.5	70.3	65.9	78.2
1985	64.6	70.2	64.6	81.3	72.7	68.2	80.9
1986 ¹	63.6	66.8	61.5	77.5	69.4	65.0	77.2
Average annual percent change:							
1958-86	-7	-1.0	-1.6	.3	-8	-1.4	.3
1981-86	-9.1	-9.5	-10.4	-7.9	-9.3	-10.1	-7.9

¹ Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 204. Metal cutting machine tools (SIC 3541): Indexes of output per employee hour and output per employee, 1958-86
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	67.6	63.9	75.8	65.3	60.0	77.3
1959	83.2	78.7	93.0	83.5	78.3	94.5
1960	81.5	76.6	92.3	82.0	76.6	93.1
1961	80.0	76.5	87.2	78.7	74.5	87.2
1962	83.2	78.3	94.2	83.8	78.8	94.0
1963	84.3	78.3	97.9	86.0	80.4	97.6
1964	94.9	86.0	117.4	99.7	91.5	117.5
1965	98.7	88.4	125.7	104.8	95.6	125.3
1966	107.8	95.7	141.3	115.3	104.5	140.0
1967	98.0	87.5	126.2	102.7	92.9	125.2
1968	95.7	89.0	111.0	98.6	90.8	115.7
1969	97.5	91.7	110.2	100.1	93.9	113.0
1970	89.5	88.1	91.9	89.4	87.4	93.3
1971	85.5	89.3	78.7	82.8	84.5	80.3
1972	94.8	94.3	95.8	95.0	93.7	97.6
1973	105.5	99.8	117.8	107.8	101.9	119.9
1974	108.9	101.2	126.5	112.0	103.9	128.6
1975	102.9	100.7	107.3	101.8	98.4	108.4
1976	97.3	96.4	99.0	94.7	91.9	100.1
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	103.6	98.7	114.2	105.1	100.4	114.2
1979	103.0	97.4	115.2	105.1	99.6	115.7
1980	100.6	96.4	109.7	101.6	97.0	110.5
1981	98.9	96.3	103.9	99.2	96.5	104.2
1982	89.2	99.4	74.9	84.2	90.8	75.1
1983	81.1	92.2	66.2	76.3	84.0	66.3
1984	93.3	103.6	78.6	88.2	95.0	78.9
1985	96.4	106.4	81.9	92.2	99.3	82.3
1986 ²	104.7	116.0	88.7	99.9	107.6	89.0
Average annual percent change:						
1958-86	.7	1.3	-.5	.5	1.0	-.5
1981-86	1.9	3.6	-1.0	1.3	2.7	-1.0

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 205. Metal cutting machine tools (SIC 3541): Indexes of output, employee hours, and employees, 1958-86
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	58.1	85.9	90.9	76.6	89.0	96.9	75.2
1959	74.2	89.2	94.3	79.8	88.9	94.8	78.5
1960	81.0	99.4	105.7	87.8	98.8	105.8	87.0
1961	72.7	90.9	95.0	83.4	92.4	97.6	83.4
1962	83.0	99.7	106.0	88.1	99.0	105.3	88.3
1963	88.4	104.9	112.9	90.3	102.8	109.9	90.6
1964	109.2	115.1	127.0	93.0	109.5	119.3	92.9
1965	124.8	126.4	141.1	99.3	119.1	130.5	99.6
1966	154.7	143.5	161.6	109.5	134.2	148.1	110.5
1967	150.6	153.6	172.1	119.3	146.6	162.1	120.3
1968	139.8	146.1	157.0	125.9	141.8	154.0	120.8
1969	139.0	142.5	151.5	126.1	138.9	148.1	123.0
1970	107.2	119.8	121.7	116.7	119.9	122.7	114.9
1971	75.2	88.0	84.2	95.5	90.8	89.0	93.7
1972	83.9	88.5	89.0	87.6	88.3	89.5	86.0
1973	108.6	102.9	108.8	92.2	100.7	106.6	90.6
1974	122.3	112.3	120.8	96.7	109.2	117.7	95.1
1975	107.5	104.5	106.7	100.2	105.6	109.2	99.2
1976	92.5	95.1	96.0	93.4	97.7	100.6	92.4
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	113.6	109.7	115.1	99.5	108.1	113.1	99.5
1979	122.0	118.5	125.2	105.9	116.1	122.5	105.4
1980	124.4	123.6	129.0	113.4	122.4	128.2	112.6
1981	123.9	125.3	128.6	119.3	124.9	128.4	118.9
1982	82.5	92.5	83.0	110.2	98.0	90.9	109.9
1983	55.2	68.1	59.9	83.4	72.3	65.7	83.3
1984	62.9	67.4	60.7	80.0	71.3	66.2	79.7
1985	66.3	68.8	62.3	81.0	71.9	66.8	80.6
1986 ¹	66.6	63.6	57.4	75.1	66.7	61.9	74.8
Average annual percent change:							
1958-86	-.4	-1.0	-1.6	.1	-.8	-1.3	.1
1981-86	-9.8	-11.5	-13.0	-8.9	-11.0	-12.2	-9.0

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 206. Metal forming machine tools (SIC 3542): Indexes of output per employee hour and output per employee, 1958-86
(1977 = 100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	83.6	83.2	84.5	82.5	80.9	86.4
1959	102.8	89.0	160.4	101.1	85.5	164.2
1960	94.5	81.4	152.0	94.1	79.5	153.5
1961	98.0	86.6	141.4	93.9	80.8	142.7
1962	105.7	92.5	158.8	105.8	91.3	158.8
1963	108.4	101.3	129.8	115.3	109.5	129.7
1964	115.5	105.8	147.6	126.0	117.7	147.4
1965	109.3	100.5	137.9	118.2	110.6	138.2
1966	123.1	111.3	164.4	134.2	123.8	162.9
1967	112.7	105.0	136.2	120.0	113.9	135.4
1968	103.9	100.7	112.4	112.0	109.3	117.8
1969	107.0	103.9	115.4	113.7	111.5	118.7
1970	98.5	95.4	107.0	103.5	101.0	109.1
1971	95.7	99.3	88.3	96.7	100.1	90.1
1972	107.5	106.0	111.2	110.3	108.7	113.6
1973	114.1	109.2	127.4	122.2	118.6	130.6
1974	111.9	108.0	122.4	116.5	113.0	124.6
1975	104.0	104.5	102.8	104.1	103.7	104.5
1976	101.7	100.5	104.8	101.6	99.3	106.6
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	100.3	100.6	99.7	101.2	101.9	99.7
1979	99.2	98.1	101.9	98.4	96.6	102.7
1980	93.5	95.7	88.8	90.5	90.9	89.7
1981	89.4	92.8	82.4	86.0	87.6	82.7
1982	85.0	94.8	68.4	81.4	89.1	68.8
1983	87.4	97.4	70.5	81.9	88.8	70.5
1984	93.7	98.7	83.8	91.8	95.6	84.5
1985	79.5	83.6	71.4	78.4	82.1	71.8
1986 ²	72.6	76.9	64.2	71.9	75.8	64.8
Average annual percent change:						
1958-86	-7	(³)	-2.5	-9	-3	-2.6
1981-86	-3.3	-3.7	-2.7	-2.5	-2.5	-2.6

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

³ Less than .05 percent.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 207. Metal forming machine tools (SIC 3542): Indexes of output, employee hours, and employees, 1958-86
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	78.4	93.8	94.2	92.8	95.0	96.9	90.7
1959	95.1	92.5	106.8	59.3	94.1	111.2	57.9
1960	88.9	94.1	109.2	58.5	94.5	111.8	57.9
1961	91.9	93.8	106.1	65.0	97.9	113.8	64.4
1962	104.3	98.7	112.8	65.7	98.6	114.3	65.7
1963	107.5	99.2	106.1	82.8	93.2	98.2	82.9
1964	122.2	105.8	115.5	82.8	97.0	103.8	82.9
1965	127.1	116.3	126.5	92.2	107.5	114.9	92.0
1966	160.8	130.6	144.5	97.8	119.8	129.9	98.7
1967	147.9	131.2	140.8	108.6	123.2	129.9	109.2
1968	131.7	126.8	130.8	117.2	117.6	120.5	111.8
1969	134.3	125.5	129.3	116.4	118.1	120.5	113.1
1970	126.2	128.1	132.3	117.9	121.9	124.9	115.7
1971	99.6	104.1	100.3	112.8	103.0	99.5	110.5
1972	112.1	104.3	105.8	100.8	101.6	103.1	98.7
1973	139.2	122.0	127.5	109.3	113.9	117.4	106.6
1974	142.5	127.4	132.0	116.4	122.3	126.1	114.4
1975	114.1	109.7	109.2	111.0	109.6	110.0	109.2
1976	98.1	96.5	97.6	93.6	96.6	98.8	92.0
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	107.6	107.3	107.0	107.9	106.3	105.6	107.9
1979	112.1	113.0	114.3	110.0	113.9	116.1	109.2
1980	102.7	109.8	107.3	115.7	113.5	113.0	114.5
1981	87.1	97.4	93.9	105.7	101.3	99.4	105.3
1982	67.0	78.8	70.7	97.9	82.3	75.2	97.4
1983	52.9	60.5	54.3	75.0	64.6	59.6	75.0
1984	62.3	66.5	63.1	74.3	67.9	65.2	73.7
1985	58.6	73.7	70.1	82.1	74.7	71.4	81.6
1986 ¹	54.6	75.2	71.0	85.0	75.9	72.0	84.2
Average annual percent change:							
1958-86	-1.7	-1.0	-1.7	.8	-8	-1.5	.8
1981-86	-7.1	-3.9	-3.6	-4.5	-4.7	-4.7	-4.7

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 208. Machine tool accessories (SIC 3545): Indexes of output per employee hour and output per employee, 1963-85
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	80.0	78.2	85.3	79.4	77.5	84.5
1964	81.2	79.2	86.7	81.2	79.4	85.8
1965	82.0	78.5	92.8	85.4	83.0	91.9
1966	82.0	77.1	98.7	87.4	83.8	97.6
1967	85.2	81.1	97.9	87.5	84.2	97.0
1968	83.0	81.8	86.6	83.9	82.2	88.6
1969	88.9	87.4	93.3	90.1	88.4	94.4
1970	82.0	82.3	81.4	79.9	79.1	81.7
1971	92.4	96.2	83.7	88.2	90.0	84.3
1972	100.1	101.0	97.8	100.1	100.6	99.0
1973	105.7	102.7	115.0	109.0	106.3	116.1
1974	104.2	101.5	112.4	105.7	102.9	113.4
1975	100.9	102.8	96.2	96.2	96.0	96.7
1976	98.8	100.1	95.6	97.2	97.7	95.9
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	103.6	103.0	105.0	105.0	105.0	105.0
1979	100.8	99.4	104.7	102.0	100.8	104.7
1980	99.2	99.2	98.9	98.3	98.1	98.9
1981	102.0	103.7	97.8	100.0	100.9	97.8
1982	89.1	97.2	73.2	83.6	88.7	73.2
1983	83.0	88.2	72.0	80.4	84.5	72.0
1984	95.4	96.7	92.4	95.8	97.4	92.4
1985 ²	92.7	94.3	88.9	92.2	93.7	88.9
Average annual percent change:						
1963-85	.8	1.1	-.1	.6	.9	-.1
1981-85	-1.2	-1.9	.4	-.3	-.5	.4

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

Table 209. Machine tool accessories (SIC 3545): Indexes of output, employee hours, and employees, 1963-85
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	62.9	78.6	80.4	73.7	79.2	81.2	74.4
1964	68.5	84.4	86.5	79.0	84.4	86.3	79.8
1965	78.8	96.1	100.4	84.9	92.3	94.9	85.7
1966	90.7	110.6	117.7	91.9	103.8	108.2	92.9
1967	94.7	111.2	116.8	96.7	108.2	112.5	97.6
1968	87.5	105.4	107.0	101.0	104.3	106.5	98.8
1969	91.6	103.0	104.8	98.2	101.7	103.6	97.0
1970	74.4	90.7	90.4	91.4	93.1	94.0	91.1
1971	68.3	73.9	71.0	81.6	77.4	75.9	81.0
1972	80.7	80.6	79.9	82.5	80.6	80.2	81.5
1973	103.0	97.4	100.3	89.6	94.5	96.9	88.7
1974	108.6	104.2	107.0	96.6	102.7	105.5	95.8
1975	90.9	90.1	88.4	94.5	94.5	94.7	94.0
1976	90.7	91.8	90.6	94.9	93.3	92.8	94.6
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	113.1	109.2	109.8	107.7	107.7	107.7	107.7
1979	119.1	118.1	119.8	113.7	116.8	118.1	113.7
1980	118.9	119.9	119.8	120.2	120.9	121.2	120.2
1981	117.5	115.2	113.3	120.2	117.5	116.4	120.2
1982	84.6	94.9	87.0	115.5	101.2	95.4	115.5
1983	69.0	83.1	78.2	95.8	85.8	81.7	95.8
1984	89.6	93.9	92.7	97.0	93.5	92.0	97.0
1985 ¹	87.8	94.7	93.1	98.8	95.2	93.7	98.8
Average annual percent change:							
1963-85	1.2	.4	.1	1.3	.6	.3	1.3
1981-85	-5.1	-3.9	-3.2	-5.5	-4.9	-4.6	-5.5

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

Table 210. Pumps and compressors (SIC 3561, 3563): Indexes of output per employee hour and output per employee, 1958-85 (1977 = 100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	64.5	64.5	64.5	65.1	64.7	65.7
1959	68.8	66.9	72.5	69.3	67.1	73.6
1960	66.6	65.2	69.0	67.5	66.2	69.7
1961	69.2	68.3	70.7	70.1	69.9	70.8
1962	73.6	72.8	75.2	74.9	75.0	75.0
1963	78.2	75.5	84.0	80.2	78.5	83.5
1964	79.4	76.2	85.6	82.5	80.8	85.5
1965	81.0	77.2	88.8	83.8	81.1	88.7
1966	81.2	76.5	91.1	85.2	82.4	90.4
1967	82.5	78.9	89.6	85.1	83.0	88.8
1968	82.3	82.0	82.8	85.1	84.3	86.2
1969	86.3	84.5	89.6	88.8	87.1	91.8
1970	85.8	85.8	85.9	87.2	87.3	87.1
1971	87.1	89.8	82.8	87.4	89.4	84.4
1972	91.1	90.7	91.9	92.4	91.6	93.5
1973	97.9	95.9	101.4	99.1	96.7	103.3
1974	96.7	93.6	102.5	96.6	92.6	104.1
1975	91.4	92.2	89.9	90.7	90.6	90.9
1976	96.8	97.8	95.1	96.9	97.4	96.2
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	102.8	102.5	103.3	102.1	101.4	103.3
1979	102.9	102.5	103.6	102.0	100.7	104.0
1980	100.2	101.4	98.1	99.4	99.8	98.7
1981	102.4	106.2	96.2	101.2	104.2	96.5
1982	95.9	106.9	81.1	93.6	103.0	81.4
1983	100.2	114.9	81.8	96.5	108.2	81.8
1984	106.1	115.6	92.8	104.2	112.5	93.0
1985 ²	108.3	118.5	94.1	106.3	115.2	94.4
Average annual percent change:						
1958-85	1.8	2.2	1.1	1.6	1.9	1.1
1981-85	2.2	3.0	.9	2.1	2.9	.9

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 211. Pumps and compressors (SIC 3561, 3563): Indexes of output, employee hours, and employees, 1958-85 (1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	41.1	63.7	63.7	63.7	63.1	63.5	62.6
1959	43.4	63.1	64.9	59.9	62.6	64.7	59.0
1960	44.6	67.0	68.4	64.6	66.1	67.4	64.0
1961	43.9	63.4	64.3	62.6	62.6	62.8	62.0
1962	48.6	66.0	66.8	64.6	64.9	64.8	64.8
1963	51.8	66.2	68.6	61.7	64.6	66.0	62.0
1964	59.0	74.3	77.4	68.9	71.5	73.0	69.0
1965	65.3	80.6	84.6	73.5	77.9	80.5	73.6
1966	70.6	86.9	92.3	77.5	82.9	85.7	78.1
1967	70.1	85.0	88.9	78.2	82.4	84.5	78.9
1968	68.3	83.0	83.3	82.5	80.3	81.0	79.2
1969	74.0	85.7	87.6	82.6	83.3	85.0	80.6
1970	74.8	87.2	87.2	87.1	85.8	85.7	85.9
1971	69.4	79.7	77.3	83.8	79.4	77.6	82.2
1972	76.2	83.6	84.0	82.9	82.5	83.2	81.5
1973	87.8	89.7	91.6	86.6	88.6	90.8	85.0
1974	94.0	97.2	100.4	91.7	97.3	101.5	90.3
1975	87.1	95.3	94.5	96.9	96.0	96.1	95.8
1976	91.4	94.4	93.5	96.1	94.3	93.8	95.0
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	107.3	104.4	104.7	103.9	105.1	105.8	103.9
1979	114.9	111.7	112.1	110.9	112.7	114.1	110.5
1980	113.2	113.0	111.6	115.4	113.9	113.4	114.7
1981	111.5	108.9	105.0	115.9	110.2	107.0	115.5
1982	98.7	102.9	92.3	121.7	105.5	95.8	121.3
1983	81.8	81.6	71.2	100.0	84.8	75.6	100.0
1984	93.6	88.2	81.0	100.9	89.8	83.2	100.6
1985 ¹	92.3	85.2	77.9	98.1	86.8	80.1	97.8
Average annual percent change:							
1958-85	3.5	1.7	1.3	2.5	1.9	1.6	2.5
1981-85	-4.2	-6.2	-7.0	-5.1	-6.2	-6.9	-5.1

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 212. Pumps and pumping equipment (SIC 3561): Indexes of output per employee hour and output per employee, 1972-85
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1972	90.8	89.9	92.5	91.9	90.8	94.0
1973	94.1	92.0	98.6	96.7	94.8	100.3
1974	93.6	90.6	99.6	93.5	89.7	101.1
1975	89.9	92.2	85.8	89.2	90.7	86.7
1976	92.7	94.6	89.6	93.2	94.8	90.5
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	101.4	101.5	101.2	100.2	99.6	101.1
1979	101.2	101.2	101.3	99.2	97.8	101.6
1980	97.7	99.5	94.4	96.2	96.8	95.0
1981	101.7	106.2	94.4	99.9	103.3	94.6
1982	93.1	104.5	77.3	90.1	99.7	77.5
1983	97.7	111.5	79.5	94.1	105.3	79.5
1984	104.4	113.5	90.9	102.3	110.3	91.0
1985 ²	104.8	114.3	90.9	103.1	111.5	91.1
Average annual percent change:						
1972-85 .....	.9	1.9	-.8	.5	1.5	-1.0
1981-85	1.8	2.3	.9	1.9	2.6	.9

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 213. Pumps and pumping equipment (SIC 3561): Indexes of output, employee hours, and employees, 1972-85
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1972	81.0	89.2	90.1	87.6	88.1	89.2	86.2
1973	91.7	97.4	99.7	93.0	94.8	96.7	91.4
1974	91.9	98.2	101.4	92.3	98.3	102.5	90.9
1975	90.4	100.6	98.0	105.4	101.4	99.7	104.3
1976	92.9	100.2	98.2	103.7	99.7	98.0	102.6
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	106.4	104.9	104.8	105.1	106.2	106.8	105.2
1979	112.1	110.8	110.8	110.7	113.0	114.6	110.3
1980	113.1	115.8	113.7	119.8	117.6	116.8	119.0
1981	114.2	112.3	107.5	121.0	114.3	110.6	120.7
1982	97.9	105.2	93.7	126.6	108.6	98.2	126.3
1983	81.2	83.1	72.8	102.1	86.3	77.1	102.2
1984	93.4	89.5	82.3	102.8	91.3	84.7	102.6
1985 ¹	91.1	86.9	79.7	100.2	88.4	81.7	100.0
Average annual percent change:							
1972-85 .....	.6	-.3	-1.3	1.4	(²)	-.9	1.5
1981-85	-4.9	-6.5	-7.0	-5.7	-6.6	-7.3	-5.7

¹ Preliminary.

² Less than .05 percent.

NOTE: Because of periodic revisions in source data, the measures in this table

may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 214. Ball and roller bearings (SIC 3562): Indexes of output per employee hour and output per employee, 1958-86
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	52.7	51.9	55.6	50.3	48.7	56.2
1959	66.0	62.1	84.2	65.7	61.3	85.3
1960	64.7	62.4	73.9	60.9	57.7	74.3
1961	66.5	64.8	72.8	63.9	61.6	72.6
1962	72.4	69.6	83.9	71.6	68.6	83.0
1963	73.5	72.4	77.5	71.7	70.3	76.7
1964	79.3	76.9	88.5	78.6	76.1	87.6
1965	90.0	86.3	105.0	91.9	88.6	103.9
1966	90.1	86.3	106.3	93.4	90.4	105.1
1967	86.7	84.1	96.8	87.9	85.6	95.8
1968	89.8	89.2	91.5	90.7	89.9	93.5
1969	87.8	86.5	92.2	88.9	87.6	93.4
1970	85.5	86.3	82.4	81.2	80.7	82.6
1971	88.6	90.6	82.3	85.4	86.4	82.9
1972	98.6	97.4	102.8	100.2	99.0	104.1
1973	103.1	100.5	112.8	106.8	104.8	113.9
1974	104.3	102.0	113.4	104.4	101.7	114.2
1975	97.5	97.9	96.1	95.3	94.9	96.5
1976	99.0	98.7	99.7	98.5	98.0	99.9
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	105.8	105.3	107.9	104.4	103.3	107.9
1979	105.8	103.6	114.2	106.3	104.1	114.2
1980	95.4	93.4	103.2	95.1	92.9	103.2
1981	94.3	93.2	97.9	94.0	92.8	97.9
1982	83.3	86.9	73.2	79.8	82.1	73.2
1983	86.3	88.4	79.3	86.2	88.4	79.3
1984	94.4	94.9	93.4	97.4	98.6	93.4
1985	93.2	94.3	89.5	94.5	96.1	89.5
1986 ²	93.5	95.0	88.9	95.0	97.0	88.9
Average annual percent change:						
1958-86	1.4	1.6	.8	1.5	1.8	.8
1981-86	1.1	1.2	.8	2.0	2.3	.8

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Anti Friction Bearing Manufacturers' Association, the Bureau of the Census and the Bureau of Labor Statistics.

Table 215. Ball and roller bearings (SIC 3562): Indexes of output, employee hours, and employees, 1958-86
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	39.9	75.7	76.9	71.8	79.4	82.0	71.0
1959	62.5	94.7	100.7	74.2	95.1	102.0	73.3
1960	57.3	88.6	91.8	77.5	94.1	99.3	77.1
1961	55.5	83.4	85.6	76.2	86.8	90.1	76.4
1962	66.5	91.9	95.6	79.3	92.9	97.0	80.1
1963	68.5	93.2	94.6	88.4	95.6	97.4	89.3
1964	78.2	98.6	101.7	88.4	99.5	102.7	89.3
1965	95.2	105.8	110.3	90.7	103.6	107.5	91.6
1966	106.8	118.5	123.8	100.5	114.3	118.1	101.6
1967	100.2	115.6	119.2	103.5	114.0	117.0	104.6
1968	99.3	110.6	111.3	108.5	109.5	110.5	106.2
1969	102.0	116.2	117.9	110.6	114.7	116.5	109.2
1970	88.9	104.0	103.0	107.9	109.5	110.1	107.6
1971	81.0	91.4	89.4	98.4	94.8	93.8	97.7
1972	96.2	97.6	98.8	93.6	96.0	97.2	92.4
1973	111.3	108.0	110.8	98.7	104.2	106.2	97.7
1974	113.4	108.7	111.2	100.0	108.6	111.5	99.3
1975	93.6	96.0	95.6	97.4	98.2	98.6	97.0
1976	94.6	95.6	95.8	94.9	96.0	96.5	94.7
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	107.0	101.1	101.6	99.2	102.5	103.6	99.2
1979	112.5	106.3	108.6	98.5	105.8	108.1	98.5
1980	100.0	104.8	107.1	96.9	105.1	107.6	96.9
1981	97.9	103.8	105.0	100.0	104.2	105.5	100.0
1982	69.8	83.8	80.3	95.4	87.5	85.0	95.4
1983	67.2	77.9	76.0	84.7	78.0	76.0	84.7
1984	84.8	89.8	89.4	90.8	87.1	86.0	90.8
1985	79.2	85.0	84.0	88.5	83.8	82.4	88.5
1986 ¹	75.3	80.5	79.3	84.7	79.3	77.6	84.7
Average annual percent change:							
1958-86	1.3	-.2	-.3	.5	-.3	-.5	.5
1981-86	-2.0	-3.1	-3.1	-2.8	-3.9	-4.2	-2.8

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Anti Friction Bearing Manufacturers' Association, the Bureau of the Census and the Bureau of Labor Statistics.

Table 216. Air and gas compressors (SIC 3563): Indexes of output per employee hour and output per employee, 1972-85
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1972	92.1	93.7	89.7	93.2	94.3	91.5
1973	106.8	107.4	106.1	104.2	101.7	108.4
1974	103.0	100.0	108.1	103.0	98.7	110.2
1975	94.7	92.3	98.8	94.4	91.0	99.9
1976	106.4	105.9	107.3	105.5	103.6	108.6
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	105.5	104.4	107.3	106.1	105.2	107.4
1979	106.0	104.7	108.1	107.2	106.4	108.5
1980	105.5	105.8	105.1	106.5	106.8	106.1
1981	106.8	109.7	102.5	107.0	109.9	103.0
1982	102.0	112.4	88.8	101.0	110.8	89.3
1983	105.2	122.1	86.1	101.1	114.5	86.2
1984	109.7	119.9	96.3	108.1	117.2	96.9
1985 ²	111.9	123.5	97.2	109.3	118.8	97.5
Average annual percent change:						
1972-85 .....	.8	1.8	-6	.7	1.7	-8
1981-85	1.7	3.1	-3	1.1	2.1	-3

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 217. Air and gas compressors (SIC 3563): Indexes of output, employee hours, and employees, 1972-85
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1972	66.7	72.4	71.2	74.4	71.6	70.7	72.9
1973	79.8	74.7	74.3	75.2	76.6	78.5	73.6
1974	98.2	95.3	98.2	90.8	95.3	99.5	89.1
1975	80.5	85.0	87.2	81.5	85.3	88.5	80.6
1976	88.4	83.1	83.5	82.4	83.8	85.3	81.4
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	109.1	103.4	104.5	101.7	102.8	103.7	101.6
1979	120.3	113.5	114.9	111.3	112.2	113.1	110.9
1980	113.5	107.6	107.3	108.0	106.6	106.3	107.0
1981	109.4	102.4	99.7	106.7	102.2	99.5	106.2
1982	100.4	98.4	89.3	113.0	99.4	90.6	112.4
1983	82.8	78.7	67.8	96.2	81.9	72.3	96.1
1984	93.9	85.6	78.3	97.5	86.9	80.1	96.9
1985 ¹	91.5	81.8	74.1	94.1	83.7	77.0	93.8
Average annual percent change:							
1972-85	1.7	.8	-2	2.3	1.0	-.1	2.4
1981-85	-4.2	-5.7	-7.0	-3.9	-5.2	-6.2	-3.9

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 218. Refrigeration and heating equipment (SIC 3585): Indexes of output per employee hour and output per employee, 1967-85
(1977 = 100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1967	77.5	76.8	79.1	78.4	78.4	78.2
1968	82.3	82.5	81.8	83.2	82.9	83.6
1969	87.6	85.6	93.0	89.4	87.5	94.1
1970	88.4	87.1	91.3	87.9	86.5	91.7
1971	94.8	93.6	97.4	94.3	92.7	98.2
1972	103.0	99.5	112.9	105.9	102.7	114.3
1973	103.0	100.0	111.1	105.1	102.5	112.2
1974	106.9	105.7	109.7	106.8	105.2	110.7
1975	89.9	93.8	81.6	88.3	91.2	82.1
1976	94.1	93.4	96.0	95.5	95.2	96.3
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	100.2	98.4	104.6	102.5	101.6	104.6
1979	101.4	99.6	106.1	101.9	100.3	106.1
1980	93.8	96.2	88.8	93.4	95.4	88.8
1981	99.4	99.6	99.1	99.2	99.3	99.1
1982	100.1	103.4	93.2	98.8	101.2	99.2
1983	100.9	102.1	98.1	102.0	103.5	98.1
1984	105.4	102.7	112.8	108.7	107.1	112.8
1985 ²	103.7	102.4	106.9	105.2	104.5	106.9
Average annual percent change:						
1967-85	1.1	1.2	.9	1.1	1.2	.8
1981-85	1.4	.5	3.5	2.2	1.6	3.5

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

Table 219. Refrigeration and heating equipment (SIC 3585): Indexes of output, employee hours, and employees, 1967-85
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1967	53.6	69.2	69.8	67.8	68.4	68.4	68.5
1968	60.8	73.9	73.7	74.3	73.1	73.3	72.7
1969	73.0	83.3	85.3	78.5	81.7	83.4	77.6
1970	73.7	83.4	84.6	80.7	83.8	85.2	80.4
1971	75.9	80.1	81.1	77.9	80.5	81.9	77.3
1972	99.0	96.1	99.5	87.7	93.5	96.4	86.6
1973	112.5	109.2	112.5	101.3	107.0	109.8	100.3
1974	105.9	99.1	100.2	96.5	99.2	100.7	95.7
1975	69.7	77.5	74.3	85.4	78.9	76.4	84.9
1976	87.5	93.0	93.7	91.1	91.6	91.9	90.9
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	110.3	110.1	112.1	105.4	107.6	108.6	105.4
1979	111.5	110.0	112.0	105.1	109.4	111.2	105.1
1980	92.8	98.9	96.5	104.5	99.4	97.3	104.5
1981	100.5	101.1	100.9	101.4	101.3	101.2	101.4
1982	89.2	89.1	86.3	95.7	90.3	88.1	95.7
1983	93.7	92.9	91.8	95.5	91.9	90.5	95.5
1984	110.5	104.8	107.6	98.0	101.7	103.2	98.0
1985 ¹	107.9	104.1	105.4	100.9	102.6	103.3	100.9
Average annual percent change:							
1967-85	2.8	1.7	1.6	1.9	1.7	1.6	1.9
1981-85	3.6	2.2	3.1	.1	1.5	2.0	.1

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

Table 220. Transformers (SIC 3612): Indexes of output per employee hour and output per employee, 1963-86
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	67.5	67.6	67.1	67.1	68.5	64.2
1964	73.3	71.9	77.0	73.7	73.7	73.7
1965	79.9	77.0	87.4	81.1	80.0	83.7
1966	75.8	72.9	83.7	77.9	76.9	80.1
1967	75.5	73.0	82.1	76.7	75.9	78.6
1968	80.2	77.5	87.1	80.6	79.1	84.0
1969	88.6	85.1	97.7	89.6	87.3	95.3
1970	89.1	84.9	100.6	89.6	86.1	99.2
1971	94.4	90.1	105.8	92.8	88.6	104.4
1972	98.1	94.1	109.1	97.2	93.6	107.2
1973	96.9	91.5	112.4	96.9	92.1	110.2
1974	92.7	88.5	104.2	91.9	88.3	101.7
1975	89.3	92.0	83.9	86.6	88.6	82.4
1976	90.1	92.0	85.9	89.1	91.0	85.2
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	103.3	102.0	106.6	103.7	102.5	106.6
1979	108.4	105.8	114.8	108.6	106.1	114.8
1980	110.6	111.3	109.2	110.1	110.5	109.2
1981	106.9	106.0	109.2	107.1	106.3	109.2
1982	99.6	99.3	100.1	96.9	95.7	100.1
1983	99.1	99.7	97.8	99.1	99.7	97.8
1984	97.6	93.9	107.4	99.9	97.0	107.4
1985	99.3	95.4	109.7	101.7	98.7	109.7
1986 ²	101.9	95.4	121.2	105.8	100.4	121.2
Average annual percent change:						
1963-86	1.6	1.7	1.5	1.6	1.6	1.7
1981-86	-8	-2.0	2.6	.3	-6	2.6

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

Table 221. Transformers (SIC 3612): Indexes of output, employee hours, and employees, 1963-86
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	51.9	76.9	76.8	77.3	77.3	75.8	80.8
1964	59.0	80.5	82.1	76.6	80.1	80.0	80.1
1965	69.6	87.1	90.4	79.6	85.8	87.0	83.2
1966	74.1	97.7	101.7	88.5	95.1	96.3	92.5
1967	79.5	105.3	108.9	96.8	103.7	104.8	101.2
1968	85.5	106.6	110.3	98.2	106.1	108.1	101.8
1969	92.3	104.2	108.5	94.5	103.0	105.7	96.9
1970	96.7	108.5	113.9	96.1	107.9	112.3	97.5
1971	97.8	103.6	108.5	92.4	105.4	110.4	93.7
1972	104.5	106.5	111.1	95.8	107.5	111.7	97.5
1973	115.7	119.4	126.5	102.9	119.4	125.6	105.0
1974	113.0	121.9	127.7	108.4	122.9	128.0	111.1
1975	85.5	95.7	92.9	101.9	98.7	96.5	103.7
1976	86.2	95.7	93.7	100.3	96.7	94.7	101.2
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	106.6	103.2	104.5	100.0	102.8	104.0	100.0
1979	112.6	103.9	106.4	98.1	103.7	106.1	98.1
1980	110.5	99.9	99.3	101.2	100.4	100.0	101.2
1981	108.5	101.5	102.4	99.4	101.3	102.1	99.4
1982	90.8	91.2	91.4	90.7	93.7	94.9	90.7
1983	89.3	90.1	89.6	91.3	90.1	89.6	91.3
1984	99.3	101.7	105.7	92.5	99.4	102.4	92.5
1985	99.5	100.2	104.3	90.7	97.8	100.8	90.7
1986 ¹	100.1	98.2	104.9	82.6	94.6	99.7	82.6
Average annual percent change:							
1963-85	1.9	.3	.3	.4	.3	.3	.2
1981-85	-1	.7	2.0	-2.6	-3	.6	-2.6

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

Table 222. Switchgear and switchboard apparatus (SIC 3613): Indexes of output per employee hour and output per employee, 1963-86 (1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	70.9	71.3	69.8	73.2	75.1	68.7
1964	70.2	72.4	64.8	74.1	78.9	64.0
1965	74.4	74.3	74.5	77.6	79.5	73.1
1966	78.7	76.8	84.5	82.8	82.9	82.8
1967	79.1	77.3	84.1	81.8	81.6	82.3
1968	79.1	78.8	79.7	82.0	82.7	80.1
1969	85.9	85.2	88.3	89.3	89.4	89.1
1970	83.3	84.1	81.0	86.1	87.5	82.7
1971	89.2	90.7	85.6	92.0	93.8	87.3
1972	96.3	97.1	94.4	98.2	99.2	95.8
1973	101.5	100.7	103.5	104.5	104.5	104.3
1974	97.1	96.2	99.8	98.4	98.0	99.6
1975	93.4	99.2	80.8	91.1	95.9	80.7
1976	95.3	99.1	86.5	93.6	96.4	87.1
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	102.0	102.3	101.2	102.2	102.6	101.3
1979	102.8	104.3	98.8	103.6	105.4	99.3
1980	103.2	107.9	92.6	104.2	109.2	93.3
1981	99.5	103.4	90.3	100.3	104.4	90.9
1982	101.3	109.6	84.1	99.9	107.2	84.6
1983	106.1	113.5	90.5	105.3	112.3	90.5
1984	107.4	115.3	91.0	108.2	116.4	91.5
1985	110.9	117.8	96.0	111.2	118.1	96.4
1986 ²	121.2	129.7	103.3	121.2	129.5	103.8
Average annual percent change:						
1963-86	2.0	2.3	1.2	1.8	2.0	1.3
1981-86	3.7	4.0	3.1	3.8	4.1	3.1

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 223. Switchgear and switchboard apparatus (SIC 3613): Indexes of output, employee hours, and employees, 1963-86 (1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	54.9	77.4	77.0	78.6	75.0	73.1	79.9
1964	57.5	81.9	79.4	88.8	77.6	72.9	89.9
1965	62.1	83.5	83.6	83.4	80.0	78.1	84.9
1966	74.4	94.5	96.9	88.0	89.9	89.8	89.9
1967	77.8	98.4	100.6	92.5	95.1	95.4	94.5
1968	73.7	93.2	93.5	92.5	89.9	89.1	92.0
1969	83.8	97.5	98.4	94.9	93.8	93.7	94.0
1970	80.6	96.8	95.8	99.5	93.6	92.1	97.5
1971	83.8	93.9	92.4	97.9	91.1	89.3	96.0
1972	94.4	98.0	97.2	100.0	96.1	95.2	98.5
1973	108.0	106.4	107.2	104.3	103.3	103.3	103.5
1974	100.1	103.1	104.1	100.3	101.7	102.1	100.5
1975	81.9	87.7	82.6	101.3	89.9	85.4	101.5
1976	84.9	89.1	85.7	98.1	90.7	88.1	97.5
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	107.5	105.4	105.1	106.2	105.2	104.8	106.1
1979	110.9	107.9	106.3	112.2	107.0	105.2	111.7
1980	105.6	102.3	97.9	114.1	101.3	96.7	113.2
1981	99.6	100.1	96.3	110.3	99.3	95.4	109.6
1982	92.3	91.1	84.2	109.7	92.4	86.1	109.1
1983	91.9	86.6	81.0	101.6	87.3	81.8	101.5
1984	95.2	88.6	82.6	104.6	88.0	81.8	104.1
1985	90.5	81.6	76.8	94.3	81.4	76.6	93.9
1986 ¹	92.7	76.5	71.5	89.7	76.5	71.6	89.3
Average annual percent change:							
1963-86	2.0	(²)	-.3	.8	.3	.1	.8
1981-86	-1.1	-4.6	-4.9	-4.1	-4.7	-5.0	-4.1

¹ Preliminary.

² Less than .05 percent.

NOTE: Because of periodic revisions in source data, the measures in this table

may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 224. Motors and generators (SIC 3621): Indexes of output per employee hour and output per employee, 1958-85
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	52.1	57.2	39.9	52.0	57.4	39.7
1959	60.5	64.1	50.6	61.1	65.3	50.4
1960	62.0	66.5	50.3	61.4	66.2	49.8
1961	66.3	71.3	53.3	65.9	71.4	52.5
1962	73.7	77.4	63.4	74.3	79.0	62.2
1963	74.7	77.1	67.3	76.3	80.2	66.0
1964	82.5	85.2	74.3	84.8	89.1	73.3
1965	88.3	88.6	87.1	90.6	92.3	85.5
1966	90.3	88.3	97.6	91.1	89.9	95.4
1967	87.1	87.1	86.8	88.4	89.6	84.9
1968	89.2	89.8	87.3	91.7	93.0	87.6
1969	89.8	90.2	88.1	92.6	93.8	88.9
1970	87.8	89.5	82.2	88.3	89.8	84.0
1971	94.8	96.9	87.8	96.3	98.5	89.5
1972	95.7	95.5	96.7	97.9	97.9	98.1
1973	100.7	98.0	110.2	101.6	99.2	110.8
1974	100.1	98.8	104.6	99.9	98.7	104.1
1975	93.0	96.3	83.3	92.7	96.1	83.1
1976	95.9	94.6	100.6	95.1	93.4	101.0
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	99.3	98.5	102.0	98.8	97.9	101.9
1979	99.3	99.6	98.1	99.6	100.0	98.4
1980	96.7	100.2	86.4	96.7	100.1	87.0
1981	100.4	102.3	94.2	99.8	101.6	94.5
1982	102.4	109.4	84.0	98.8	104.4	84.3
1983	104.3	107.6	94.4	101.8	104.3	94.5
1984	107.9	109.8	101.6	107.9	110.0	101.8
1985 ²	110.5	113.9	100.0	109.4	112.5	100.5
Average annual percent change:						
1954-85	2.5	2.3	2.9	2.4	2.2	2.9
1981-85	2.5	2.2	3.1	2.8	2.6	3.2

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 225. Motors and generators (SIC 3621): Indexes of output, employee hours, and employees, 1958-85
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	50.2	96.3	87.7	125.9	96.5	87.4	126.5
1959	62.8	103.8	98.0	124.1	102.8	96.1	124.7
1960	64.5	104.0	97.0	128.3	105.0	97.5	129.6
1961	65.2	98.3	91.5	122.3	99.0	91.3	124.2
1962	72.1	97.8	93.1	113.7	97.0	91.3	115.9
1963	74.2	99.3	96.2	110.3	97.2	92.5	112.4
1964	83.0	100.6	97.4	111.7	97.9	93.2	113.3
1965	95.3	107.9	107.6	109.4	105.2	103.3	111.5
1966	105.6	116.9	119.6	108.2	115.9	117.5	110.7
1967	102.9	118.2	118.2	118.5	116.4	114.9	121.2
1968	103.5	116.0	115.2	118.5	112.9	111.3	118.2
1969	104.6	116.5	116.0	118.7	112.9	111.5	117.7
1970	94.7	107.9	105.8	115.2	107.2	105.5	112.8
1971	93.1	98.2	96.1	106.0	96.7	94.5	104.0
1972	91.2	95.3	95.5	94.3	93.2	93.2	93.0
1973	105.5	104.8	107.7	95.7	103.8	106.4	95.2
1974	103.3	103.2	104.6	98.8	103.4	104.7	99.2
1975	78.4	84.3	81.4	94.1	84.6	81.6	94.3
1976	89.0	92.8	94.1	88.5	93.6	95.3	88.1
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	108.2	109.0	109.9	106.1	109.5	110.5	106.2
1979	110.1	110.9	110.5	112.2	110.5	110.1	111.9
1980	93.9	97.1	93.7	108.7	97.1	93.8	107.9
1981	96.2	95.8	94.0	102.1	96.4	94.7	101.8
1982	85.8	83.8	78.4	102.1	86.8	82.2	101.8
1983	84.5	81.0	78.5	89.5	83.0	81.0	89.4
1984	93.8	86.9	85.4	92.3	86.9	85.3	92.1
1985 ¹	87.6	79.3	76.9	87.6	80.1	77.9	87.2
Average annual percent change:							
1954-85	1.6	-8	-7	-1.2	-8	-6	-1.3
1981-85	-1.0	-3.4	-3.1	-4.0	-3.6	-3.5	-4.0

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 226. Major household appliances (SIC 3631, 3632, 3633, 3639): Indexes of output per employee hour and output per employee, 1958-86
(1977 = 100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	38.5	40.2	32.5	39.5	41.8	32.4
1959	42.0	42.8	38.9	42.9	44.2	38.7
1960	43.8	45.2	38.5	43.9	45.5	38.1
1961	46.6	48.4	40.3	47.6	50.1	39.6
1962	50.8	51.5	48.0	52.9	54.5	47.1
1963	57.9	57.7	59.1	59.6	60.0	58.0
1964	60.4	59.9	62.5	62.6	62.8	61.5
1965	62.2	61.9	63.4	65.0	65.7	62.2
1966	62.4	61.2	67.8	64.0	63.4	66.2
1967	66.0	65.7	67.7	66.5	66.7	66.2
1968	69.5	68.6	73.7	71.3	70.7	74.0
1969	71.9	71.9	71.8	72.6	72.8	72.4
1970	70.2	70.5	69.1	71.6	71.9	70.4
1971	80.1	80.7	77.5	81.7	82.4	79.2
1972	87.9	87.2	91.0	89.5	89.0	92.4
1973	89.5	88.5	94.1	90.7	89.8	94.7
1974	89.6	90.3	87.0	88.4	89.0	86.7
1975	93.6	96.0	84.6	91.7	93.6	84.5
1976	96.6	99.1	88.0	95.9	98.0	88.5
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	100.4	100.3	101.0	98.1	97.5	100.9
1979	108.7	108.9	107.7	107.7	107.7	107.9
1980	105.8	106.9	101.5	103.6	104.1	102.0
1981	107.6	107.8	107.2	105.4	105.0	107.4
1982	108.6	112.7	93.8	104.5	107.5	93.9
1983	117.6	117.3	118.7	119.3	119.5	118.5
1984	123.6	120.8	137.4	125.7	123.2	137.8
1985	127.2	126.7	129.8	127.8	127.3	130.1
1986 ²	135.7	133.7	144.6	138.3	136.6	145.1
Average annual percent change:						
1958-86	4.2	4.1	4.5	4.1	3.9	4.6
1981-86	4.9	4.3	7.8	5.9	5.4	7.8

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 227. Major household appliances (SIC 3631, 3632, 3633, 3639): Indexes of output, employee hours, and employees, 1958-86
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	40.6	105.5	100.9	124.9	102.7	97.2	125.4
1959	47.4	112.8	110.7	121.8	110.4	107.3	122.4
1960	47.1	107.6	104.1	122.4	107.4	103.5	123.6
1961	46.6	99.9	96.2	115.7	98.0	93.1	117.8
1962	52.3	103.0	101.6	109.0	98.8	95.9	111.0
1963	58.0	100.1	100.6	98.1	97.3	96.7	100.0
1964	64.4	106.6	107.6	103.0	102.9	102.5	104.7
1965	69.8	112.2	112.7	110.1	107.4	106.2	112.2
1966	73.5	117.8	120.1	108.4	114.9	115.9	111.0
1967	75.4	114.2	114.8	111.4	113.3	113.0	113.9
1968	83.6	120.3	121.9	113.4	117.3	118.3	112.9
1969	83.6	116.3	116.2	116.5	115.2	114.9	115.5
1970	80.6	114.8	114.4	116.7	112.6	112.1	114.5
1971	76.2	95.1	94.4	98.3	93.3	92.5	96.2
1972	88.4	100.6	101.4	97.1	98.8	99.3	95.7
1973	96.2	107.5	108.7	102.2	106.1	107.1	101.6
1974	86.2	96.2	95.5	99.1	97.5	96.8	99.4
1975	79.5	84.9	82.8	94.0	86.7	84.9	94.1
1976	88.5	91.6	89.3	100.6	92.3	90.3	100.0
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	104.1	103.7	103.8	103.1	106.1	106.8	103.2
1979	106.7	98.2	98.0	99.1	99.1	99.1	98.9
1980	97.1	91.8	90.8	95.7	93.7	93.3	95.2
1981	97.1	90.2	90.1	90.6	92.1	92.5	90.4
1982	83.4	76.8	74.0	88.9	79.8	77.6	88.8
1983	98.2	83.5	83.7	82.7	82.3	82.2	82.9
1984	110.5	89.4	91.5	80.4	87.9	89.7	80.2
1985	105.8	83.2	83.5	81.5	82.8	83.1	81.3
1986 ¹	117.1	86.3	87.6	81.0	84.7	85.7	80.7
Average annual percent change:							
1958-86	3.2	-1.0	-0.9	-1.3	-0.9	-0.7	-1.4
1981-86	5.2	.3	.9	-2.4	-0.7	-0.3	-2.4

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 228. Household cooking equipment (SIC 3631): Indexes of output per employee hour and output per employee, 1958-86
(1977 = 100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	49.5	47.7	55.9	51.0	49.5	56.1
1959	52.0	49.2	63.1	53.6	51.0	63.1
1960	50.8	50.9	50.2	51.1	51.4	49.9
1961	52.6	52.2	53.7	53.2	53.2	53.1
1962	54.5	54.1	55.6	54.0	53.8	54.8
1963	59.5	56.3	72.2	61.5	58.8	71.4
1964	60.1	57.9	68.3	60.9	58.9	68.1
1965	63.1	59.4	78.1	65.4	62.5	76.8
1966	62.4	58.6	78.3	64.3	61.1	76.8
1967	62.3	59.4	73.6	62.9	60.3	72.3
1968	67.7	63.9	82.4	69.8	66.4	83.1
1969	70.7	68.2	79.6	72.2	69.9	80.6
1970	68.7	66.4	76.8	70.1	67.8	78.6
1971	75.0	72.7	83.5	77.2	74.9	85.4
1972	80.3	76.4	96.0	83.3	79.3	98.2
1973	84.9	80.3	102.9	88.0	83.8	103.8
1974	87.9	87.2	89.7	86.2	85.2	89.5
1975	97.8	98.4	95.7	95.2	95.2	95.6
1976	100.7	101.3	98.4	100.9	101.3	99.7
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	100.5	98.5	106.7	98.5	95.9	106.8
1979	108.9	110.2	104.8	110.0	111.5	106.0
1980	103.9	103.5	105.5	107.5	107.6	107.0
1981	105.7	103.0	114.9	109.6	107.7	115.9
1982	112.6	119.5	95.4	109.2	114.5	95.9
1983	120.8	121.1	119.5	124.4	125.8	120.2
1984	131.9	127.0	149.3	135.7	131.5	150.5
1985	135.6	133.5	142.4	136.7	134.5	144.0
1986 ²	144.8	142.8	151.8	148.9	147.5	153.5
Average annual percent change:						
1958-86	3.9	4.0	3.3	3.8	4.0	3.4
1981-86	6.5	5.9	8.4	6.8	6.2	8.5

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 229. Household cooking equipment (SIC 3631): Indexes of output, employee hours, and employees, 1958-86
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	36.5	73.8	76.6	65.3	71.6	73.8	65.1
1959	40.1	77.1	81.5	63.6	74.8	78.6	63.5
1960	40.4	79.6	79.3	80.5	79.1	78.6	80.9
1961	39.6	75.3	75.8	73.7	74.4	74.4	74.6
1962	40.0	73.4	73.9	72.0	74.1	74.4	73.0
1963	46.5	78.1	82.6	64.4	75.6	79.1	65.1
1964	47.5	79.0	82.1	69.5	78.0	80.6	69.8
1965	53.6	84.9	90.2	68.6	81.9	85.8	69.8
1966	52.4	84.0	89.4	66.9	81.5	85.8	68.2
1967	50.5	81.0	85.0	68.6	80.3	83.8	69.8
1968	58.0	85.7	90.7	70.4	83.1	87.4	69.8
1969	61.4	86.8	90.0	77.1	85.1	87.9	76.2
1970	59.9	87.2	90.2	78.0	85.5	88.4	76.2
1971	65.1	86.8	89.6	78.0	84.3	86.9	76.2
1972	76.4	95.1	100.0	79.6	91.7	96.3	77.8
1973	87.3	102.8	108.7	84.8	99.2	104.2	84.1
1974	75.3	85.7	86.4	83.9	87.4	88.4	84.1
1975	69.8	71.4	70.9	72.9	73.3	73.3	73.0
1976	91.7	91.1	90.5	93.2	90.9	90.5	92.0
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	108.5	108.0	110.1	101.7	110.2	113.1	101.6
1979	126.1	115.8	114.4	120.3	114.6	113.1	119.0
1980	118.9	114.4	114.9	112.7	110.6	110.5	111.1
1981	117.8	111.5	114.4	102.5	107.5	109.4	101.6
1982	101.9	90.5	85.3	106.8	93.3	89.0	106.3
1983	129.7	107.4	107.1	108.5	104.3	103.1	107.9
1984	148.1	112.3	116.6	99.2	109.1	112.6	98.4
1985	130.3	96.1	97.6	91.5	95.3	96.9	90.5
1986 ¹	138.9	95.9	97.3	91.5	93.3	94.2	90.5
Average annual percent change:							
1958-86	5.3	1.4	1.2	1.9	1.4	1.3	1.8
1981-86	5.0	-1.5	-9	-3.2	-1.7	-1.1	-3.2

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 230. Household refrigerators and freezers (SIC 3632): Indexes of output per employee hour and output per employee, 1958-86 (1977 = 100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	33.9	35.0	29.3	34.8	36.3	29.2
1959	37.3	37.1	38.1	38.4	38.6	37.9
1960	41.0	41.3	39.2	40.8	41.2	38.8
1961	43.8	44.3	40.9	44.7	45.8	40.1
1962	47.2	46.7	50.2	50.9	51.3	49.2
1963	55.5	55.9	53.3	57.1	58.3	52.2
1964	59.5	59.2	60.7	62.0	62.6	59.5
1965	61.4	61.3	61.7	64.6	65.6	60.5
1966	62.1	61.1	67.5	63.4	63.0	65.8
1967	67.7	67.6	68.0	67.9	68.2	66.2
1968	70.9	70.6	72.2	72.5	72.6	72.4
1969	74.1	74.8	71.1	75.3	76.1	71.6
1970	71.7	72.4	68.6	73.4	74.2	69.8
1971	87.2	87.7	85.3	88.1	88.3	87.2
1972	96.0	95.1	100.1	97.6	97.0	101.4
1973	95.6	95.9	94.1	97.0	97.5	94.9
1974	96.8	97.9	90.7	98.4	100.4	89.9
1975	94.5	97.9	80.1	93.0	96.3	79.9
1976	94.0	97.6	79.4	92.4	95.5	79.9
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	98.4	97.9	100.9	96.3	95.4	101.0
1979	112.3	110.3	123.6	109.8	107.3	123.6
1980	114.4	114.4	114.3	106.4	104.8	115.6
1981	117.4	117.4	116.9	107.9	106.4	116.7
1982	116.1	118.7	104.1	110.4	112.0	103.6
1983	127.1	127.1	127.7	127.1	127.1	128.0
1984	127.5	125.4	138.7	124.6	121.9	139.2
1985	136.8	139.1	127.2	133.7	135.0	128.2
1986 ²	146.1	145.0	152.7	143.9	142.0	153.7
Average annual percent change:						
1958-86	4.8	4.8	4.9	4.5	4.4	5.0
1981-86	4.6	4.4	5.9	5.9	5.8	6.2

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 231. Household refrigerators and freezers (SIC 3632): Indexes of output, employee hours, and employees, 1958-86 (1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	40.4	119.0	115.3	138.0	116.0	111.3	138.4
1959	50.5	135.5	136.1	132.6	131.4	130.8	133.4
1960	53.7	131.0	130.0	137.1	131.7	130.2	138.4
1961	52.1	119.0	117.5	127.3	116.6	113.7	130.0
1962	59.9	126.9	128.4	119.4	117.6	116.8	121.7
1963	68.8	124.0	123.0	129.1	120.4	118.1	131.7
1964	79.4	133.5	134.2	130.9	128.0	126.8	133.4
1965	87.8	143.0	143.2	142.4	135.9	133.9	145.1
1966	95.5	153.7	156.2	141.5	150.7	151.7	145.1
1967	100.5	148.4	148.6	147.7	148.1	147.3	151.7
1968	111.1	156.7	157.4	153.9	153.2	153.0	153.4
1969	107.5	145.0	143.8	151.3	142.8	141.2	150.1
1970	100.1	139.6	138.3	145.9	136.4	134.9	143.4
1971	80.0	91.7	91.2	93.8	90.8	90.6	91.7
1972	93.0	96.9	97.8	92.9	95.3	95.9	91.7
1973	94.9	99.3	99.0	100.9	97.8	97.3	100.0
1974	89.9	92.9	91.8	99.1	91.4	89.5	100.0
1975	89.2	94.4	91.1	111.4	95.9	92.6	111.7
1976	86.5	92.0	88.6	108.9	93.6	90.6	108.3
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	102.7	104.4	104.9	101.8	106.7	107.7	101.7
1979	88.6	78.9	80.3	71.7	80.7	82.6	71.7
1980	80.9	70.7	70.7	70.8	76.0	77.2	70.0
1981	81.7	69.6	69.6	69.9	75.7	76.8	70.0
1982	69.1	59.5	58.2	66.4	62.6	61.7	66.7
1983	74.6	58.7	58.7	58.4	58.7	58.7	58.3
1984	83.5	65.5	66.6	60.2	67.0	68.5	60.0
1985	83.3	60.9	59.9	65.5	62.3	61.7	65.0
1986 ¹	97.3	66.6	67.1	63.7	67.6	68.5	63.3
Average annual percent change:							
1958-86	1.5	-3.2	-3.1	-3.2	-2.9	-2.8	-3.3
1981-86	4.5	-.1	.1	-1.3	-1.3	-1.2	-1.6

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 232. Household laundry equipment (SIC 3633): Indexes of output per employee hour and output per employee, 1958-86
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	39.8	43.8	28.4	42.0	47.1	28.2
1959	43.3	46.9	32.4	44.8	49.0	32.2
1960	42.5	46.7	30.3	43.4	48.1	30.0
1961	46.4	51.5	32.3	48.1	54.3	31.6
1962	51.6	56.2	37.9	53.8	59.6	37.2
1963	61.3	61.5	60.3	63.9	65.2	58.6
1964	60.8	60.5	61.9	64.2	65.0	60.6
1965	61.5	64.4	51.1	65.1	69.6	50.2
1966	63.5	64.2	60.4	66.1	68.0	58.6
1967	67.1	67.9	63.5	68.1	69.6	61.9
1968	69.0	68.7	70.1	71.0	71.2	70.0
1969	69.4	69.6	68.0	69.4	69.5	68.8
1970	70.7	72.0	65.4	72.3	73.5	67.0
1971	78.3	79.2	74.6	82.1	83.4	76.1
1972	83.2	82.6	85.6	85.3	84.9	86.3
1973	88.5	87.7	92.1	90.6	90.0	92.9
1974	85.0	86.2	79.9	82.1	82.6	79.6
1975	93.6	95.3	86.4	91.0	92.1	86.0
1976	99.0	100.6	92.8	98.6	100.0	92.5
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	102.3	102.3	102.6	101.6	101.3	102.6
1979	108.1	106.6	115.5	108.1	106.7	115.3
1980	102.1	102.7	99.2	100.2	100.5	99.2
1981	103.9	103.6	105.4	101.6	100.9	105.0
1982	105.4	107.4	97.3	100.5	101.4	96.5
1983	112.2	108.6	131.7	113.0	109.7	131.4
1984	117.5	113.4	140.3	120.9	117.4	140.1
1985	118.2	115.4	132.5	120.0	117.4	133.0
1986 ²	123.3	119.2	145.5	129.2	126.0	146.2
Average annual percent change:						
1958-86	3.9	3.6	5.4	3.8	3.3	5.5
1981-86	3.6	2.8	7.7	5.3	4.7	8.0

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 233. Household laundry equipment (SIC 3633): Indexes of output, employee hours, and employees, 1958-86
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	53.3	133.9	121.8	187.9	126.8	113.2	188.7
1959	59.8	138.1	127.6	184.8	133.5	122.1	185.8
1960	52.3	123.1	111.9	172.6	120.6	108.8	174.3
1961	53.3	114.8	103.4	165.2	110.8	98.1	168.7
1962	58.5	113.4	104.1	154.5	108.7	98.1	157.2
1963	60.3	98.4	98.1	100.0	94.3	92.5	102.9
1964	67.5	111.1	111.6	109.1	105.1	103.8	111.4
1965	70.4	114.5	109.3	137.8	108.2	101.2	140.1
1966	78.7	123.9	122.5	130.3	119.1	115.8	134.3
1967	77.9	116.1	114.7	122.7	114.4	112.0	125.8
1968	86.0	124.7	125.2	122.7	121.2	120.8	122.9
1969	86.5	124.7	124.2	127.2	124.7	124.5	125.8
1970	82.3	116.4	114.3	125.8	113.8	112.0	122.9
1971	89.2	113.9	112.6	119.6	108.7	106.9	117.2
1972	103.7	124.7	125.6	121.2	121.6	122.1	120.1
1973	111.6	126.1	127.3	121.2	123.2	124.0	120.1
1974	95.6	112.5	110.9	119.6	116.5	115.8	120.1
1975	81.1	86.6	85.1	93.9	89.1	88.1	94.3
1976	89.9	90.8	89.4	96.9	91.2	89.9	97.2
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	102.6	100.3	100.3	100.0	101.0	101.3	100.0
1979	112.0	103.6	105.1	97.0	103.6	105.0	97.1
1980	99.2	97.2	96.6	100.0	99.0	98.7	100.0
1981	99.0	95.3	95.6	93.9	97.4	98.1	94.3
1982	85.5	81.1	79.6	87.9	85.1	84.3	88.6
1983	93.8	83.6	86.4	71.2	83.0	85.5	71.4
1984	104.1	88.6	91.8	74.2	86.1	88.7	74.3
1985	106.4	90.0	92.2	80.3	88.7	90.6	80.0
1986 ¹	121.2	98.3	101.7	83.3	93.8	96.2	82.9
Average annual percent change:							
1958-86	2.6	-1.3	-1.0	-2.7	-1.1	-.7	-2.8
1981-86	5.2	1.5	2.3	-2.3	-1	.4	-2.6

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 234. Household appliances, not elsewhere classified (SIC 3639): Indexes of output per employee hour and output per employee, 1958-86
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	43.4	50.6	26.4	43.3	51.1	26.0
1959	49.1	57.6	29.2	47.5	55.8	28.7
1960	51.6	57.8	34.6	51.7	58.6	33.9
1961	54.6	62.0	35.3	55.4	64.0	34.6
1962	60.9	65.9	45.0	61.3	67.2	43.9
1963	63.8	67.8	50.1	64.5	69.6	48.8
1964	69.0	73.4	54.2	69.8	75.3	52.8
1965	70.4	73.1	60.2	71.4	74.9	59.1
1966	65.6	68.4	55.3	67.3	71.5	53.5
1967	67.6	72.4	51.9	69.6	76.1	50.7
1968	72.5	76.5	58.4	74.2	79.1	57.8
1969	73.1	78.6	55.2	73.7	79.5	55.6
1970	70.4	74.8	55.2	70.8	75.3	55.8
1971	76.2	82.3	57.0	75.9	81.7	57.6
1972	90.8	96.8	70.4	90.4	96.4	70.8
1973	85.2	86.7	78.9	82.6	83.6	78.5
1974	84.5	85.3	80.6	81.9	82.4	79.5
1975	88.8	93.4	72.4	87.0	91.6	71.3
1976	93.0	95.7	82.4	92.5	95.1	82.6
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	103.2	106.3	90.9	98.1	100.2	90.1
1979	102.6	103.9	97.3	99.5	100.3	96.4
1980	99.1	101.5	89.3	95.8	97.4	89.6
1981	100.4	102.2	93.1	98.4	99.6	93.3
1982	94.7	96.5	86.6	92.4	93.7	86.4
1983	103.7	101.7	113.3	105.0	103.3	112.8
1984	109.8	106.0	131.8	113.8	110.5	130.9
1985	110.0	108.2	119.4	113.0	111.6	119.2
1986 ²	119.3	117.2	130.4	122.5	120.9	129.9
Average annual percent change:						
1958-86	3.1	2.6	5.0	3.0	2.5	5.1
1981-86	4.0	3.1	8.3	5.2	4.6	8.2

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 235. Household appliances, not elsewhere classified (SIC 3639): Indexes of output, employee hours, and employees, 1958-86
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	40.3	92.8	79.7	152.7	93.0	78.9	155.2
1959	43.6	88.8	75.7	149.1	91.7	78.1	151.7
1960	42.1	81.6	72.9	121.8	81.5	71.9	124.2
1961	43.0	78.7	69.4	121.8	77.6	67.2	124.2
1962	51.5	84.6	78.1	114.5	84.0	76.6	117.2
1963	53.8	84.3	79.3	107.3	83.4	77.3	110.3
1964	58.2	84.3	79.3	107.3	83.4	77.3	110.3
1965	59.1	83.9	80.9	98.2	82.8	78.9	100.0
1966	55.3	84.3	80.9	100.0	82.2	77.3	103.4
1967	59.4	87.9	82.1	114.5	85.3	78.1	117.2
1968	63.7	87.9	83.3	109.0	85.9	80.5	110.3
1969	65.2	89.2	82.9	118.2	88.5	82.0	117.2
1970	71.2	101.2	95.2	129.1	100.6	94.5	127.5
1971	71.5	93.8	86.9	125.4	94.2	87.5	124.2
1972	80.6	88.8	83.3	114.5	89.2	83.6	113.8
1973	94.7	111.1	109.2	120.0	114.6	113.3	120.6
1974	85.0	100.6	99.7	105.5	103.8	103.1	106.9
1975	73.7	83.0	78.9	101.8	84.7	80.5	103.4
1976	85.4	91.8	89.2	103.7	92.3	89.8	103.4
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	102.5	99.3	96.4	112.7	104.5	102.3	113.8
1979	109.7	106.9	105.6	112.7	110.2	109.4	113.8
1980	95.8	96.7	94.4	107.3	100.0	98.4	106.9
1981	96.5	96.1	94.4	103.6	98.1	96.9	103.4
1982	83.5	88.2	86.5	96.4	90.4	89.1	96.6
1983	105.0	101.3	103.2	92.7	100.0	101.6	93.1
1984	117.4	106.9	110.8	89.1	103.2	106.2	89.7
1985	115.1	104.6	106.4	96.4	101.9	103.1	96.6
1986 ¹	120.9	101.3	103.2	92.7	98.7	100.0	93.1
Average annual percent change:							
1958-86	3.9	.8	1.3	-1.1	.8	1.4	-1.1
1981-86	6.5	2.4	3.3	-1.7	1.2	1.8	-1.6

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 236. Electric lamps (SIC 3641): Indexes of output per employee hour and output per employee, 1958-86
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	68.9	70.9	57.8	66.9	68.6	56.9
1959	73.7	74.4	68.8	73.9	74.8	67.7
1960	75.5	76.1	71.8	73.1	73.5	70.2
1961	74.5	75.3	68.9	72.9	73.8	67.1
1962	79.2	79.6	76.1	78.3	79.0	73.7
1963	80.8	80.8	82.0	80.1	80.2	79.5
1964	83.4	83.4	84.0	82.4	82.6	81.3
1965	88.7	88.0	94.4	88.7	88.4	91.3
1966	89.3	88.0	100.1	89.4	88.3	96.9
1967	87.5	86.8	93.1	85.2	84.5	90.2
1968	90.4	89.6	97.0	89.0	88.2	94.6
1969	89.4	89.2	91.2	87.1	86.8	90.0
1970	88.3	87.3	96.9	87.5	86.4	96.7
1971	87.5	86.9	92.1	85.8	84.9	91.9
1972	92.8	91.6	101.9	92.5	91.2	101.6
1973	90.1	88.5	103.5	89.9	88.3	102.9
1974	89.9	89.5	91.7	87.7	87.3	90.8
1975	96.4	96.9	93.5	94.7	94.9	92.8
1976	102.9	102.7	103.5	103.7	103.7	103.1
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	102.5	102.1	105.2	103.8	103.6	105.2
1979	105.2	104.1	113.8	105.7	104.6	113.8
1980	103.2	102.7	106.6	101.8	101.1	106.6
1981	106.9	107.1	105.4	106.6	106.7	105.4
1982	108.4	108.4	108.5	107.0	106.7	108.5
1983	124.8	124.6	125.6	128.7	129.3	125.6
1984	131.9	132.9	124.7	134.4	136.0	124.7
1985	126.9	129.0	114.2	127.2	129.3	114.2
1986 ²	128.7	131.5	112.3	128.7	131.5	112.3
Average annual percent change:						
1954-86	2.0	2.0	2.0	2.1	2.1	2.1
1981-86	4.2	4.7	1.3	4.4	4.9	1.3

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 237. Electric lamps (SIC 3641): Indexes of output, employee hours, and employees, 1958-86
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	47.2	68.5	66.6	81.7	70.6	68.8	83.0
1959	56.2	76.3	75.5	81.7	76.1	75.1	83.0
1960	56.8	75.2	74.6	79.1	77.7	77.3	80.9
1961	52.8	70.9	70.1	76.6	72.4	71.5	78.7
1962	59.6	75.3	74.9	78.3	76.1	75.4	80.9
1963	62.6	77.5	77.5	76.3	78.2	78.1	78.7
1964	65.8	78.9	78.9	78.3	79.9	79.7	80.9
1965	73.9	83.3	84.0	78.3	83.3	83.6	80.9
1966	82.5	92.4	93.8	82.4	92.3	93.4	85.1
1967	82.5	94.3	95.1	88.6	96.8	97.6	91.5
1968	90.6	100.2	101.1	93.4	101.8	102.7	95.8
1969	88.1	98.5	98.8	96.6	101.1	101.5	97.9
1970	88.5	100.2	101.4	91.3	101.1	102.4	91.5
1971	88.0	100.6	101.3	95.6	102.6	103.6	95.8
1972	99.5	107.2	108.6	97.6	107.6	109.1	97.9
1973	105.1	116.6	118.7	101.5	116.9	119.0	102.1
1974	96.6	107.5	107.9	105.3	110.1	110.6	106.4
1975	88.9	92.2	91.7	95.1	93.9	93.7	95.8
1976	100.9	98.1	98.2	97.5	97.3	97.3	97.9
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	103.0	100.5	100.9	97.9	99.2	99.4	97.9
1979	106.5	101.2	102.3	93.6	100.8	101.8	93.6
1980	97.5	94.5	94.9	91.5	95.8	96.4	91.5
1981	91.9	86.0	85.8	87.2	86.2	86.1	87.2
1982	85.4	78.8	78.8	78.7	79.8	80.0	78.7
1983	93.6	75.0	75.1	74.5	72.7	72.4	74.5
1984	100.9	76.5	75.9	80.9	75.1	74.2	80.9
1985	94.8	74.7	73.5	83.0	74.5	73.3	83.0
1986 ¹	93.2	72.4	70.9	83.0	72.4	70.9	83.0
Average annual percent change:							
1954-86	2.6	.6	.6	.6	.5	.5	.5
1981-86	1.3	-2.8	-3.2	(²)	-2.9	-3.4	(²)

¹ Preliminary.

² Less than .05 percent.

NOTE: Because of periodic revisions in source data, the measures in this table

may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 238. Lighting fixtures (SIC 3645, 3646, 3647, 3648): Indexes of output per employee hour and output per employee, 1961-85 (1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1961	61.9	58.4	75.7	62.2	58.9	74.4
1962	67.5	63.3	84.4	68.5	64.7	83.0
1963	67.5	63.9	81.2	69.2	66.3	79.8
1964	69.0	66.0	80.0	70.2	67.7	78.7
1965	72.3	67.5	91.2	74.9	71.0	89.7
1966	74.4	70.1	91.7	75.8	72.1	89.8
1967	74.1	70.7	86.7	75.8	73.2	84.6
1968	76.2	73.5	85.8	79.0	76.8	86.2
1969	80.1	77.8	88.5	82.2	80.1	89.3
1970	78.1	77.3	80.8	80.0	79.1	82.6
1971	83.7	82.1	88.9	84.3	82.3	90.7
1972	90.7	88.3	99.0	92.9	90.7	100.5
1973	93.8	89.9	107.4	95.3	91.6	108.2
1974	90.3	89.0	94.8	90.6	89.4	94.4
1975	89.2	90.1	86.7	88.8	89.6	86.6
1976	95.1	93.5	100.7	94.7	92.7	101.2
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	100.4	99.2	103.8	100.2	99.1	104.0
1979	94.6	94.4	95.2	95.0	94.8	95.6
1980	93.3	95.2	88.2	93.3	95.0	88.7
1981	88.7	90.6	83.4	89.6	91.8	83.7
1982	91.0	93.3	85.0	90.9	93.0	85.3
1983	96.3	95.5	98.2	97.3	97.1	98.0
1984	102.2	100.9	106.1	103.8	102.9	106.5
1985 ²	107.0	107.1	106.5	107.3	107.5	106.7
Average annual percent change:						
1961-85	1.9	2.3	.8	1.8	2.1	.9
1981-85	5.0	4.2	7.4	5.1	4.3	7.3

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 239. Lighting fixtures (SIC 3645, 3646, 3647, 3648): Indexes of output, employee hours, and employees, 1961-85 (1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1961	46.5	75.1	79.6	61.4	74.8	78.9	62.5
1962	53.4	79.1	84.3	63.3	77.9	82.5	64.3
1963	56.0	83.0	87.6	69.0	80.9	84.5	70.2
1964	60.0	87.0	90.9	75.0	85.5	88.6	76.2
1965	69.3	95.9	102.6	76.0	92.5	97.6	77.3
1966	73.7	99.0	105.2	80.4	97.2	102.2	82.1
1967	73.5	99.2	104.0	84.8	97.0	100.4	86.9
1968	79.0	103.7	107.5	92.1	100.0	102.8	91.7
1969	88.8	110.8	114.2	100.3	108.0	110.8	99.4
1970	82.6	105.8	106.9	102.2	103.3	104.4	100.0
1971	85.8	102.5	104.5	96.5	101.8	104.2	94.6
1972	99.9	110.1	113.1	100.9	107.5	110.2	99.4
1973	108.2	115.4	120.3	100.7	113.5	118.1	100.0
1974	92.1	102.0	103.5	97.2	101.6	103.0	97.6
1975	76.8	86.1	85.2	88.6	86.5	85.7	88.7
1976	89.2	93.8	95.4	88.6	94.2	96.2	88.1
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	105.2	104.8	106.0	101.3	105.0	106.2	101.2
1979	105.8	111.8	112.1	111.1	111.4	111.6	110.7
1980	98.2	105.2	103.2	111.4	105.3	103.4	110.7
1981	94.7	106.8	104.5	113.6	105.7	103.2	113.1
1982	90.4	99.3	96.9	106.3	99.4	97.2	106.0
1983	100.4	104.3	105.1	102.2	103.2	103.4	102.4
1984	107.8	105.5	106.8	101.6	103.9	104.8	101.2
1985 ¹	111.2	103.9	103.8	104.4	103.6	103.4	104.2
Average annual percent change:							
1961-85	2.8	.9	.6	2.0	1.0	.7	1.9
1981-85	5.1	.1	.8	-2.1	(²)	.8	-2.1

¹ Preliminary.

² Less than .05 percent.

NOTE: Because of periodic revisions in source data, the measures in this table

may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 240. Radio and television receiving sets (SIC 3651): Indexes of output per employee hour and output per employee, 1958-86
(1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	41.8	40.8	45.5	43.2	42.6	45.3
1959	44.6	42.5	53.8	46.1	44.3	53.5
1960	45.8	44.5	50.3	47.1	46.4	49.7
1961	46.9	46.3	48.7	47.3	47.1	47.9
1962	52.2	50.0	61.2	53.6	52.0	60.1
1963	58.1	54.1	76.7	59.9	56.5	75.2
1964	57.9	53.7	77.8	60.8	57.3	76.7
1965	63.5	58.1	92.1	67.5	62.8	90.4
1966	65.5	59.1	101.3	68.0	62.3	99.0
1967	66.5	61.6	90.0	67.7	63.5	87.9
1968	71.0	66.7	90.2	72.7	68.8	90.5
1969	68.4	65.2	81.3	70.5	67.8	81.9
1970	70.6	71.2	68.4	72.7	73.6	69.8
1971	74.2	73.2	77.4	76.3	75.5	78.9
1972	87.8	83.7	104.5	89.7	85.9	105.9
1973	87.9	83.2	108.5	88.9	84.3	109.1
1974	87.2	85.9	91.0	85.2	83.8	90.5
1975	90.1	91.6	85.5	89.7	91.2	85.3
1976	100.8	103.4	92.9	101.5	104.3	93.5
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	113.2	116.8	102.2	112.2	115.5	102.1
1979	118.5	122.1	108.0	120.1	124.1	108.2
1980	116.9	122.3	101.8	119.7	126.0	102.5
1981	133.6	140.1	115.8	134.6	141.2	116.2
1982	163.9	173.2	138.6	163.6	172.7	138.8
1983	196.1	206.7	166.9	207.1	222.9	166.9
1984	236.9	240.2	226.9	243.6	249.1	227.6
1985	249.8	255.9	230.8	256.4	265.1	231.1
1986 ²	256.9	257.7	253.7	275.8	283.0	254.5
Average annual percent change:						
1958-86	6.1	6.5	4.6	6.1	6.5	4.7
1981-86	14.4	13.3	17.9	15.7	14.9	17.9

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 241. Radio and television receiving sets (SIC 3651): Indexes of output, employee hours, and employees, 1958-86
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	38.5	92.0	94.3	84.7	89.2	90.3	85.0
1959	46.3	103.7	109.0	86.1	100.5	104.5	86.5
1960	45.3	99.0	101.7	90.1	96.2	97.7	91.1
1961	48.7	103.8	105.2	99.9	103.0	103.3	101.7
1962	59.7	114.4	119.4	97.6	111.3	114.7	99.4
1963	65.2	112.3	120.5	85.0	108.9	115.5	86.7
1964	70.5	121.7	131.2	90.6	116.0	123.0	91.9
1965	90.6	142.6	155.9	98.4	134.3	144.2	100.2
1966	118.7	181.3	200.9	117.2	174.5	190.5	119.9
1967	106.0	159.5	172.1	117.8	156.5	166.9	120.6
1968	109.7	154.5	164.5	121.6	150.9	159.4	121.2
1969	99.8	145.9	153.0	122.7	141.5	147.1	121.8
1970	87.4	123.8	122.7	127.8	120.3	118.7	125.3
1971	91.9	123.9	125.6	118.7	120.5	121.7	116.5
1972	104.1	118.5	124.3	99.6	116.0	121.2	98.3
1973	109.8	124.9	132.0	101.2	123.5	130.2	100.6
1974	100.1	114.8	116.5	110.0	117.5	119.5	110.6
1975	82.8	91.9	90.4	96.8	92.3	90.8	97.1
1976	97.3	96.5	94.1	104.7	95.9	93.3	104.1
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	115.3	101.9	98.7	112.8	102.8	99.8	112.9
1979	110.1	92.9	90.2	101.9	91.7	88.7	101.8
1980	104.3	89.2	85.3	102.5	87.1	82.8	101.8
1981	109.3	81.8	78.0	94.4	81.2	77.4	94.1
1982	106.2	64.8	61.3	76.6	64.9	61.5	76.5
1983	125.7	64.1	60.8	75.3	60.7	56.4	75.3
1984	155.2	65.5	64.6	68.4	63.7	62.3	68.2
1985	155.1	62.1	60.6	67.2	60.5	58.5	67.1
1986 ¹	161.6	62.9	62.7	63.7	58.6	57.1	63.5
Average annual percent change:							
1958-86	3.8	-2.2	-2.6	-8	-2.2	-2.5	-9
1981-86	9.9	-4.0	-3.0	-6.8	-5.0	-4.4	-6.8

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 242. Semiconductors and related devices (SIC 3674): Indexes of output per employee hour and output per employee, 1972-86
(1977 = 100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1972	46.3	42.6	50.1	46.6	43.3	50.0
1973	53.6	47.4	60.5	53.8	48.1	60.1
1974	64.1	59.2	69.2	63.2	58.1	68.5
1975	56.0	57.1	55.0	55.5	56.5	54.7
1976	82.5	81.9	82.8	82.3	81.9	82.6
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	120.5	120.0	120.8	121.4	122.1	120.8
1979	138.1	137.1	138.9	139.7	140.5	138.9
1980	149.4	159.2	141.7	149.2	158.8	141.7
1981	171.6	197.3	154.0	171.7	197.3	154.0
1982	197.9	237.5	172.4	196.9	234.0	172.4
1983	211.5	235.1	194.2	213.4	239.7	194.2
1984	229.2	244.1	217.6	233.0	253.2	217.6
1985	206.1	247.4	179.8	207.1	249.9	179.8
1986 ²	218.4	270.4	186.6	220.2	275.8	186.6
Average annual percent change:						
1972-86	13.1	15.5	11.2	13.2	15.7	11.3
1981-86	4.1	5.1	3.5	4.3	5.7	3.5

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 243. Semiconductors and related devices (SIC 3674): Indexes of output, employee hours, and employees, 1972-86
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1972	36.4	78.7	85.5	72.6	78.1	84.1	72.8
1973	51.0	95.2	107.6	84.3	94.8	106.0	84.9
1974	63.5	99.0	107.2	91.7	100.5	109.3	92.7
1975	45.8	81.8	80.2	83.2	82.5	81.0	83.8
1976	72.4	87.8	88.4	87.4	88.0	88.4	87.7
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	139.0	115.4	115.8	115.1	114.5	113.8	115.1
1979	190.4	137.9	138.9	137.1	136.3	135.5	137.1
1980	226.1	151.3	142.0	159.6	151.5	142.4	159.6
1981	260.5	151.8	132.0	169.2	151.7	132.0	169.2
1982	301.2	152.2	126.8	174.7	153.0	128.7	174.7
1983	339.9	160.7	144.6	175.0	159.3	141.8	175.0
1984	432.5	188.7	177.2	198.8	185.6	170.8	198.8
1985	392.3	190.3	158.6	218.2	189.4	157.0	218.2
1986 ¹	399.4	182.9	147.7	214.0	181.4	144.8	214.0
Average annual percent change:							
1972-86	21.0	6.9	4.7	8.8	6.8	4.6	8.7
1981-86	9.5	5.2	4.2	5.8	4.9	3.6	5.8

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 244. Motor vehicles and equipment (SIC 371): Indexes of output per employee hour and output per employee, 1958-86 (1977 = 100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1958	46.3	48.7	39.7	42.2	43.9	37.4
1959	50.8	51.0	49.8	47.8	47.7	48.0
1960	55.1	55.2	54.5	51.6	51.4	52.2
1961	55.9	57.7	50.4	51.4	52.5	47.7
1962	61.3	61.5	60.8	59.4	59.6	58.5
1963	63.7	63.7	63.4	61.9	62.0	61.5
1964	64.4	64.8	63.1	62.8	63.2	61.1
1965	68.6	67.7	72.2	68.6	67.9	70.6
1966	68.9	68.9	69.5	67.2	67.0	68.0
1967	69.3	70.5	65.6	64.8	65.4	62.8
1968	75.0	74.7	76.2	73.6	73.2	74.8
1969	73.6	73.9	72.4	70.2	70.1	70.6
1970	70.5	72.5	64.1	65.0	66.5	60.2
1971	81.9	82.4	80.3	76.9	77.1	75.9
1972	84.5	84.7	84.0	82.5	82.8	81.6
1973	85.7	85.9	85.1	84.7	85.0	83.9
1974	82.1	84.7	74.0	76.3	78.1	70.7
1975	87.7	89.8	80.9	80.7	82.3	75.6
1976	93.9	94.2	92.7	91.8	91.8	91.5
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	99.3	99.3	99.4	98.0	97.7	99.0
1979	97.8	99.3	92.9	92.3	92.8	90.8
1980	90.8	97.9	72.5	83.7	89.0	69.4
1981	93.1	98.1	79.0	87.3	91.1	76.3
1982	96.9	103.6	79.3	90.0	95.3	75.4
1983	109.6	112.2	101.9	107.3	110.3	97.9
1984	115.7	116.2	114.1	114.9	115.7	112.6
1985	121.1	121.2	120.5	120.2	120.3	119.9
1986 ²	123.3	124.5	119.3	120.0	121.1	116.5
Average annual percent change:						
1957-86	3.1	3.1	2.9	3.2	3.2	2.9
1981-86	6.3	5.0	10.3	7.5	6.4	11.0

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from company records; the Motor Vehicle Manufacturers Association of the U.S., Inc.; the Gousha/Times Mirror Company (Automobile Invoice Service); Ward's Communications, Inc. (Ward's Automotive Yearbooks); the Bureau of the Census; and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics and company records.

Table 245. Motor vehicles and equipment (SIC 371): Indexes of output, employee hours, and employees, 1958-86 (1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1958	27.2	58.7	55.9	68.6	64.4	62.0	72.8
1959	35.1	69.1	68.8	70.5	73.5	73.6	73.1
1960	39.7	72.1	71.9	72.9	76.9	77.2	76.0
1961	34.5	61.7	59.8	68.5	67.1	65.7	72.4
1962	43.6	71.1	70.9	71.7	73.4	73.1	74.5
1963	48.7	76.5	76.4	76.8	78.7	78.5	79.2
1964	50.2	78.0	77.5	79.6	79.9	79.4	82.1
1965	61.3	89.3	90.6	84.9	89.4	90.3	86.8
1966	61.5	89.2	89.3	88.5	91.5	91.8	90.4
1967	56.1	80.9	79.6	85.5	86.6	85.8	89.3
1968	68.2	90.9	91.3	89.5	92.7	93.2	91.2
1969	67.9	92.3	91.9	93.8	96.7	96.9	96.2
1970	55.1	78.2	76.0	86.0	84.8	82.9	91.5
1971	69.2	84.5	84.0	86.2	90.0	89.7	91.2
1972	76.6	90.6	90.4	91.2	92.8	92.5	93.9
1973	87.8	102.4	102.2	103.2	103.6	103.3	104.7
1974	73.6	89.6	86.9	99.5	96.4	94.2	104.1
1975	67.9	77.4	75.6	83.9	84.1	82.5	89.8
1976	85.8	91.4	91.1	92.6	93.5	93.5	93.8
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	104.0	104.7	104.7	104.6	106.1	106.4	105.0
1979	96.5	98.7	97.2	103.9	104.5	104.0	106.3
1980	69.7	76.8	71.2	96.1	83.3	78.3	100.4
1981	72.7	78.1	74.1	92.0	83.3	79.8	95.3
1982	66.4	68.5	64.1	83.7	73.8	69.7	88.1
1983	85.4	77.9	76.1	83.8	79.6	77.4	87.2
1984	104.6	90.4	90.0	91.7	91.0	90.4	92.9
1985	112.1	92.6	92.5	93.0	93.3	93.2	93.5
1986 ¹	109.6	88.9	88.0	91.9	91.3	90.5	94.1
Average annual percent change:							
1957-86	3.9	.8	.8	1.0	.7	.7	.9
1981-86	11.6	5.0	6.3	1.2	3.8	4.8	.5

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from company records; the Motor Vehicle Manufacturers Association of the U.S., Inc.; the Gousha/Times Mirror Company

(Automobile Invoice Service); Ward's Communications, Inc. (Ward's Automotive Yearbooks); the Bureau of the Census; and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics and company records.

Table 246. Instruments to measure electricity (SIC 3825): Indexes of output per employee hour and output per employee, 1972-85 (1977=100)

Year	Output per hour ¹			Output per employee ¹		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1972	84.7	81.8	90.0	87.1	83.8	93.1
1973	90.8	85.4	101.4	93.0	87.4	103.2
1974	92.0	87.1	101.2	92.1	87.1	101.0
1975	95.9	95.4	96.6	93.8	92.1	96.6
1976	95.5	94.7	97.0	95.1	93.7	97.4
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	101.0	102.7	98.0	101.0	103.0	97.9
1979	100.2	105.2	93.1	101.9	108.2	93.4
1980	108.4	119.7	93.9	107.8	118.7	94.5
1981	111.9	128.4	92.5	111.2	127.6	92.8
1982	119.2	134.0	101.0	117.3	130.8	101.3
1983	121.8	134.7	105.2	120.0	132.2	105.1
1984	133.7	147.2	116.2	132.7	145.7	116.6
1985 ²	130.4	151.3	106.2	129.5	150.4	106.4
Average annual percent change:						
1972-85	3.3	5.0	.8	3.1	4.8	.7
1981-85	4.3	4.3	4.3	4.4	4.5	4.2

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
 SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 247. Instruments to measure electricity (SIC 3825): Indexes of output, employee hours, and employees, 1972-85 (1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1972	71.7	84.7	87.7	79.7	82.3	85.6	77.0
1973	84.2	92.7	98.6	83.0	90.5	96.3	81.6
1974	94.0	102.2	107.9	92.9	102.1	107.9	93.1
1975	85.9	89.6	90.0	88.9	91.6	93.3	88.9
1976	87.4	91.5	92.3	90.1	91.9	93.3	89.7
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	116.3	115.2	113.2	118.7	115.2	112.9	118.8
1979	129.6	129.3	123.2	139.2	127.2	119.8	138.7
1980	153.9	142.0	128.6	163.9	142.7	129.7	162.8
1981	158.6	141.7	123.5	171.5	142.6	124.3	170.9
1982	158.3	132.8	118.1	156.8	134.9	121.0	156.3
1983	161.9	132.9	120.2	153.9	134.9	122.5	154.0
1984	191.2	143.0	129.9	164.6	144.1	131.2	164.0
1985 ¹	179.9	138.0	118.9	169.4	138.9	119.6	169.0
Average annual percent change:							
1972-85	7.9	4.4	2.7	7.0	4.6	2.9	7.1
1981-85	4.5	.2	.2	.2	.1	(²)	.3

¹ Preliminary.
² Less than .05 percent.
 NOTE: Because of periodic revisions in source data, the measures in this table

may differ from those previously published.
 SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 248. Railroad transportation, revenue traffic (SIC 401)¹: Indexes of output per employee hour and output per employee, 1958-86
(1977=100)

Year	Output per hour ²			Output per employee ²		
	All employees	Nonsupervisory workers	Supervisory workers	All employees	Nonsupervisory workers	Supervisory workers
Index:						
1958	41.1	40.0	49.9	42.5	41.0	56.5
1959	43.9	42.8	53.3	45.6	44.1	60.5
1960	45.1	44.1	53.3	46.6	45.1	60.3
1961	48.7	47.9	55.2	50.1	48.7	62.2
1962	52.2	51.3	59.7	54.1	52.7	67.4
1963	54.9	53.9	62.7	57.3	55.8	70.7
1964	58.4	57.4	66.5	61.7	60.2	75.6
1965	65.1	64.3	71.4	68.1	66.6	81.0
1966	70.2	69.2	77.3	73.1	71.6	85.5
1967	72.2	71.2	79.8	73.6	72.4	83.5
1968	76.0	75.2	82.9	78.4	77.3	87.2
1969	79.0	78.1	85.7	81.3	80.3	89.4
1970	77.7	76.9	83.1	79.8	79.0	86.5
1971	80.8	80.5	83.5	79.6	78.9	86.3
1972	88.0	87.7	89.5	89.0	88.5	92.0
1973	96.4	95.9	99.0	96.4	95.8	101.0
1974	93.7	93.3	96.8	94.6	94.1	98.4
1975	89.5	89.9	86.1	88.5	88.7	87.2
1976	95.4	95.5	94.0	95.3	95.3	95.6
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	104.5	104.7	103.5	104.5	104.6	103.5
1979	104.7	104.8	104.1	105.4	105.5	104.4
1980	107.3	108.4	101.4	105.5	106.2	101.0
1981	111.5	113.3	101.4	108.8	109.9	102.0
1982	115.8	119.3	96.9	110.1	112.5	96.2
1983	141.9	146.1	118.2	136.3	139.5	117.5
1984	152.6	155.8	133.6	147.9	150.5	131.6
1985	162.1	166.3	138.3	156.5	159.7	137.5
1986 ³	179.9	185.4	150.1	171.5	175.3	148.8
Average annual percent change:						
1947-86	4.7	4.9	2.8	4.2	4.4	2.2
1981-86	10.4	10.6	9.4	10.2	10.4	9.2

¹ Class I railroads and Class I switching and terminal companies.

² The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

³ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may

differ from those previously published.

SOURCE: Output based on data from the Interstate Commerce Commission; the Association of American Railroads; the Federal Railroad Administration, U.S. Department of Transportation; and the National Railroad Passenger Corporation. Employment and hours based on data from the Interstate Commerce Commission.

Table 249. Railroad transportation, revenue traffic (SIC 401)¹: Indexes of output, employee hours, and employees, 1958-86
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Nonsupervisory workers	Supervisory workers	All employees	Nonsupervisory workers	Supervisory workers
Index:							
1958	72.7	177.0	181.6	145.6	171.1	177.2	128.6
1959	75.7	172.5	176.9	142.0	166.1	171.8	125.1
1960	74.1	164.2	167.9	139.0	159.1	164.3	122.8
1961	73.2	150.3	152.9	132.6	146.2	150.3	117.6
1962	77.2	147.8	150.5	129.3	142.6	146.4	114.5
1963	79.3	144.4	147.1	126.5	138.5	142.2	112.1
1964	83.5	142.9	145.4	125.6	135.3	138.8	110.4
1965	88.1	135.3	137.1	123.4	129.4	132.3	108.8
1966	92.9	132.4	134.3	120.2	127.1	129.7	108.7
1967	90.4	125.2	126.9	113.3	122.9	124.8	108.2
1968	93.3	122.7	124.1	112.6	119.0	120.7	107.0
1969	94.8	120.0	121.4	110.6	116.6	118.1	106.0
1970	91.3	117.5	118.7	109.9	114.4	115.6	105.5
1971	89.3	110.5	111.0	107.0	112.2	113.2	103.5
1972	94.2	107.1	107.4	105.2	105.9	106.4	102.4
1973	103.2	107.1	107.6	104.2	107.0	107.7	102.2
1974	101.3	108.1	108.6	104.6	107.1	107.6	102.9
1975	87.7	98.0	97.5	101.9	99.1	98.9	100.6
1976	94.6	99.2	99.1	100.6	99.3	99.3	99.0
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	102.4	98.0	97.8	98.9	98.0	97.9	98.9
1979	103.9	99.2	99.1	99.8	98.6	98.5	99.5
1980	101.1	94.2	93.3	99.7	95.8	95.2	100.1
1981	99.1	88.9	87.5	97.7	91.1	90.2	97.2
1982	87.2	75.3	73.1	90.0	79.2	77.5	90.6
1983	92.8	65.4	63.5	78.5	68.1	66.5	79.0
1984	101.3	66.4	65.0	75.8	68.5	67.3	77.0
1985	100.8	62.2	60.6	72.9	64.4	63.1	73.3
1986 ²	102.7	57.1	55.4	68.4	59.9	58.6	69.0
Average annual percent change:							
1947-86 .....	.5	-3.9	-4.2	-2.2	-3.5	-3.8	-1.7
1981-86	2.0	-7.6	-7.8	-6.8	-7.5	-7.6	-6.6

¹ Class I railroads and Class I switching and terminal companies.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Interstate Commerce Commission; the Association of American Railroads; the Federal Railroad Administration, U.S. Department of Transportation; and the National Railroad Passenger Corporation. Employment and hours based on data from the Interstate Commerce Commission.

Table 250. Railroad transportation, car miles (SIC 401)¹: Indexes of output per employee hour and output per employee, 1958-86
(1977=100)

Year	Output per hour ²			Output per employee ²		
	All employees	Nonsupervisory workers	Supervisory workers	All employees	Nonsupervisory workers	Supervisory workers
Index:						
1958	59.0	57.5	71.8	61.1	59.0	81.3
1959	61.4	59.9	74.6	63.8	61.6	84.7
1960	63.3	61.9	74.7	65.3	63.2	84.6
1961	66.7	65.5	75.6	68.5	66.7	85.2
1962	68.9	67.7	78.8	71.5	69.6	89.0
1963	71.3	70.0	81.4	74.4	72.4	91.9
1964	73.8	72.5	83.9	77.9	75.9	95.5
1965	78.7	77.7	86.3	82.3	80.5	97.9
1966	82.8	81.6	91.2	86.2	84.5	100.8
1967	85.1	83.9	94.0	86.7	85.3	98.4
1968	86.9	85.9	94.7	89.6	88.3	99.6
1969	88.9	87.9	96.5	91.5	90.3	100.7
1970	89.1	88.2	95.3	91.5	90.6	99.2
1971	92.0	91.6	95.0	90.6	89.8	98.3
1972	98.3	98.0	100.1	99.4	99.0	102.8
1973	101.4	100.9	104.2	101.5	100.8	106.3
1974	98.9	98.4	102.2	99.8	99.3	103.9
1975	98.3	98.8	94.5	97.2	97.4	95.7
1976	100.1	100.2	98.7	100.0	100.0	100.3
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	102.8	103.0	101.8	102.8	102.9	101.8
1979	102.9	103.0	102.3	103.5	103.7	102.6
1980	107.9	108.9	101.9	106.1	106.7	101.5
1981	107.6	109.4	98.0	105.0	106.1	98.5
1982	110.1	113.4	92.1	104.7	107.0	91.5
1983	128.9	132.8	107.4	123.8	126.8	106.7
1984	137.7	140.6	120.6	133.4	135.8	118.7
1985	138.9	142.6	118.5	134.2	136.9	117.9
1986 ³	148.2	152.7	123.7	141.2	144.4	122.6
Average annual percent change:						
1947-86	3.4	3.6	1.5	2.9	3.2	1.0
1981-86	7.0	7.1	6.0	6.8	6.9	5.8

¹ Class I railroads and Class I switching and terminal companies.
² The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
³ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output based on data from the Interstate Commerce Commission and the Association of American Railroads. Employment and hours based on data from the Interstate Commerce Commission.

Table 251. Railroad transportation, car miles (SIC 401)¹: Indexes of output, employee hours, and employees, 1958-86
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Nonsupervisory workers	Supervisory workers	All employees	Nonsupervisory workers	Supervisory workers
Index:							
1958	104.5	177.0	181.6	145.6	171.1	177.2	128.6
1959	105.9	172.5	176.9	142.0	166.1	171.8	125.1
1960	103.9	164.2	167.9	139.0	159.1	164.3	122.8
1961	100.2	150.3	152.9	132.6	146.2	150.3	117.6
1962	101.9	147.8	150.5	129.3	142.6	146.4	114.5
1963	103.0	144.4	147.1	126.5	138.5	142.2	112.1
1964	105.4	142.9	145.4	125.6	135.3	138.8	110.4
1965	106.5	135.3	137.1	123.4	129.4	132.3	108.8
1966	109.6	132.4	134.3	120.2	127.1	129.7	108.7
1967	106.5	125.2	126.9	113.3	122.9	124.8	108.2
1968	106.6	122.7	124.1	112.6	119.0	120.7	107.0
1969	106.7	120.0	121.4	110.6	116.6	118.1	106.0
1970	104.7	117.5	118.7	109.9	114.4	115.6	105.5
1971	101.7	110.5	111.0	107.0	112.2	113.2	103.5
1972	105.3	107.1	107.4	105.2	105.9	106.4	102.4
1973	108.6	107.1	107.6	104.2	107.0	107.7	102.2
1974	106.9	108.1	108.6	104.6	107.1	107.6	102.9
1975	96.3	98.0	97.5	101.9	99.1	98.9	100.6
1976	99.3	99.2	99.1	100.6	99.3	99.3	99.0
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	100.7	98.0	97.8	98.9	98.0	97.9	98.9
1979	102.1	99.2	99.1	99.8	98.6	98.5	99.5
1980	101.6	94.2	93.3	99.7	95.8	95.2	100.1
1981	95.7	88.9	87.5	97.7	91.1	90.2	97.2
1982	82.9	75.3	73.1	90.0	79.2	77.5	90.6
1983	84.3	65.4	63.5	78.5	68.1	66.5	79.0
1984	91.4	66.4	65.0	75.8	68.5	67.3	77.0
1985	86.4	62.2	60.6	72.9	64.4	63.1	73.3
1986 ²	84.6	57.1	55.4	68.4	59.9	58.6	69.0
Average annual percent change:							
1947-86	-7	-3.9	-4.2	-2.2	-3.5	-3.8	-1.7
1981-86	-1.2	-7.6	-7.8	-6.8	-7.5	-7.6	-6.6

¹ Class I railroads and Class I switching and terminal companies.
² Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Interstate Commerce Commission and the Association of American Railroads. Employment and hours based on data from the Interstate Commerce Commission.

Table 252. Bus carriers, Class 1 (Parts of SIC 4111, 4131, 414): Indexes of output per employee hour, output per employee, output, employee hours, and employees, 1958-85
(1977 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees
Index:					
1958	94.2	99.5	99.1	105.2	99.6
1959	97.2	102.6	99.1	102.0	96.6
1960	96.1	102.3	100.9	105.0	98.6
1961	97.9	103.5	103.2	105.4	99.7
1962	107.1	114.3	115.4	107.7	101.0
1963	108.7	114.6	115.9	106.6	101.1
1964	109.8	116.1	120.7	109.9	104.0
1965	116.3	122.0	127.2	109.4	104.3
1966	118.8	124.5	132.8	111.8	106.7
1967	114.8	121.2	133.9	116.6	110.5
1968	113.2	119.6	130.5	115.3	109.1
1969	109.9	115.6	126.1	114.7	109.1
1970	107.3	112.8	123.8	115.4	109.8
1971	104.8	108.1	116.3	111.0	107.6
1972	106.8	105.7	111.5	104.4	105.5
1973	106.2	107.7	106.8	100.6	99.2
1974	110.2	112.0	115.8	105.1	103.4
1975	97.0	97.9	104.4	107.6	106.6
1976	93.8	95.1	100.7	107.3	105.9
1977	100.0	100.0	100.0	100.0	100.0
1978	96.7	94.9	94.9	98.1	100.0
1979	98.3	98.6	101.3	103.0	102.7
1980	100.9	94.2	99.9	99.0	106.0
1981	90.7	86.2	92.0	101.4	106.7
1982	98.8	94.1	94.0	95.1	99.9
1983	95.4	93.0	82.5	86.5	88.7
1984	90.9	89.9	78.5	86.4	87.3
1985 ¹	88.2	89.2	73.3	83.1	82.2
Average annual percent change:					
1954-85	-1	-5	-8	-7	-3
1981-85	-1.4	.2	-6.1	-4.8	-6.4

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Interstate Commerce Commission, the American Bus Association, and the Bureau of Labor Statistics.

Table 253. Intercity trucking (SIC 4213 part)¹: Indexes of output per employee, output, and employees, 1958-85
(1977=100)

Year	Output per employee	Output	Employees
Index:			
1958	62.9	34.9	55.5
1959	66.5	40.9	61.5
1960	66.5	41.6	62.6
1961	67.2	41.4	61.6
1962	69.3	44.8	64.6
1963	72.5	48.1	66.3
1964	74.5	51.2	68.7
1965	77.2	57.5	74.5
1966	81.3	63.8	78.5
1967	78.2	61.7	78.9
1968	83.3	68.1	81.8
1969	85.2	72.6	85.2
1970	83.5	69.8	83.6
1971	88.8	75.9	85.5
1972	94.6	85.6	90.5
1973	96.6	92.8	96.1
1974	93.3	90.1	96.6
1975	89.2	81.6	91.5
1976	100.3	93.1	92.8
1977	100.0	100.0	100.0
1978	99.8	107.0	107.2
1979	98.6	107.2	108.7
1980	94.3	96.8	102.7
1981	98.7	92.1	93.3
1982	93.3	80.5	86.3
1983	101.0	84.5	83.7
1984	102.5	94.4	92.1
1985 ²	97.2	83.3	85.7
Average annual percent change:			
1954-85	1.9	4.1	2.2
1981-85 .....	.6	-4	-1.0

¹ Class I and II common and contract carriers.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those

previously published.

SOURCE: Based on data from the Interstate Commerce Commission and Trinc Transportation Consultants, a division of Dunn and Bradstreet, Inc.

Table 254. Intercity trucking, general freight (SIC 4213 part)¹: Indexes of output per employee, output, and employees, 1958-85
(1977=100)

Year	Output per employee	Output	Employees
Index:			
1958	61.5	42.1	68.4
1959	66.0	48.9	74.1
1960	65.0	48.5	74.6
1961	65.0	47.7	73.4
1962	66.9	51.3	76.7
1963	69.6	54.2	77.9
1964	72.7	58.5	80.5
1965	78.7	64.2	81.6
1966	77.4	70.9	91.6
1967	75.1	68.6	91.4
1968	79.3	75.2	94.8
1969	80.6	79.1	98.1
1970	76.8	72.9	94.9
1971	81.1	77.4	95.4
1972	86.1	85.2	99.0
1973	91.7	94.6	103.2
1974	93.4	92.9	99.5
1975	88.4	80.6	91.2
1976	96.1	91.8	95.5
1977	100.0	100.0	100.0
1978	98.6	106.2	107.7
1979	96.6	106.9	110.7
1980	87.9	91.1	103.6
1981	92.5	86.7	93.7
1982	88.8	76.6	88.2
1983	92.5	80.6	87.1
1984	94.2	89.9	95.4
1985 ²	90.5	81.6	90.2
Average annual percent change:			
1954-85	1.7	3.1	1.4
1981-85 .....	.4	.4	(³)

¹ Class I and II common carriers of general freight.

² Preliminary.

³ Less than .05 percent.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those

previously published.

SOURCE: Based on data from the Interstate Commerce Commission and Trinc Transportation Consultants, a division of Dunn and Bradstreet, Inc.

Table 255. Air transportation (SIC 4511, 4521 part)¹: Indexes of output per employee, output, and employees, 1958-86
(1977=100)

Year	Output per employee	Output	Employees
Index:			
1958	31.6	15.2	48.1
1959	34.0	17.5	51.4
1960	34.3	18.6	54.3
1961	36.2	19.7	54.4
1962	40.4	22.3	55.2
1963	44.4	25.2	56.7
1964	48.8	29.4	60.2
1965	54.4	35.5	65.3
1966	61.1	43.6	71.4
1967	65.1	55.2	84.8
1968	68.0	63.7	93.7
1969	69.9	69.9	100.0
1970	71.4	71.0	99.4
1971	76.0	72.7	95.6
1972	83.8	79.9	95.3
1973	85.5	84.7	99.1
1974	86.6	84.9	98.0
1975	87.6	84.4	96.4
1976	95.5	93.1	97.5
1977	100.0	100.0	100.0
1978	109.3	113.9	104.2
1979	113.1	125.4	110.9
1980	106.2	121.0	113.9
1981	104.9	117.7	112.2
1982	114.9	122.0	106.2
1983	126.8	132.4	104.4
1984	131.7	143.8	109.2
1985	136.5	156.7	114.8
1986 ²	138.1	170.5	123.5
Average annual percent change:			
1947-86	6.2	10.6	4.1
1981-86	5.7	8.0	2.2

¹ Due to airline deregulation, the measures from 1980 forward reflect the inclusion of some noncertificated carriers.

² Preliminary.

NOTE: Because of periodic revisions in source data,

the measures in this table may differ from those previously published.

SOURCE: Based on data from the Research and Special Programs Administration, U.S. Department of Transportation.

Table 256. Petroleum pipelines (SIC 4612, 4613): Indexes of output per employee hour and output per employee, 1958-86
(1977=100)

Year	Output per hour ¹		Output per employee ¹	
	All employees	Nonsupervisory workers	All employees	Nonsupervisory workers
Index:				
1958	26.3	22.4	25.7	21.9
1959	30.3	25.7	29.5	25.1
1960	32.6	28.0	31.5	27.0
1961	34.8	30.4	33.5	29.2
1962	36.3	31.2	35.3	30.3
1963	40.0	34.2	39.0	33.3
1964	43.4	37.7	42.7	37.2
1965	51.5	45.3	50.8	44.7
1966	58.1	51.1	56.9	50.1
1967	64.9	57.2	64.6	56.9
1968	68.7	61.1	68.1	60.5
1969	74.2	67.3	73.2	66.6
1970	79.5	73.6	78.9	72.9
1971	82.4	77.7	81.7	77.0
1972	92.8	86.8	91.4	85.7
1973	97.8	92.1	96.8	91.3
1974	95.1	89.7	93.8	88.4
1975	95.7	92.6	93.2	90.2
1976	95.2	93.9	94.7	93.5
1977	100.0	100.0	100.0	100.0
1978	101.7	103.2	101.2	102.7
1979	101.7	105.1	102.5	105.9
1980	93.0	95.8	93.5	96.2
1981	86.0	90.1	87.9	92.0
1982	89.2	94.9	90.9	96.8
1983	94.3	98.8	94.1	98.6
1984	104.5	108.6	101.3	105.2
1985	104.9	107.6	103.4	106.1
1986 ²	107.8	107.8	108.6	108.6
Average annual percent change:				
1947-86	(³)	(³)	6.5	(³)
1981-86	5.0	4.0	4.4	3.4

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

³ Less than .05 percent.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the American Petroleum Institute and the Interstate Commerce Commission. Employment and hours based on data from the Bureau of Labor Statistics and the Interstate Commerce Commission.

Table 257. Petroleum pipelines (SIC 4612, 4613): Indexes of output, employee hours, and employees, 1958-86
(1977=100)

Year	Output	Employee hours		Employees	
		All employees	Nonsupervisory workers	All employees	Nonsupervisory workers
Index:					
1958	35.7	135.9	159.7	138.9	163.2
1959	38.7	127.9	150.3	131.3	154.4
1960	39.3	120.4	140.4	124.9	145.5
1961	40.2	115.4	132.2	120.0	137.5
1962	41.2	113.4	132.1	116.8	136.0
1963	43.6	109.0	127.4	111.9	130.8
1964	46.2	106.5	122.5	108.2	124.2
1965	53.6	103.9	118.2	105.5	119.8
1966	58.2	100.2	113.9	102.2	116.2
1967	65.3	100.6	114.2	101.1	114.7
1968	68.1	99.1	111.4	100.0	112.5
1969	70.9	95.6	105.4	96.8	106.5
1970	75.0	94.3	101.9	95.1	102.9
1971	76.4	92.7	98.3	93.5	99.2
1972	82.5	88.9	95.0	90.3	96.3
1973	87.9	89.9	95.4	90.8	96.3
1974	87.7	92.2	97.8	93.5	99.2
1975	88.2	92.2	95.2	94.6	97.8
1976	90.7	95.3	96.6	95.8	97.0
1977	100.0	100.0	100.0	100.0	100.0
1978	107.2	105.4	103.9	105.9	104.4
1979	111.3	109.4	105.9	108.6	105.1
1980	107.6	115.7	112.3	115.1	111.8
1981	103.5	120.4	114.9	117.8	112.5
1982	104.6	117.3	110.2	115.1	108.1
1983	102.2	108.4	103.4	108.6	103.7
1984	104.5	100.0	96.2	103.2	99.3
1985	104.5	99.6	97.1	101.1	98.5
1986 ¹	106.2	98.5	98.5	97.8	97.8
Average annual percent change:					
1947-86	5.1	(²)	(²)	-1.3	(²)
1981-86 .....	.4	-4.4	-3.4	-3.8	-2.9

¹ Preliminary.

² Less than .05 percent.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the American Petroleum Institute and the Interstate Commerce Commission. Employment and hours based on data from the Bureau of Labor Statistics and the Interstate Commerce Commission.

Table 258. Telephone communications (SIC 4811): indexes of output per employee hour, output per employee, output, employee hours, and employees, 1958-86
(1977=100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees
Index:					
1958	31.8	30.6	23.4	73.6	76.5
1959	35.3	34.6	25.6	72.6	73.9
1960	37.4	37.2	27.4	73.2	73.7
1961	40.7	40.1	29.1	71.5	72.5
1962	43.5	43.5	31.2	71.8	71.8
1963	46.7	46.8	33.5	71.8	71.6
1964	48.5	48.9	36.1	74.4	73.8
1965	50.6	51.3	39.4	77.8	76.8
1966	52.9	53.8	43.5	82.2	80.8
1967	56.9	56.1	47.2	83.0	84.2
1968	60.4	60.1	51.0	84.5	84.8
1969	61.7	62.3	56.6	91.8	90.9
1970	62.1	61.4	60.4	97.2	98.4
1971	66.8	63.8	63.4	94.9	99.4
1972	70.0	69.3	69.2	98.9	99.8
1973	74.6	74.3	76.2	102.2	102.5
1974	78.4	78.3	81.8	104.3	104.5
1975	85.9	84.0	84.8	98.7	101.0
1976	93.3	91.2	90.8	97.3	99.6
1977	100.0	100.0	100.0	100.0	100.0
1978	105.8	106.6	110.8	104.7	103.9
1979	110.8	111.6	122.2	110.3	109.5
1980	118.1	118.9	133.2	112.8	112.0
1981	124.4	125.1	140.7	113.1	112.5
1982	129.1	128.8	144.2	111.7	112.0
1983	145.1	145.1	146.6	101.0	101.0
1984	143.0	144.8	149.1	104.3	103.0
1985	149.9	154.4	153.8	102.6	99.6
1986 ¹	158.9	165.0	157.2	98.9	95.3
Average annual percent change:					
1951-86	6.1	6.2	7.7	1.5	1.4
1981-86	4.8	5.7	2.2	-2.5	-3.3

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Federal Communications Commission,

the American Telephone and Telegraph Company, the GTE Corporation, and the seven regional operating companies. Employment and hours based on data from the Bureau of Labor Statistics.

Table 259. Gas and electric utilities (SIC 491, 492, 493): Indexes of output per employee hour and output per employee, 1958-86
(1977 = 100)

Year	Output per hour ¹		Output per employee ¹	
	All employees	Nonsupervisory workers	All employees	Nonsupervisory workers
Index:				
1958	40.6	37.4	40.2	36.9
1959	44.3	41.0	44.1	40.7
1960	47.2	43.9	46.9	43.6
1961	50.0	46.6	49.5	46.2
1962	54.0	50.5	53.8	50.3
1963	57.4	54.1	57.3	53.9
1964	61.6	58.3	61.6	58.1
1965	64.3	60.8	64.5	61.0
1966	69.0	65.5	69.5	65.9
1967	72.0	68.7	72.5	69.1
1968	77.2	73.6	77.6	74.0
1969	82.0	78.6	82.7	79.2
1970	84.6	81.1	85.2	81.7
1971	89.2	85.9	89.4	86.1
1972	92.3	89.2	92.9	89.8
1973	93.6	91.0	94.8	92.2
1974	92.0	91.1	92.5	90.5
1975	95.7	94.3	95.3	93.9
1976	98.2	97.4	98.1	97.2
1977	100.0	100.0	100.0	100.0
1978	98.2	99.3	99.4	100.5
1979	97.6	98.7	98.8	99.9
1980	96.2	97.3	97.5	98.5
1981	94.4	95.5	94.9	95.9
1982	89.3	91.2	89.9	91.8
1983	88.1	91.0	88.6	91.4
1984	91.4	95.1	92.1	95.7
1985	90.5	94.2	91.3	95.1
1986 ²	88.9	92.8	89.8	93.7
Average annual percent change:				
1947-86	4.5	5.0	4.5	5.0
1981-86	-6	(³)	-5	.1

¹ The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

² Preliminary.

³ Less than .05 percent.

NOTE: Because of periodic revisions in source data, the measures

in this table may differ from those previously published.

SOURCE: Output based on data from the American Gas Association; the Rural Electrification Administration, U.S. Department of Agriculture; the Energy Information Administration, U.S. Department of Energy; and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

Table 260. Gas and electric utilities (SIC 491, 492, 493): Indexes of output, employee hours, and employees, 1958-86
(1977 = 100)

Year	Output	Employee hours		Employees	
		All employees	Nonsupervisory workers	All employees	Nonsupervisory workers
Index:					
1958	34.2	84.2	91.5	85.1	92.6
1959	37.5	84.6	91.5	85.1	92.1
1960	40.0	84.7	91.2	85.2	91.8
1961	42.0	84.0	90.1	84.8	91.0
1962	45.2	83.7	89.5	84.0	89.8
1963	48.1	83.8	88.9	83.9	89.2
1964	51.9	84.2	89.0	84.3	89.3
1965	55.0	85.6	90.5	85.3	90.2
1966	59.7	86.5	91.1	85.9	90.6
1967	63.4	88.0	92.3	87.5	91.7
1968	69.0	89.4	93.8	88.9	93.3
1969	75.1	91.6	95.5	90.8	94.8
1970	79.6	94.1	98.2	93.4	97.4
1971	83.9	94.1	97.7	93.8	97.4
1972	89.3	96.7	100.1	96.1	99.4
1973	93.2	99.6	102.4	98.3	101.1
1974	92.6	100.6	101.7	100.1	102.3
1975	93.7	97.9	99.4	98.3	99.8
1976	96.4	98.2	99.0	98.3	99.2
1977	100.0	100.0	100.0	100.0	100.0
1978	103.4	105.3	104.1	104.0	102.9
1979	106.4	109.0	107.8	107.7	106.5
1980	107.8	112.0	110.8	110.6	109.4
1981	108.2	114.6	113.3	114.0	112.8
1982	105.4	118.0	115.6	117.2	114.8
1983	104.7	118.8	115.1	118.2	114.5
1984	110.0	120.4	115.7	119.5	114.9
1985	110.4	122.0	117.2	120.9	116.1
1986 ¹	108.6	122.1	117.0	120.9	115.9
Average annual percent change:					
1947-86	5.8	1.2	.8	1.2	.8
1981-86	.6	1.2	.6	1.1	.5

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the American Gas Association; the Rural

Electrification Administration, U.S. Department of Agriculture; the Energy Information Administration, U.S. Department of Energy; and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

Table 261. Electric utilities (SIC 491, 493 part): Indexes of output per employee hour, output per employee, output, employee hours, and employees, 1958-86
(1977 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees
Index:					
1958	34.7	34.4	27.4	78.9	79.7
1959	38.7	38.4	30.3	78.3	78.9
1960	41.3	41.0	32.4	78.5	79.0
1961	44.1	43.6	34.2	77.6	78.4
1962	47.6	47.3	36.8	77.3	77.8
1963	51.0	50.8	39.5	77.4	77.7
1964	54.9	54.7	42.8	77.9	78.3
1965	57.9	58.1	46.1	79.6	79.4
1966	62.5	62.8	50.4	80.7	80.2
1967	65.1	65.4	53.8	82.6	82.3
1968	70.1	70.4	59.2	84.5	84.1
1969	74.3	75.0	64.9	87.4	86.5
1970	77.1	77.6	69.7	90.4	89.8
1971	81.4	81.7	74.2	91.2	90.8
1972	85.6	86.3	80.5	94.0	93.3
1973	88.4	90.1	86.9	98.3	96.5
1974	87.1	87.9	86.8	99.7	98.8
1975	92.9	92.1	89.7	96.6	97.4
1976	95.6	95.4	93.5	97.8	98.0
1977	100.0	100.0	100.0	100.0	100.0
1978	96.8	98.6	103.6	107.0	105.1
1979	95.4	97.0	106.2	111.3	109.5
1980	94.0	95.6	108.4	115.3	113.4
1981	93.0	93.5	109.3	117.5	116.9
1982	89.5	90.2	108.2	120.9	119.9
1983	90.9	91.5	111.3	122.4	121.7
1984	94.4	95.0	117.9	124.9	124.1
1985	93.5	94.7	120.1	128.4	126.8
1986 ¹	94.6	95.6	122.8	129.8	128.4
Average annual percent change:					
1958-86	3.5	3.6	5.6	2.1	2.0
1981-86 .....	.7	.8	2.8	2.0	1.9

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Rural Electrification Administration, U.S.

Department of Agriculture; and the Energy Information Administration, U.S.

Department of Energy. Employment and hours based on data from the Bureau of Labor Statistics.

Table 262. Gas utilities (SIC 492, 493 part): Indexes of output per employee hour, output per employee, output, employee hours, and employees, 1958-86
(1977 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees
Index:					
1958	55.7	55.1	54.1	97.2	98.1
1959	58.4	58.3	58.3	99.9	100.0
1960	62.3	62.0	62.2	99.8	100.3
1961	64.6	64.4	64.5	99.9	100.2
1962	69.6	69.6	69.0	99.2	99.2
1963	72.6	72.9	72.2	99.5	99.1
1964	77.7	78.0	77.3	99.5	99.1
1965	79.6	80.3	80.1	100.6	99.7
1966	84.5	85.3	85.2	100.8	99.9
1967	88.6	89.2	89.2	100.7	100.0
1968	94.1	94.6	94.9	100.9	100.3
1969	100.3	100.6	101.8	101.5	101.2
1970	102.1	102.9	105.0	102.8	102.0
1971	106.9	106.9	108.2	101.2	101.2
1972	107.6	108.2	111.1	103.3	102.7
1973	104.5	105.0	107.7	103.1	102.6
1974	102.0	102.1	105.3	103.2	103.1
1975	101.4	101.4	102.0	100.6	100.6
1976	103.5	103.1	102.4	98.9	99.3
1977	100.0	100.0	100.0	100.0	100.0
1978	101.4	101.5	102.9	101.5	101.4
1979	103.4	103.4	106.8	103.3	103.3
1980	102.1	102.1	106.2	104.0	104.0
1981	98.1	98.4	105.5	107.5	107.2
1982	89.0	89.2	98.6	110.8	110.5
1983	81.1	81.4	89.3	110.1	109.7
1984	83.6	84.3	91.5	109.5	108.5
1985	82.1	82.6	88.1	107.3	106.7
1986 ¹	75.3	76.0	78.3	104.0	103.0
Average annual percent change:					
1958-86	1.3	1.3	1.6	.3	.3
1981-86	-4.3	-4.2	-5.0	-.8	-.9

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the American Gas Association. Employment and hours based on data from the Bureau of Labor Statistics.

Table 263. Hardware stores (SIC 5251): Indexes of output per hour of all persons, output per person, output, hours of all persons, and all persons,¹ 1972-86
(1977 = 100)

Year	Output per hour of all persons	Output per person	Output	Hours of all persons	All persons
Index:					
1972	101.1	102.8	90.8	89.8	88.3
1973	98.9	99.9	90.0	91.0	90.1
1974	95.3	95.7	88.9	93.3	92.9
1975	97.9	98.2	92.4	94.4	94.1
1976	95.9	99.5	95.0	99.1	95.5
1977	100.0	100.0	100.0	100.0	100.0
1978	100.2	101.2	104.0	103.8	102.8
1979	114.7	111.8	116.1	101.2	103.8
1980	111.4	107.5	112.4	100.9	104.6
1981	107.3	103.2	106.2	99.0	102.9
1982	108.9	104.9	103.6	95.1	98.8
1983	107.0	103.1	105.8	98.9	102.6
1984	112.8	108.5	118.4	105.0	109.1
1985	111.4	106.3	117.0	105.0	110.1
1986 ²	118.1	112.2	120.9	102.4	107.8
Average annual percent change:					
1972-86	1.3	.7	2.2	.9	1.4
1981-86	1.7	1.5	3.3	1.5	1.8

¹ All persons include paid employees, unpaid family workers, and the self-employed.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Economic Analysis and the Bureau of the Census, U.S. Department of Commerce; and the Bureau of Labor Statistics. Persons and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 264. Department stores (SIC 5311): Indexes of output per employee hour, output per employee, output, employee hours, and employees, 1967-86
(1977 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees
Index:					
1967	77.9	84.6	64.6	82.9	76.4
1968	79.3	85.1	69.1	87.1	81.2
1969	78.3	83.1	71.1	90.8	85.6
1970	78.2	82.3	71.9	91.9	87.4
1971	83.0	87.3	78.5	94.6	89.9
1972	84.0	88.8	84.8	100.9	95.5
1973	87.1	91.6	90.7	104.1	99.0
1974	85.3	88.9	87.5	102.6	98.4
1975	89.9	92.6	87.9	97.8	94.9
1976	94.6	96.2	93.3	98.6	97.0
1977	100.0	100.0	100.0	100.0	100.0
1978	101.9	99.8	105.6	103.6	105.8
1979	102.5	100.8	106.0	103.4	105.2
1980	101.0	98.4	103.1	102.1	104.8
1981	106.0	103.4	108.4	102.3	104.8
1982	107.4	105.0	108.2	100.7	103.0
1983	114.9	112.3	115.1	100.2	102.5
1984	122.1	117.5	126.2	103.4	107.4
1985	125.0	118.7	129.5	103.6	109.1
1986 ¹	130.3	121.9	135.1	103.7	110.8
Average annual percent change:					
1967-86	2.8	2.0	3.6	.8	1.6
1981-86	4.5	3.6	5.1	.5	1.4

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 265. Retail food stores (SIC 54): Indexes of output per hour of all persons, output per person, output, hours of all persons, and all persons,¹ 1958-86
(1977=100)

Year	Output per hour of all persons	Output per person	Output	Hours of all persons	All persons
Index:					
1958	73.8	88.7	68.5	92.8	77.2
1959	76.9	92.3	71.6	93.1	77.6
1960	79.3	93.8	73.5	92.7	78.4
1961	82.4	96.4	75.3	91.4	78.1
1962	83.5	97.6	76.9	92.1	78.8
1963	87.6	100.5	77.5	88.5	77.1
1964	89.5	102.8	81.3	90.8	79.1
1965	91.9	103.7	84.3	91.7	81.3
1966	94.4	104.0	85.7	90.8	82.4
1967	98.0	106.1	87.4	89.2	82.4
1968	103.0	109.3	91.5	88.8	83.7
1969	103.9	108.5	93.4	89.9	86.1
1970	109.8	113.7	99.0	90.2	87.1
1971	110.4	113.9	100.5	91.0	88.2
1972	110.3	113.5	102.0	92.5	89.9
1973	105.5	108.5	99.1	93.9	91.3
1974	101.1	102.5	97.2	96.1	94.8
1975	100.7	100.4	97.0	96.3	96.6
1976	102.0	103.0	100.8	98.8	97.9
1977	100.0	100.0	100.0	100.0	100.0
1978	94.9	94.4	99.6	104.9	105.5
1979	96.3	94.3	101.7	105.6	107.9
1980	98.9	94.4	104.7	105.9	110.9
1981	95.2	90.6	103.4	108.6	114.1
1982	93.5	88.7	103.3	110.5	116.4
1983	93.9	88.9	105.7	112.6	118.9
1984	93.6	88.0	107.4	114.8	122.1
1985 ²	94.2	87.1	110.2	117.0	126.5
1986 ²	93.0	85.6	112.2	120.6	131.0
Average annual percent change:					
1958-86 .....	.6	-.4	1.6	1.0	2.0
1981-86	-.3	-1.0	1.8	2.1	2.8

¹ All persons include paid employees, unpaid family workers, and the self-employed.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of

Economic Analysis, U.S. Department of Commerce; the Bureau of Labor Statistics; and the Economics, Statistics, and Cooperatives Service, U.S. Department of Agriculture. Persons and hours based on data from the Bureau of Labor Statistics; the Bureau of the Census; and the Internal Revenue Service, U.S. Department of the Treasury.

Table 266. Franchised new car dealers (SIC 5511): Indexes of output per employee hour, output per employee, output, employee hours, and employees, 1958-86
(1977=100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees
Index:					
1958	62.3	70.6	52.4	84.1	74.2
1959	70.6	80.7	61.2	86.7	75.8
1960	71.5	81.4	62.9	88.0	77.3
1961	68.1	76.8	56.1	82.4	73.0
1962	73.0	81.8	61.2	83.8	74.8
1963	74.4	83.5	65.2	87.6	78.1
1964	73.8	83.3	67.4	91.3	80.9
1965	79.2	88.8	75.2	95.0	84.7
1966	79.9	88.0	76.1	95.2	86.5
1967	81.0	87.4	75.0	92.6	85.8
1968	85.5	91.0	80.8	94.5	88.8
1969	85.8	90.2	83.1	96.9	92.1
1970	86.1	89.7	81.3	94.4	90.6
1971	91.7	95.2	87.3	95.2	91.7
1972	94.9	98.0	94.8	99.9	96.7
1973	96.3	98.8	98.9	102.7	100.1
1974	93.2	94.9	89.1	95.6	93.9
1975	95.0	96.5	87.9	92.5	91.1
1976	98.6	99.8	95.8	97.2	96.0
1977	100.0	100.0	100.0	100.0	100.0
1978	100.2	98.9	103.6	103.4	104.7
1979	97.7	96.6	100.7	103.1	104.2
1980	99.6	97.5	90.6	91.0	92.9
1981	98.1	96.1	84.8	86.4	88.2
1982	100.4	97.6	84.5	84.2	86.6
1983	109.4	106.0	95.5	87.3	90.1
1984	110.4	107.1	106.1	96.1	99.1
1985	109.7	106.0	113.3	103.3	106.9
1986 ¹	111.3	106.4	118.5	106.5	111.4
Average annual percent change:					
1958-86	1.9	1.1	2.3	.4	1.1
1981-86	2.6	2.2	7.9	5.1	5.6

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census, the Bureau of

Labor Statistics, the National Automobile Dealers Association, and Ward's Communications, Inc. (Ward's Automotive Yearbooks). Employment and hours based on data from the Bureau of Labor Statistics.

Table 267. Gasoline service stations (SIC 5541): Indexes of output per hour of all persons, output per person, output, hours of all persons, and all persons,¹ 1958-86
(1977=100)

Year	Output per hour of all persons	Output per person	Output	Hours of all persons	All persons
Index:					
1958	48.9	59.9	53.7	109.8	89.6
1959	50.7	61.9	55.8	110.0	90.2
1960	51.9	63.2	58.0	111.7	91.7
1961	53.5	65.1	60.5	113.1	92.9
1962	53.7	64.9	60.2	112.2	92.8
1963	56.3	67.8	64.4	114.3	95.0
1964	57.2	69.2	66.8	116.8	96.6
1965	59.2	70.8	70.4	119.0	99.5
1966	62.0	73.0	74.2	119.7	101.6
1967	63.2	73.3	75.4	119.3	102.8
1968	67.5	77.1	81.6	120.8	105.9
1969	68.2	76.7	83.7	122.8	109.1
1970	75.3	82.9	90.2	119.8	108.8
1971	77.7	85.8	93.9	120.9	109.4
1972	80.9	88.9	99.7	123.3	112.1
1973	86.6	91.9	101.5	117.2	110.5
1974	87.3	91.2	90.6	103.8	99.3
1975	85.6	90.0	93.2	108.9	103.5
1976	94.3	95.7	97.4	103.3	101.8
1977	100.0	100.0	100.0	100.0	100.0
1978	102.8	102.2	101.1	98.3	98.9
1979	106.9	104.0	94.5	88.4	90.9
1980	104.3	101.8	89.3	85.6	87.7
1981	105.8	103.2	88.1	83.3	85.4
1982	110.7	106.6	86.9	78.5	81.5
1983	118.1	112.7	90.6	76.7	80.4
1984	121.0	114.3	92.1	76.1	80.6
1985 ²	122.6	113.5	90.7	74.0	79.9
1986 ²	126.6	117.5	95.2	75.2	81.0
Average annual percent change:					
1958-86	3.7	2.5	2.0	-1.6	-.5
1981-86	3.6	2.5	1.5	-2.0	-.9

¹ All persons include paid employees, unpaid family workers, and the self-employed.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Labor Statistics and the Bureau of the Census. Persons and hours based on data from the Bureau of Labor Statistics; the Bureau of the Census; and the Internal Revenue Service, U.S. Department of the Treasury.

Table 268. Apparel and accessory stores (SIC 56): Indexes of output per hour of all persons, output per person, output, hours of all persons, and all persons,¹ 1967-86
(1977=100)

Year	Output per hour of all persons	Output per person	Output	Hours of all persons	All persons
Index:					
1967	82.1	87.7	70.2	85.5	80.0
1968	84.2	88.0	73.0	86.7	83.0
1969	83.4	86.9	74.3	89.1	85.5
1970	82.2	85.9	74.0	90.0	86.1
1971	84.6	88.1	78.3	92.6	88.9
1972	91.5	93.2	83.2	90.9	89.3
1973	100.2	101.9	92.6	92.4	90.9
1974	99.5	100.6	90.9	91.4	90.4
1975	105.3	106.1	95.0	90.2	89.5
1976	103.3	104.1	99.3	96.1	95.4
1977	100.0	100.0	100.0	100.0	100.0
1978	111.4	110.6	114.9	103.1	103.9
1979	114.4	112.3	121.1	105.9	107.8
1980	120.1	116.7	126.2	105.1	108.1
1981	127.1	123.4	135.2	106.4	109.6
1982	130.9	126.7	137.1	104.7	108.2
1983	137.8	132.5	146.5	106.3	110.6
1984	146.6	141.0	157.9	107.7	112.0
1985 ²	152.2	144.3	167.3	109.9	115.9
1986 ²	162.8	152.5	182.5	112.1	119.7
Average annual percent change:					
1967-86	3.7	3.0	5.2	1.4	2.1
1981-86	5.1	4.4	6.4	1.2	1.9

¹ All persons include paid employees, unpaid family workers, and the self-employed.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table

may differ from those previously published.

SOURCE: Output, persons, and hours based on data from the Bureau of Labor Statistics; the Bureau of the Census; and the Internal Revenue Service, U.S. Department of the Treasury.

Table 269. Men's and boys' clothing stores (SIC 5611): Indexes of output per hour of all persons, output per person, output, hours of all persons, and all persons,¹ 1967-86
(1977=100)

Year	Output per hour of all persons	Output per person	Output	Hours of all persons	All persons
Index:					
1967	84.5	88.4	75.9	89.8	85.9
1968	85.4	88.5	79.8	93.4	90.2
1969	86.8	89.3	84.0	96.8	94.1
1970	83.8	85.8	83.5	99.7	97.3
1971	87.2	88.6	87.4	100.2	98.7
1972	97.8	99.5	99.7	101.9	100.2
1973	104.2	105.6	104.3	100.1	98.8
1974	98.2	98.6	96.7	98.5	98.1
1975	102.7	103.8	99.2	96.6	95.6
1976	97.6	98.0	98.5	100.9	100.5
1977	100.0	100.0	100.0	100.0	100.0
1978	105.6	104.9	105.6	100.0	100.7
1979	108.2	107.1	107.3	99.2	100.2
1980	106.4	105.6	102.0	95.9	96.6
1981	115.6	112.8	100.7	87.1	89.3
1982	115.7	112.1	96.4	83.3	86.0
1983	120.1	115.7	97.5	81.2	84.3
1984	127.2	122.2	100.2	78.8	82.0
1985 ²	133.2	126.5	101.8	76.4	80.5
1986 ²	144.3	137.2	108.8	75.4	79.3
Average annual percent change:					
1967-86	2.6	2.1	1.3	-1.2	-0.7
1981-86	4.6	4.1	1.7	-2.8	-2.3

¹ All persons include paid employees, unpaid family workers, and the self-employed.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Labor Statistics and the Bureau of the Census. Persons and hours based on data from the Bureau of Labor Statistics; the Bureau of the Census; and the Internal Revenue Service, U.S. Department of the Treasury.

Table 270. Women's ready-to-wear stores (SIC 5621): Indexes of output per hour of all persons, output per person, output, hours of all persons, and all persons,¹ 1967-86
(1977=100)

Year	Output per hour of all persons	Output per person	Output	Hours of all persons	All persons
Index:					
1967	72.2	78.9	62.2	86.1	78.8
1968	74.4	78.8	64.0	86.0	81.2
1969	74.6	79.0	66.2	88.7	83.8
1970	77.5	81.3	68.5	88.4	84.3
1971	83.8	87.3	76.3	91.1	87.4
1972	87.2	89.5	79.4	91.1	88.7
1973	94.9	96.8	87.8	92.5	90.7
1974	96.9	97.9	88.0	90.8	89.9
1975	107.0	107.9	96.7	90.4	89.6
1976	104.9	106.3	102.3	97.5	96.2
1977	100.0	100.0	100.0	100.0	100.0
1978	113.9	112.0	116.6	102.4	104.1
1979	120.7	117.2	124.9	103.5	106.6
1980	125.5	120.5	128.5	102.4	106.6
1981	139.0	133.1	140.7	101.2	105.7
1982	158.2	150.5	151.7	95.9	100.8
1983	169.7	162.6	167.2	98.5	102.8
1984	178.4	171.3	181.4	101.7	105.9
1985 ²	187.8	176.9	195.5	104.1	110.5
1986 ²	206.6	190.1	216.9	105.0	114.1
Average annual percent change:					
1967-86	5.7	4.9	6.8	1.0	1.8
1981-86	7.5	6.9	9.0	1.3	2.0

¹ All persons include paid employees, unpaid family workers, and the self-employed.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Labor Statistics and the Bureau of the Census. Persons and hours based on data from the Bureau of Labor Statistics; the Bureau of the Census; and the Internal Revenue Service, U.S. Department of the Treasury.

Table 271. Family clothing stores (SIC 5651): Indexes of output per hour of all persons, output per person, output, hours of all persons, and all persons,¹ 1967-86
(1977=100)

Year	Output per hour of all persons	Output per person	Output	Hours of all persons	All persons
Index:					
1967	75.7	81.3	58.6	77.4	72.1
1968	78.7	83.6	60.6	77.0	72.5
1969	75.9	81.9	61.7	81.3	75.3
1970	76.0	82.6	61.6	81.1	74.6
1971	85.8	90.4	69.0	80.4	76.3
1972	95.1	96.9	74.0	77.8	76.4
1973	109.6	109.8	85.5	78.0	77.9
1974	107.7	107.7	86.2	80.0	80.0
1975	109.7	109.5	89.1	81.2	81.4
1976	107.4	106.6	93.4	87.0	87.6
1977	100.0	100.0	100.0	100.0	100.0
1978	100.3	100.2	104.9	104.6	104.7
1979	107.7	104.4	112.2	104.2	107.5
1980	122.6	115.7	124.1	101.2	107.3
1981	131.4	125.1	135.2	102.9	108.1
1982	139.6	134.2	146.6	105.0	109.2
1983	149.8	141.8	160.9	107.4	113.5
1984	148.1	140.3	169.3	114.3	120.7
1985 ²	142.5	133.2	175.1	122.9	131.5
1986 ²	141.3	131.1	185.7	131.4	141.7
Average annual percent change:					
1967-86	3.8	2.9	6.7	2.8	3.6
1981-86	1.2	.6	6.4	5.1	5.8

¹ All persons include paid employees, unpaid family workers, and the self-employed.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Labor Statistics and the Bureau of the Census. Persons and hours based on data from the Bureau of Labor Statistics; the Bureau of the Census; and the Internal Revenue Service, U.S. Department of the Treasury.

Table 272. Shoe stores (SIC 5661): Indexes of output per hour of all persons, output per person, output, hours of all persons, and all persons,¹ 1967-86
(1977=100)

Year	Output per hour of all persons	Output per person	Output	Hours of all persons	All persons
Index:					
1967	96.4	101.1	81.1	84.1	80.2
1968	99.1	101.4	86.7	87.5	85.5
1969	105.7	105.3	92.1	87.1	87.5
1970	96.5	98.6	85.3	88.4	86.5
1971	87.7	90.3	83.9	95.7	92.9
1972	95.6	95.4	88.1	92.2	92.3
1973	101.4	102.5	96.1	94.8	93.8
1974	88.8	90.6	87.4	98.4	96.5
1975	95.5	95.3	89.0	93.2	93.4
1976	97.6	97.6	93.2	95.5	95.5
1977	100.0	100.0	100.0	100.0	100.0
1978	109.3	108.7	112.9	103.3	103.9
1979	112.2	110.8	122.6	109.3	110.6
1980	109.3	107.6	124.5	113.9	115.7
1981	113.0	111.0	133.0	117.7	119.8
1982	108.9	105.6	124.8	114.6	118.2
1983	110.0	106.9	132.9	120.8	124.3
1984	116.5	112.3	138.7	119.1	123.5
1985 ²	128.1	122.2	148.6	116.0	121.6
1986 ²	141.1	134.8	159.2	112.8	118.1
Average annual percent change:					
1967-86	1.6	1.2	3.5	1.9	2.3
1981-86	4.8	4.3	4.3	-5	(³)

¹ All persons include paid employees, unpaid family workers, and the self-employed.

² Preliminary.

³ Less than .05 percent.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

may differ from those previously published.

SOURCE: Output based on data from the Bureau of Labor Statistics and the Bureau of the Census. Persons and hours based on data from the Bureau of Labor Statistics; the Bureau of the Census; and the Internal Revenue Service, U.S. Department of the Treasury.

Table 273. Furniture, home furnishings, and equipment stores (SIC 57): Indexes of output per hour of all persons, output per person, output, hours of all persons, and all persons,¹ 1967-86
(1977=100)

Year	Output per hour of all persons	Output per person	Output	Hours of all persons	All persons
Index:					
1967	70.2	75.8	58.8	83.8	77.6
1968	79.6	82.9	64.8	81.4	78.2
1969	76.5	79.9	66.5	86.9	83.2
1970	80.1	82.6	68.5	85.5	82.9
1971	80.0	83.3	71.4	89.2	85.7
1972	89.1	91.9	82.7	92.8	90.0
1973	95.3	96.4	89.6	94.0	92.9
1974	92.5	94.0	89.5	96.8	95.2
1975	91.9	93.8	86.7	94.3	92.4
1976	95.3	96.7	93.4	98.0	96.6
1977	100.0	100.0	100.0	100.0	100.0
1978	100.3	101.0	106.2	105.9	105.2
1979	107.6	107.4	115.7	107.5	107.7
1980	107.4	105.9	113.1	105.3	106.8
1981	112.6	110.0	112.9	100.3	102.6
1982	109.2	105.5	108.3	99.2	102.7
1983	118.4	116.2	124.4	105.1	107.1
1984	128.1	123.7	139.2	108.7	112.5
1985 ²	131.0	126.2	154.4	117.9	122.3
1986 ²	141.2	134.1	172.8	122.4	128.9
Average annual percent change:					
1967-86	3.2	2.6	5.0	1.8	2.3
1981-86	5.1	4.6	9.9	4.5	5.0

¹ All persons include paid employees, unpaid family workers, and the self-employed.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Economic Analysis and the Bureau of the Census, U.S. Department of Commerce; and the Bureau of Labor Statistics. Persons and hours based on data from the Bureau of Labor Statistics; the Bureau of the Census; and the Internal Revenue Service, U.S. Department of the Treasury.

Table 274. Furniture and home furnishings stores (SIC 571): Indexes of output per hour of all persons, output per person, output, hours of all persons, and all persons,¹ 1967-86
(1977=100)

Year	Output per hour of all persons	Output per person	Output	Hours of all persons	All persons
Index:					
1967	71.5	77.1	60.4	84.5	78.3
1968	81.8	85.1	67.5	82.5	79.3
1969	79.5	82.3	69.5	87.4	84.4
1970	79.3	82.1	70.2	88.5	85.5
1971	82.8	85.8	74.8	90.3	87.2
1972	93.0	95.7	87.6	94.2	91.5
1973	96.3	98.4	94.7	98.3	96.2
1974	93.1	95.5	93.5	100.4	97.9
1975	90.1	92.6	85.9	95.3	92.8
1976	94.4	95.8	92.0	97.5	96.0
1977	100.0	100.0	100.0	100.0	100.0
1978	97.9	98.7	105.4	107.7	106.8
1979	104.8	103.8	112.8	107.6	108.7
1980	98.0	97.6	107.3	109.5	109.9
1981	101.2	100.0	104.3	103.1	104.3
1982	97.6	94.2	98.2	100.6	104.2
1983	104.1	102.1	110.4	106.1	108.1
1984	112.9	109.6	122.3	108.3	111.6
1985 ²	108.4	106.2	127.7	117.8	120.2
1986 ²	114.3	110.5	139.6	122.1	126.3
Average annual percent change:					
1967-86	2.0	1.5	3.7	1.7	2.2
1981-86	2.9	2.7	6.9	3.9	4.1

¹ All persons include paid employees, unpaid family workers, and the self-employed.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Economic Analysis and the Bureau of the Census, U.S. Department of Commerce; and the Bureau of Labor Statistics. Persons and hours based on data from the Bureau of Labor Statistics; the Bureau of the Census; and the Internal Revenue Service, U.S. Department of the Treasury.

Table 275. Appliance, radio, television, and music stores (SIC 572, 573): Indexes of output per hour of all persons, output per person, output, hours of all persons, and all persons,¹ 1967-86
(1977=100)

Year	Output per hour of all persons	Output per person	Output	Hours of all persons	All persons
Index:					
1967	68.2	74.0	56.5	82.8	76.4
1968	76.3	79.5	60.9	79.8	76.6
1969	72.1	76.3	62.1	86.1	81.4
1970	81.2	83.6	65.9	81.2	78.8
1971	75.9	79.7	66.4	87.5	83.3
1972	83.4	86.2	75.6	90.6	87.7
1973	94.1	93.7	82.3	87.5	87.8
1974	91.8	92.0	83.8	91.3	91.1
1975	94.8	95.6	87.9	92.7	91.9
1976	96.5	97.7	95.3	98.8	97.5
1977	100.0	100.0	100.0	100.0	100.0
1978	104.0	104.6	107.4	103.3	102.7
1979	112.4	113.5	120.5	107.2	106.2
1980	124.0	120.6	122.9	99.1	101.9
1981	132.4	127.1	127.2	96.1	100.1
1982	128.7	124.4	125.0	97.1	100.5
1983	143.4	140.7	148.7	103.7	105.7
1984	154.7	148.4	168.9	109.2	113.8
1985 ²	172.8	162.5	204.1	118.1	125.6
1986 ²	191.8	177.3	235.5	122.8	132.8
Average annual percent change:					
1967-86	5.1	4.4	7.0	1.9	2.5
1981-86	8.4	7.5	14.3	5.5	6.4

¹ All persons include paid employees, unpaid family workers, and the self-employed.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Economic Analysis and the Bureau of the Census, U.S. Department of Commerce; and the Bureau of Labor Statistics. Persons and hours based on data from the Bureau of Labor Statistics; the Bureau of the Census; and the Internal Revenue Service, U.S. Department of the Treasury.

Table 276. Eating and drinking places (SIC 58): Indexes of output per hour of all persons, output per person, output, hours of all persons, and all persons,¹ 1958-86
(1977=100)

Year	Output per hour of all persons	Output per person	Output	Hours of all persons	All persons
Index:					
1958	89.5	120.6	56.3	62.9	46.7
1959	88.4	119.6	57.9	65.5	48.4
1960	88.1	118.3	58.3	66.2	49.3
1961	88.7	118.1	58.2	65.6	49.3
1962	89.3	118.1	60.0	67.2	50.8
1963	91.8	120.1	61.5	67.0	51.2
1964	90.9	119.8	64.2	70.6	53.6
1965	93.7	121.0	68.0	72.6	56.2
1966	94.6	118.4	70.2	74.2	59.3
1967	97.5	118.6	71.4	73.2	60.2
1968	99.7	119.5	75.5	75.7	63.2
1969	97.8	114.1	76.2	77.9	66.8
1970	101.0	114.6	79.3	78.5	69.2
1971	98.3	110.7	79.9	81.3	72.2
1972	102.3	112.2	84.6	82.7	75.4
1973	103.6	111.7	89.1	86.0	79.8
1974	99.1	104.9	88.0	88.8	83.9
1975	101.0	105.5	92.0	91.1	87.2
1976	101.4	104.0	97.1	95.8	93.4
1977	100.0	100.0	100.0	100.0	100.0
1978	99.3	97.5	104.4	105.1	107.1
1979	99.4	95.4	107.8	108.5	113.0
1980	99.5	93.7	107.9	108.4	115.1
1981	97.0	91.7	108.1	111.4	117.9
1982	96.6	91.5	109.6	113.4	119.8
1983	97.1	92.4	115.3	118.8	124.8
1984	94.9	90.4	120.0	126.5	132.8
1985 ²	93.5	87.7	123.2	131.8	140.5
1986 ²	96.3	89.4	128.3	133.2	143.5
Average annual percent change:					
1958-86	.3	-1.3	3.1	2.8	4.4
1981-86	-4	-8	3.6	4.1	4.4

¹ All persons include paid employees, unpaid family workers, and the self-employed.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Economic Analysis, U.S. Department of Commerce; and the Bureau of Labor Statistics. Persons and hours based on data from the Bureau of Labor Statistics, Bureau of the Census, and the Internal Revenue Service, U.S. Department of the Treasury.

Table 277. Drug and proprietary stores (SIC 5912): Indexes of output per hour of all persons, output per person, output, hours of all persons, and all persons,¹ 1958-86
(1977 = 100)

Year	Output per hour of all persons	Output per person	Output	Hours of all persons	All persons
Index:					
1958	45.6	55.7	44.2	96.9	79.3
1959	47.4	58.1	47.2	99.6	81.3
1960	49.1	59.6	49.8	101.5	83.6
1961	50.8	61.4	51.3	101.0	83.5
1962	51.8	64.0	54.2	104.6	84.7
1963	54.3	66.0	55.9	103.0	84.7
1964	56.4	67.2	58.1	103.1	86.4
1965	59.9	70.2	62.0	103.5	88.3
1966	62.3	72.0	65.9	105.7	91.5
1967	67.0	75.6	70.0	104.4	92.6
1968	73.0	80.4	75.4	103.3	93.8
1969	76.6	82.2	78.4	102.3	95.4
1970	83.4	88.1	84.2	100.9	95.6
1971	85.0	90.0	85.2	100.2	94.7
1972	88.3	92.6	89.3	101.1	96.4
1973	97.1	99.8	96.7	99.6	96.9
1974	98.2	101.2	98.7	100.5	97.5
1975	94.2	100.0	97.7	103.7	97.7
1976	97.1	100.6	99.4	102.4	98.8
1977	100.0	100.0	100.0	100.0	100.0
1978	102.7	102.9	102.5	99.8	99.6
1979	103.8	104.7	105.9	102.0	101.1
1980	107.0	103.8	105.8	98.9	101.9
1981	107.6	103.4	105.8	98.3	102.3
1982	107.9	102.6	103.9	96.3	101.3
1983	110.1	104.2	106.7	96.9	102.4
1984	105.0	101.7	108.3	103.1	106.5
1985 ²	100.3	97.6	108.3	108.0	111.0
1986 ²	97.0	94.5	109.3	112.7	115.7
Average annual percent change:					
1958-86	3.4	2.3	3.4	(³)	1.1
1981-86	-2.2	-1.8	.9	3.2	2.7

¹ All persons include paid employees, unpaid family workers, and the self-employed.

² Preliminary.

³ Less than .05 percent.

NOTE: Because of periodic revisions in source data, the measures in this table

may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. All persons and hours based on data from the Bureau of the Census; the Bureau of Labor Statistics; and the Internal Revenue Service, U.S. Department of the Treasury.

Table 278. Liquor stores (SIC 5921): Indexes of output per hour of all persons, output per person, output, hours of all persons, and all persons,¹ 1972-86
(1977 = 100)

Year	Output per hour of all persons	Output per person	Output	Hours of all persons	All persons
Index:					
1972	101.3	102.8	94.2	93.0	91.6
1973	101.2	104.7	96.7	95.6	92.4
1974	99.8	103.5	96.7	96.9	93.4
1975	96.5	99.4	96.5	100.0	97.1
1976	101.0	101.2	98.0	97.0	96.8
1977	100.0	100.0	100.0	100.0	100.0
1978	94.8	92.0	98.4	103.8	106.9
1979	96.5	92.1	101.6	105.3	110.3
1980	101.9	93.1	104.0	102.1	111.7
1981	103.7	93.6	102.1	98.5	109.1
1982	107.8	96.1	99.9	92.7	104.0
1983	101.7	93.9	101.0	99.3	107.6
1984	99.1	89.7	94.4	95.3	105.2
1985 ²	105.9	93.3	98.0	92.5	105.0
1986 ²	109.1	95.3	95.7	87.7	100.4
Average annual percent change:					
1972-86 .....	.5	-.9	.1	-.3	1.0
1981-86 .....	.5	-1	-1.3	-1.8	-1.2

¹ All persons include paid employees, unpaid family workers, and the self-employed.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Labor Statistics and the Bureau of the Census. Persons and hours based on data from the Bureau of Labor Statistics; the Bureau of the Census; and the Internal Revenue Service, U.S. Department of the Treasury.

Table 279. Commercial banking (SIC 602): Indexes of output per employee hour, output per employee, output, employee hours, and employees, 1967-85
(1977=100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees
Index:					
1967	83.8	82.9	52.2	62.3	63.0
1968	85.3	84.4	56.3	66.0	66.7
1969	84.0	83.3	60.0	71.4	72.0
1970	85.5	84.2	64.5	75.4	76.6
1971	88.6	87.5	69.1	78.0	79.0
1972	90.3	89.6	74.3	82.3	82.9
1973	95.9	95.1	83.2	86.8	87.5
1974	89.8	89.5	82.9	92.3	92.6
1975	90.0	89.8	84.6	94.0	94.2
1976	95.0	94.8	91.8	96.6	96.8
1977	100.0	100.0	100.0	100.0	100.0
1978	101.2	101.0	106.0	104.7	104.9
1979	99.3	98.6	108.9	109.7	110.5
1980	92.7	91.7	106.1	114.5	115.7
1981	90.5	90.3	108.1	119.4	119.7
1982	93.2	92.9	113.0	121.3	121.7
1983	101.7	100.8	122.6	120.6	121.6
1984	104.6	104.2	127.8	122.2	122.6
1985 ¹	109.2	108.0	134.7	123.3	124.7
Average annual percent change:					
1967-85	1.2	1.2	5.1	3.9	3.9
1981-85	5.0	4.8	5.8	.7	.9

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Federal Reserve Bank of Atlanta; the Board of Governors, Federal Reserve System; the Federal Deposit Insurance

Corporation; the U.S. Department of Housing and Urban Development; the American Bankers Association; the VISA and Interbank Association; the American Council of Life Insurance; and the National Automatic Clearing House Association. Employment and hours based on data from the Bureau of Labor Statistics.

Table 280. Hotels, motels, and tourist courts (SIC 7011): Indexes of output per hour of all persons, output per person, output, hours of all persons, and all persons,¹ 1958-86
(1977=100)

Year	Output per hour of all persons	Output per person	Output	Hours of all persons	All persons
Index:					
1958	63.7	80.1	47.8	75.0	59.7
1959	64.5	81.0	49.5	76.8	61.1
1960	66.0	82.6	51.7	78.3	62.6
1961	63.9	79.1	50.0	78.2	63.2
1962	68.3	83.5	53.6	78.5	64.2
1963	71.5	87.0	56.2	78.6	64.6
1964	71.7	86.3	57.9	80.7	67.1
1965	77.1	91.8	63.4	82.2	69.1
1966	77.3	90.3	64.6	83.6	71.5
1967	82.9	95.3	69.5	83.8	72.9
1968	80.3	90.9	68.7	85.6	75.6
1969	81.1	90.7	70.6	87.1	77.8
1970	85.1	93.3	73.6	86.5	78.9
1971	76.2	81.7	66.4	87.1	81.3
1972	90.2	95.4	81.2	90.0	85.1
1973	92.1	97.9	86.9	94.4	88.8
1974	89.2	93.5	85.9	96.3	91.9
1975	89.7	91.7	86.2	96.1	94.0
1976	95.7	97.6	94.6	98.9	96.9
1977	100.0	100.0	100.0	100.0	100.0
1978	101.8	101.9	105.3	103.4	103.3
1979	100.0	100.3	111.7	111.7	111.4
1980	95.0	94.5	107.0	112.6	113.2
1981	91.6	91.4	108.0	117.9	118.2
1982	88.8	88.1	106.0	119.4	120.3
1983	95.4	94.8	117.7	123.4	124.1
1984	102.1	101.1	134.0	131.3	132.6
1985 ²	97.5	96.4	136.4	139.9	141.5
1986 ²	92.8	92.4	136.2	146.8	147.4
Average annual percent change:					
1958-86	1.6	.6	3.9	2.2	3.3
1981-86	1.2	1.1	6.0	4.8	4.8

¹ All persons include paid employees and the self-employed.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, persons, and hours based on data from the Bureau of Labor Statistics; Bureau of the Census; and the Internal Revenue Service, U.S. Department of the Treasury.

Table 281. Laundry and cleaning services (SIC 721): Indexes of output per hour of all persons, output per person, output, hours of all persons, and all persons,¹ 1958-86
(1977=100)

Year	Output per hour of all persons	Output per person	Output	Hours of all persons	All persons
Index:					
1958	80.5	91.3	139.8	173.6	153.1
1959	83.5	95.5	145.6	174.3	152.5
1960	79.3	90.6	138.1	174.1	152.5
1961	83.4	94.8	143.8	172.4	151.7
1962	83.4	94.5	144.3	173.1	152.7
1963	83.1	95.9	150.0	180.5	156.4
1964	89.0	101.2	157.5	177.0	155.7
1965	83.7	95.5	151.9	181.4	159.0
1966	89.0	99.1	160.1	179.9	161.6
1967	95.9	103.2	162.3	169.2	157.2
1968	98.8	103.2	159.4	161.4	154.4
1969	97.1	101.7	153.2	157.7	150.6
1970	95.5	98.4	142.2	148.9	144.5
1971	97.5	98.1	130.4	133.8	132.9
1972	99.8	102.2	129.4	129.6	126.6
1973	99.1	103.1	122.1	123.2	118.4
1974	98.3	100.5	111.0	112.9	110.5
1975	96.9	98.1	104.1	107.4	106.1
1976	97.4	98.0	99.7	102.4	101.7
1977	100.0	100.0	100.0	100.0	100.0
1978	104.2	104.4	103.9	99.7	99.5
1979	97.5	97.5	99.5	102.1	102.1
1980	90.6	90.7	94.7	104.5	104.4
1981	88.1	87.1	88.1	100.0	101.2
1982	90.2	87.4	84.6	93.8	96.8
1983	90.1	87.7	87.1	96.7	99.3
1984	92.1	89.9	92.8	100.8	103.2
1985 ²	87.0	86.2	92.7	106.5	107.5
1986 ²	84.9	84.4	92.1	108.5	109.1
Average annual percent change:					
1958-86 .....	.4	-.3	-2.3	-2.7	-2.0
1981-86	-.8	-.5	1.6	2.4	2.1

¹ All persons include paid employees, unpaid family workers, and the self-employed.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, persons, and hours based on data from the Bureau of Labor Statistics; Bureau of the Census and the Bureau of Economic Analysis, U.S. Department of Commerce; and the Internal Revenue Service, U.S. Department of the Treasury.

Table 282. Beauty and barber shops (SIC 7231, 7241): Indexes of output per hour of all persons, output per person, output, hours of all persons, and all persons,¹ 1972-86
(1977=100)

Year	Output per hour of all persons	Output per person	Output	Hours of all persons	All persons
Index:					
1972	105.0	109.0	108.6	103.4	99.6
1973	100.7	105.1	106.7	106.0	101.5
1974	101.4	102.6	101.5	100.1	98.9
1975	98.7	99.3	97.6	98.9	98.3
1976	95.0	95.8	94.4	99.4	98.5
1977	100.0	100.0	100.0	100.0	100.0
1978	103.6	102.9	105.3	101.6	102.3
1979	107.4	104.2	105.6	98.3	101.3
1980	102.9	99.7	103.6	100.7	103.9
1981	109.2	104.7	99.9	91.5	95.4
1982	108.3	101.1	97.8	90.3	96.7
1983	114.1	106.5	109.8	96.2	103.1
1984	103.9	100.5	108.5	104.4	108.0
1985 ²	98.5	97.8	110.8	112.5	113.3
1986 ²	98.7	98.1	113.2	114.7	115.4
Average annual percent change:					
1972-86 .....	.2	-.3	.5	.3	.8
1981-86	-2.5	-1.4	2.9	5.5	4.3

¹ All persons include paid employees and the self-employed.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Labor Statistics and the Bureau of the Census. Persons and hours based on data from the Bureau of Labor Statistics; the Bureau of the Census; and the Internal Revenue Service, U.S. Department of the Treasury.

Table 283. Beauty shops (SIC 7231): Indexes of output per hour of all persons, output per person, output, hours of all persons, and all persons,¹ 1972-86
(1977=100)

Year	Output per hour of all persons	Output per person	Output	Hours of all persons	All persons
Index:					
1972	110.1	112.8	103.9	94.4	92.1
1973	106.2	108.7	102.1	96.1	93.9
1974	106.2	106.1	99.6	93.8	93.9
1975	100.1	99.0	94.5	94.4	95.5
1976	94.3	94.7	91.3	96.8	96.4
1977	100.0	100.0	100.0	100.0	100.0
1978	104.7	104.2	106.2	101.4	101.9
1979	108.0	106.0	108.4	100.4	102.3
1980	106.2	102.7	107.2	100.9	104.4
1981	114.7	109.6	105.1	91.6	95.9
1982	113.1	105.6	103.9	91.9	98.4
1983	120.0	113.3	119.4	99.5	105.4
1984	112.3	108.6	119.7	106.6	110.2
1985 ²	104.0	103.9	121.7	117.0	117.1
1986 ²	103.2	103.2	124.3	120.4	120.4
Average annual percent change:					
1972-86	.5	.1	1.7	1.2	1.6
1981-86	-2.4	-1.1	3.8	6.4	5.0

¹ All persons include paid employees and the self-employed.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Labor Statistics and the Bureau of the Census. Persons and hours based on data from the Bureau of Labor Statistics; the Bureau of the Census; and the Internal Revenue Service, U.S. Department of the Treasury.

Table 284. Automotive repair shops (SIC 753): Indexes of output per hour of all persons, output per person, output, hours of all persons, and all persons,¹ 1972-86
(1977=100)

Year	Output per hour of all persons	Output per person	Output	Hours of all persons	All persons
Index:					
1972	103.5	104.7	83.1	80.3	79.4
1973	104.0	107.5	88.6	85.2	82.4
1974	107.9	111.0	93.1	86.3	83.9
1975	101.9	103.0	92.9	91.2	90.2
1976	104.3	105.4	98.0	94.0	93.0
1977	100.0	100.0	100.0	100.0	100.0
1978	100.9	100.5	106.0	105.1	105.5
1979	100.4	101.2	111.9	111.4	110.6
1980	96.0	96.1	106.8	111.2	111.1
1981	93.6	92.2	103.0	110.0	111.7
1982	87.7	86.6	102.0	116.3	117.8
1983	86.2	85.8	108.4	125.8	126.4
1984	88.5	87.6	119.5	135.1	136.4
1985	96.2	95.1	138.6	144.1	145.7
1986 ²	94.1	93.3	139.1	147.8	149.1
Average annual percent change:					
1972-86	-1.2	-1.5	3.0	4.3	4.6
1981-86	.9	1.0	7.5	6.5	6.4

¹ All persons include paid employees, unpaid family workers, and the self-employed.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Labor Statistics and the Bureau of the Census. Persons and hours based on data from the Bureau of Labor Statistic; the Bureau of the Census; and the Internal Revenue Service, U.S. Department of the Treasury.

Part II. Multifactor Productivity Trends for Selected Industries

Measures of multifactor productivity for the steel and motor vehicle industries are the first measures to be published from the Bureau's industry multifactor productivity project. Measures for additional industries will be published in future issues of this bulletin as they are completed.

In multifactor productivity measures, output is related to combined inputs of labor, capital, and intermediate purchases. The relationship between multifactor productivity and labor productivity (in which output is related only to labor input) is shown in table 285 and is illustrated in charts 2 and 3. Multifactor productivity is equal to output per hour adjusted to remove the effects of changes in capital per hour and intermediate purchases per hour. These effects are measured as the change in the nonlabor to labor input ratio, weighted by the nonlabor input's share in total output. The capital effect, for example, is the change in the capital-labor ratio weighted by capital's share in output. Multifactor productivity measures still reflect the impact of many influences such as economies of scale, capacity utilization, and skill and effort of the work force as well as technological change.

Table 286 presents, for the steel industry, indexes of multifactor productivity and single factor productivity, where output is related to each single input factor alone. Table 287 presents the indexes of output, combined inputs, and inputs of labor, capital, and intermediate purchases separately. Tables 288 and 289 present these same indexes for the motor vehicle and equipment industry. A discussion of productivity trends for these two industries follows here.

Table 285. Multifactor productivity growth and its relationship to output per hour, steel and motor vehicles and equipment, 1958-85

(Average annual percent change)

Measure	Steel	Motor vehicles and equipment
Multifactor productivity	0.9	1.2
equals		
Output per hour	2.2	2.9
minus		
Capital effect ¹	0.2	(²)
and minus		
Intermediate purchases effect ³	1.0	1.6

¹ The capital effect is the change in capital relative to labor over the given time period weighted by the share of capital in total output.

² Less than 0.05 percent.

³ The intermediate purchases effect is the change in intermediate purchases relative to labor over the given time period weighted by the share of intermediate purchases in total output.

Steel (SIC 331)

Multifactor productivity in the steel industry grew at an average annual rate of 0.9 percent per year between 1958 and 1985 as output rose at a rate of 0.4 percent and combined inputs fell 0.6 percent per year. This performance compared with growth of 2.2 percent per year in output per hour. The difference between the growth rate of labor productivity (output per hour) and that of multifactor productivity was attributable to a 0.2-percent average annual growth in the capital effect (the change in the capital-labor ratio weighted by the capital share of about 15 percent) and a 1.0-percent intermediate purchases effect (the change in the ratio of intermediate purchases to labor weighted by the intermediate purchases share of about 50 percent). (See chart 2.)

Movements of multifactor productivity in both the steel and motor vehicle industries varied considerably depending on the period being examined. Peak-to-peak periods are examined here in order to remove the effects of cyclical movements in output. The steel industry experienced a noticeable slowdown in multifactor productivity during the mid- to late 1970's, followed by an acceleration during the early to mid-1980's.

Between 1960 and 1974, multifactor productivity grew at a rate of about 1.1 percent per year, as output growth (2.8 percent per year) exceeded the growth in inputs (1.7 percent per year). The increase in labor hours was relatively slow, resulting in increases in the capital-labor and intermediate purchases-labor ratios over the period.

Between 1974 and 1979, multifactor productivity fell by 0.1 percent per year as output showed no change on average while inputs rose only 0.1 percent per year. During the 1974-79 period, capital investment declined, resulting in the short run in increased obsolescence of plant and equipment and a less efficient use of intermediate purchases. Intermediate purchases rose slightly during this period while labor hours and capital both declined, resulting in an increase in the intermediate purchases-labor ratio and almost no change in the capital-labor ratio.

Industry output contracted in the third period (1979-85), but multifactor productivity accelerated considerably, gaining 3.4 percent per year, on average. Combined inputs declined faster than output (-9.2 versus -6.1 percent per year) as the restructuring of the industry, begun in the previous period, continued. Some large, integrated mills with obsolescent plants and equipment closed, while diffusion of technological changes such as the electric arc furnace and the

Chart 2. Multifactor productivity for steel (SIC 331), 1958-85

(Multifactor productivity equals output per hour minus the effects of capital and intermediate purchases)

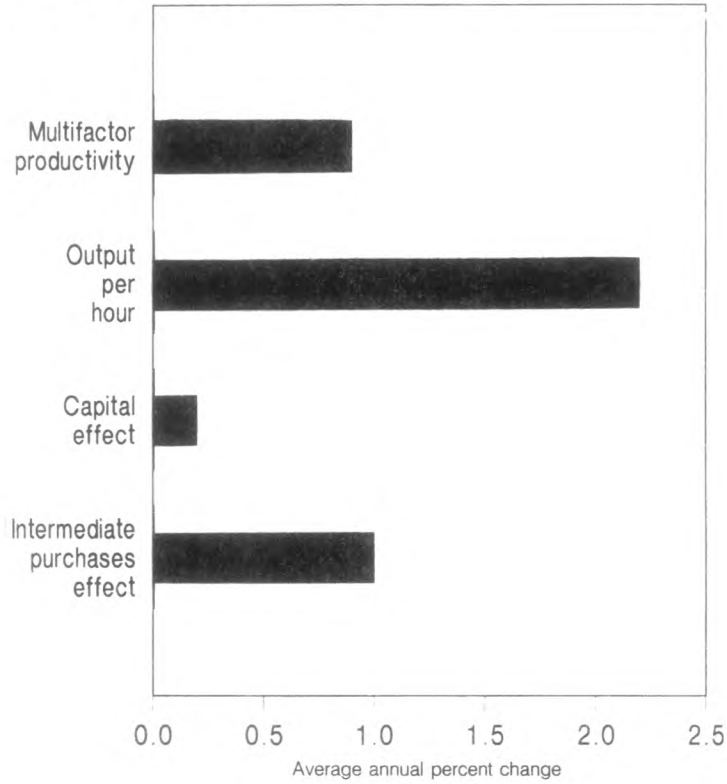
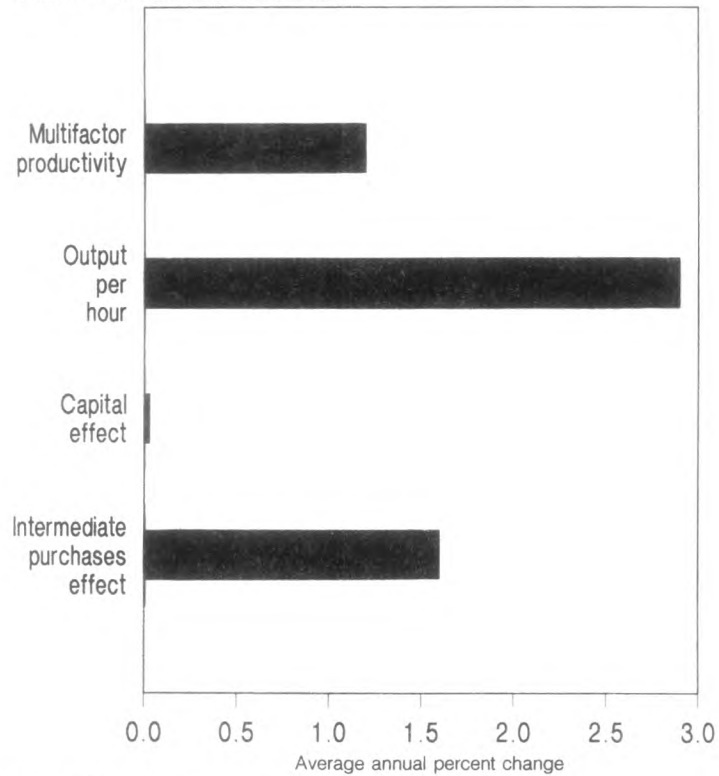


Chart 3. Multifactor productivity for motor vehicles and equipment (SIC 371), 1958-85

(Multifactor productivity equals output per hour minus the effects of capital and intermediate purchases)



SOURCE: Bureau of Labor Statistics, U.S. Department of Labor.

continuous casting method increased. Labor hours fell faster than capital or intermediate purchases in this period, and both the capital-labor and intermediate purchases-labor ratios increased.

Motor vehicles and equipment (SIC 371)

Multifactor productivity in the motor vehicle and equipment industry grew at an average annual rate of 1.2 percent per year between 1958 and 1985, as output gains averaged 3.8 percent per year and combined inputs rose at a 2.5-percent rate. Labor productivity (output per hour) grew by 2.9 percent per year. The difference between the growth of labor productivity and that of multifactor productivity was almost entirely attributable to the intermediate purchases effect. Changes in the capital-labor ratio were so slight as to have virtually no effect on labor productivity over the period as a whole (chart 3).

Unlike the manufacturing sector as a whole, the motor vehicle industry did not experience a multifactor productivity slowdown during the 1970's. The industry did experience such a slowdown in the early 1980's, however. From 1960 to 1973, multifactor productivity in the motor vehicle industry grew at a rate of 1.2 percent per year, on average. Motor vehicle output increased an average of 5.7 percent per year, while combined inputs increased 4.5 percent per year. Intermediate purchases increased much faster than did capital or labor, however, and the increase in the intermediate purchases-labor ratio contributed more to labor productivity

than did multifactor productivity during that period.

Motor vehicle output rose at about the same average annual rate—5.8 percent—between 1973 and 1978 as between 1960 and 1973. However, multifactor productivity grew at a faster rate in the second period (2.1 versus 1.2 percent), as input growth slowed to 3.7 percent on average. Intermediate purchases growth slowed relative to output growth during this period, partly resulting from the downsizing of automobiles. Growth in labor hours and capital slowed even more, however. Capital growth in particular was slow in the second period, resulting in a declining capital-labor ratio during that time, while the intermediate purchases-labor ratio increased. While the change in the capital-labor ratio had a slight contributory effect in explaining the difference between labor productivity and multifactor productivity in the first period, its impact was slightly negative in the second period.

From 1978 to 1985, output continued to grow, but at a much slower rate (1.7 percent per year, on average) than it had during the first two periods. The rate of growth of combined inputs also slowed (to 0.9 percent per year), but not as much as output growth. The result was a slowdown in multifactor productivity growth to a rate of 0.8 percent during this period. Both labor and capital declined during this period; intermediate purchases increased, however. The intermediate purchases effect made up the entire difference between labor productivity and multifactor productivity during this period and in fact was a larger source of the growth in labor productivity than was multifactor productivity.

Table 286. Steel (SIC 331): Multifactor and related productivity indexes,¹ 1958-85
(1977=100)

Year	Multifactor productivity	Output per hour	Output per unit of capital	Output per unit of intermediate purchases
Index:				
1958	84.9	65.8	76.1	106.2
1959	90.1	73.0	87.2	105.5
1960	86.0	69.2	87.4	99.2
1961	87.4	71.9	82.7	101.9
1962	87.9	74.0	85.2	99.9
1963	91.5	78.1	91.8	101.5
1964	98.0	82.4	103.6	107.3
1965	100.9	85.3	108.9	109.3
1966	100.9	87.4	105.8	109.0
1967	92.9	84.8	93.4	98.5
1968	93.4	86.4	93.9	97.9
1969	94.5	88.4	95.8	98.1
1970	93.0	86.7	88.6	98.8
1971	94.4	90.7	85.4	99.7
1972	96.6	96.4	94.4	97.2
1973	104.0	103.8	112.9	101.6
1974	110.7	109.4	121.8	108.2
1975	95.6	96.0	92.7	95.9
1976	100.8	99.8	97.9	101.9
1977	100.0	100.0	100.0	100.0
1978	104.8	105.2	110.0	103.6
1979	104.4	106.6	114.3	101.5
1980	102.4	105.8	99.5	100.7
1981	101.6	112.1	108.2	95.5
1982	96.4	98.1	72.5	96.8
1983	115.0	119.5	82.6	114.0
1984	119.4	131.3	95.4	113.6
1985 ²	123.6	140.5	97.3	116.0
Average annual percent change:				
1958-85	.9	2.2	.4	.1
1981-85	6.2	7.7	.6	5.6

¹ The output measures underlying the productivity indexes relate to the total net production of the industry. They do not relate to the specific output of any single factor of production.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the American Iron and Steel Institute; the Energy Information Administration, U.S. Department of

Energy; and the Bureau of the Census. Hours based on data from the American Iron and Steel Institute and the Bureau of Labor Statistics. Capital based on data from the Internal Revenue Service, U.S.

Department of the Treasury; Moody's Investor's Service; the Bureau of Economic Analysis, U.S. Department of Commerce; the Bureau of the Census; and the Bureau of Labor Statistics. Intermediate purchases based on data from the Bureau of Economic Analysis; the Bureau of the Census; and the Bureau of Labor Statistics.

Table 287. Steel (SIC 331): Output and input indexes, 1958-85
(1977=100)

Year	Output	Combined inputs	Hours	Capital	Intermediate purchases
Index:					
1958	66.7	78.5	101.3	87.7	62.8
1959	76.2	84.6	104.5	87.4	72.2
1960	77.1	89.6	111.4	88.2	77.7
1961	74.4	85.1	103.4	90.0	73.0
1962	76.6	87.2	103.6	89.9	76.7
1963	82.1	89.8	105.2	89.4	80.9
1964	94.3	96.3	114.5	91.0	87.9
1965	102.0	101.1	119.6	93.7	93.3
1966	103.3	102.3	118.1	97.6	94.8
1967	96.0	103.4	113.3	102.8	97.5
1968	100.2	107.3	115.9	106.7	102.3
1969	104.3	110.4	118.1	108.9	106.3
1970	97.1	104.4	112.1	109.6	98.3
1971	92.2	97.7	101.7	107.9	92.5
1972	99.3	102.8	102.9	105.2	102.2
1973	116.2	111.7	111.9	102.9	114.4
1974	122.4	110.5	111.9	100.5	113.1
1975	93.0	97.2	96.8	100.3	97.0
1976	98.4	97.6	98.6	100.5	96.6
1977	100.0	100.0	100.0	100.0	100.0
1978	108.7	103.7	103.3	98.8	104.9
1979	111.3	106.6	104.5	97.4	109.7
1980	95.3	93.1	90.1	95.8	94.6
1981	102.0	100.4	91.0	94.3	106.8
1982	66.6	69.1	67.9	91.8	68.8
1983	72.4	63.0	60.6	87.7	63.5
1984	80.0	67.0	60.9	83.9	70.4
1985 ¹	78.1	63.2	55.6	80.3	67.3
Average annual percent change:					
1958-85	.4	-.6	-1.8	-.1	-.3
1981-85	-3.5	-9.1	-10.4	-3.9	-8.6

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the American Iron and Steel Institute; the Energy Information Administration, U.S. Department of Energy; and the Bureau of the Census. Hours based on data from the American Iron and Steel Institute and the

Bureau of Labor Statistics. Capital based on data from the Internal Revenue Service, U.S. Department of the Treasury; Moody's Investor's Service; the Bureau of Economic Analysis, U.S. Department of Commerce; the Bureau of the Census; and the Bureau of Labor Statistics. Intermediate purchases based on data from the Bureau of Economic Analysis; the Bureau of the Census; and the Bureau of Labor Statistics.

Table 288. Motor vehicles and equipment (SIC 371): Multifactor and related productivity indexes,¹ 1958-85 (1977 = 100)

Year	Multifactor productivity	Output per hour	Output per unit of capital	Output per unit of intermediate purchases
Index:				
1958	64.3	47.2	36.1	86.6
1959	70.5	51.6	47.2	90.6
1960	74.2	56.1	53.9	91.4
1961	73.8	56.8	48.6	93.4
1962	80.4	62.2	63.8	94.9
1963	84.2	64.9	70.4	97.6
1964	83.9	65.4	68.2	97.7
1965	87.1	69.8	76.7	97.3
1966	85.2	69.8	71.0	96.4
1967	81.4	70.0	61.9	92.6
1968	87.8	76.0	73.6	96.9
1969	88.2	74.4	70.8	99.9
1970	81.8	71.4	56.3	95.1
1971	85.6	83.0	72.3	90.1
1972	89.2	84.7	79.4	93.3
1973	92.4	86.1	87.4	95.8
1974	91.5	82.2	71.8	100.7
1975	93.1	88.1	68.6	101.5
1976	97.9	94.1	89.5	101.4
1977	100.0	100.0	100.0	100.0
1978	100.1	99.6	98.0	100.7
1979	98.8	97.5	86.8	102.0
1980	89.6	89.8	61.8	95.0
1981	90.3	92.0	62.9	95.1
1982	90.9	96.2	57.2	95.6
1983	96.7	109.4	80.7	94.1
1984	101.1	115.3	104.1	93.9
1985 ²	105.1	121.2	110.9	96.7
Average annual percent change:				
1958-85	1.2	2.9	2.1	.2
1981-85	4.2	7.6	18.9	.2

¹ The output measures underlying the productivity indexes relate to the total net production of the industry. They do not relate to the specific output of any single factor of production.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from company records; the Motor Vehicle Manufacturers Association of the U.S., Inc.; the Gousha/Times Mirror Company (Automobile Invoice Service); Ward's Communications,

Inc. (Ward's Automotive Yearbooks); the Bureau of the Census; and the Bureau of Labor Statistics. Hours based on data from the Bureau of Labor Statistics and company records. Capital based on data from the Internal Revenue Service, U.S. Department of the Treasury; Moody's Investor's Service; the Bureau of Economic Analysis, U.S. Department of Commerce; the Bureau of the Census; and the Bureau of Labor Statistics. Intermediate purchases based on data from the Bureau of Economic Analysis; the Bureau of the Census; and the Bureau of Labor Statistics.

Table 289. Motor vehicles and equipment (SIC 371): Output and input indexes, 1958-85 (1977 = 100)

Year	Output	Combined inputs	Hours	Capital	Intermediate purchases
Index:					
1958	27.7	43.1	58.8	76.7	32.0
1959	35.7	50.6	69.1	75.6	39.4
1960	40.5	54.6	72.1	75.2	44.3
1961	35.1	47.5	61.7	72.2	37.6
1962	44.3	55.1	71.1	69.4	46.7
1963	49.6	58.9	76.5	70.5	50.8
1964	51.0	60.8	78.0	74.8	52.2
1965	62.4	71.6	89.3	81.4	64.1
1966	62.2	72.9	89.1	87.6	64.5
1967	56.6	69.6	80.9	91.4	61.1
1968	69.1	78.7	90.9	93.9	71.3
1969	68.7	77.8	92.3	97.0	68.8
1970	55.8	68.2	78.2	99.1	58.7
1971	70.1	81.9	84.5	97.0	77.8
1972	76.8	86.1	90.6	96.7	82.3
1973	88.2	95.5	102.4	100.9	92.1
1974	73.7	80.5	89.7	102.7	73.2
1975	68.2	73.2	77.4	99.4	67.2
1976	86.0	87.9	91.4	96.1	84.8
1977	100.0	100.0	100.0	100.0	100.0
1978	104.2	104.1	104.7	106.3	103.5
1979	96.2	97.3	98.7	110.8	94.3
1980	68.9	76.9	76.8	111.5	72.5
1981	71.9	79.6	78.1	114.3	75.6
1982	65.9	72.5	68.5	115.3	68.9
1983	85.2	88.0	77.9	105.6	90.5
1984	104.2	103.1	90.4	100.1	111.0
1985 ¹	111.9	106.5	92.4	100.9	115.7
Average annual percent change:					
1958-85	3.8	2.5	.9	1.7	3.6
1981-85	14.4	9.8	6.3	-3.7	14.2

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from company records; the Motor Vehicle Manufacturers Association of the U.S., Inc.; the Gousha/Times Mirror Company (Automobile Invoice Service); Ward's Communications, Inc. (Ward's Automotive Yearbooks); the Bureau of the Census; and the Bureau of Labor Statistics. Hours

based on data from the Bureau of Labor Statistics and company records. Capital based on data from the Internal Revenue Service, U.S. Department of the Treasury; Moody's Investor's Service; the Bureau of Economic Analysis, U.S. Department of Commerce; the Bureau of the Census; and the Bureau of Labor Statistics. Intermediate purchases based on data from the Bureau of Economic Analysis; the Bureau of the Census; and the Bureau of Labor Statistics.

Part III. Labor Productivity Trends for Selected Government Functions and Services

Federal Government

Current developments

Output per employee year increased 1.7 percent in fiscal 1986 in the measured sample of Federal Government organizations (table 290). This gain reflected a 2.3-percent increase in output and a 0.6-percent increase in employee years. The 1986 productivity rate surpassed the 1985 rate of 0.7 percent.

The measure covers a sample of Federal agencies drawn from 60 agencies and representing 380 organizational units in fiscal 1986. The organizations included 2.0 million Executive Branch civilian employees representing 68 percent of the total Federal civilian labor force. Agency employee coverage ranged from 100 percent to 1.2 percent.

The Federal organizational units are divided into 28 functional categories based on similarity of tasks performed (for example, auditing, medical, personnel, transportation) to better identify and understand the forces which affect Federal productivity. (See table 291.) The change in output per employee year for the 28 functions in 1986 ranged from an increase of 8.4 percent for regulation—compliance and enforce-

ment—to a decline of 7.5 percent for traffic management. Productivity increased in 19 functions and decreased in 9.

The regulation—compliance and enforcement—function included 64 organizations in 1986 that enforced Federal rules, regulations, and laws. Organizational examples include coal mine inspection, hazardous substance response, customs, and consumer product safety. The 8.4-percent increase in productivity in this function in 1986 was driven by a 9.1-percent increase in output; labor input increased 0.7 percent. The 1985 increase in productivity was 2.8 percent.

The traffic management function, which includes those organizations responsible for arranging for the movement of people and goods, showed a 7.5-percent drop in productivity in 1986. Both output and employee years declined in 1986, but the 8.1-percent decrease in output exceeded the 0.7-percent drop in employment. Each of the three organizational units that were included under this function experienced decreasing output in 1986.

The postal service function, the largest of the 28 functions in terms of employees, includes only a single organization, the U.S. Postal Service. In 1986, its productivity grew 1.3 percent, up from 0.4 percent in 1985. During 1986, output increased 4.4 percent while labor increased 3.0 percent.

Table 290. Federal Government—Total sample: Indexes of output per employee year and related data, 1967–86
(1977 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	86.5	86.4	99.9	43.9	50.7
1968	87.5	89.6	102.5	46.1	52.7
1969	89.6	92.5	103.3	49.5	55.3
1970	90.0	92.8	103.1	55.1	61.3
1971	91.4	94.0	102.8	61.5	67.3
1972	92.0	94.2	102.4	66.0	71.7
1973	94.6	95.7	101.2	69.9	74.0
1974	94.1	95.9	101.9	75.7	80.4
1975	95.5	97.5	102.1	83.0	86.9
1976	97.1	98.3	101.1	91.8	94.5
1977	100.0	100.0	100.0	100.0	100.0
1978	101.7	102.3	100.6	106.8	105.1
1979	102.3	103.1	100.7	113.7	111.2
1980	104.5	106.1	101.5	123.1	117.8
1981	107.0	107.6	100.5	134.8	126.0
1982	108.6	108.9	100.3	143.6	132.3
1983	110.3	111.7	101.3	150.6	136.5
1984	110.6	114.4	103.4	157.5	142.4
1985	111.3	117.4	105.5	165.6	148.8
1986 ¹	113.2	120.1	106.1	170.8	150.8
Average annual percent change:					
1967–86	1.5	1.6	.1	7.9	6.3
1981–86	1.0	2.3	1.3	4.8	3.8

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 291. Definitions of functional categories

<ol style="list-style-type: none">1. Audit of operations: Organizations responsible for reviewing, evaluating, and analyzing Federal programs and operations.2. Buildings and grounds: Organizations responsible for the construction, maintenance, repair, alteration, services, and security of Federal buildings, installations, or grounds.3. Communications: Organizations responsible for processing messages and performing telecommunications services.4. Education and training: Organizations responsible for providing general or specialized education or training.5. Electric power production and distribution: Organizations responsible for generating, transmitting, or selling electricity.6. Equipment maintenance: Organizations responsible for the maintenance and repair of motor vehicles and equipment and the calibration of instruments.7. Finance and accounting: Organizations responsible for maintaining accounting records, processing payroll vouchers and invoices, and related activities.8. General support services: Organizations performing overall administrative and supportive activities including automatic data processing, internal mail delivery, graphics, and planning.9. Information services: Organizations responsible for preparing or distributing statistical, scientific, technical, or other information.10. Legal and judicial activities: Organizations responsible for instituting proceedings in a court or administrative tribunal or rendering decisions in a judicial capacity.11. Library services: Organizations responsible for providing research and reference services for Federal agencies, Congress, or the public.12. Loans and grants: Organizations responsible for issuing research grants, making awards, offering various types of loans, and borrowing funds from the public.13. Medical services: Organizations responsible for operating health care facilities and providing medical, hospital, dental, laboratory, or nursing service for disease prevention or treatment.14. Military base services: Military organizations responsible for providing commissary, laundry, dry cleaning, or food services.	<ol style="list-style-type: none">15. Natural resources and environmental management: Organizations responsible for developing or overseeing programs which affect natural resources or the environment.16. Personnel investigations: Organizations responsible for conducting personnel security checks or criminal investigations of Federal employees.17. Personnel management: Organizations responsible for providing personnel services including recruitment, position classification, employee development, and equal employment opportunity counseling.18. Postal service: U.S. Postal Service, which delivers mail and provides related services (SIC 4311).19. Printing and duplication: Organizations responsible for printing or reproducing reports, manuals, circulars, or other documents.20. Procurement: Organizations responsible for purchasing supplies, equipment, or services.21. Records management: Organizations responsible for maintaining, classifying, storing, or searching records.22. Regulation—compliance and enforcement: Organizations engaged in activities to ensure compliance with established rules and regulations.23. Regulation—rulemaking and licensing: Organizations responsible for issuing licenses, permits, or other authorizations in government-controlled activities.24. Social services and benefits: Organizations responsible for the payment of benefits or claims, or for improving the welfare of the public or a special group.25. Specialized manufacturing: Organizations involved in the production of physical outputs such as helium, munitions, chemicals, and currency.26. Supply and inventory control: Organizations responsible for distributing supplies and equipment and for the management of inventories.27. Traffic management: Organizations responsible for arranging for the movement of people or cargo.28. Transportation: Organizations responsible for moving or assisting in the movement of people or cargo.
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Long-term trends

Over the long term, 1967-86, output per employee year in the Federal sample rose at an average annual rate of 1.5 percent (chart 4). The year-to-year changes in productivity ranged from a decline of 0.5 percent in 1974, the only year in which productivity declined, to an increase of 2.9 percent in 1977. The overall increase in Federal productivity reflected an average rise of 1.6 percent in output and a 0.1-percent increase in labor input. Output increased annually at rates ranging from 0.2 percent in 1974 to 3.7 percent in 1968. Annual rates of change in employee years ranged from a drop of 1.2 percent in 1973 to an increase of 2.6 percent in 1968.

Long-term productivity trends for the 28 functions range from a 10.9-percent annual growth for communications to a 2.9-percent annual decline for electric power production and distribution. The latter function is the only one to show a decline over the long term.

Shifts in program emphasis and delivery of government services over the long term are reflected in both output and employee year trends. In almost one-fourth (6 of 28) of the functions, output indexes declined. Long-term output trends

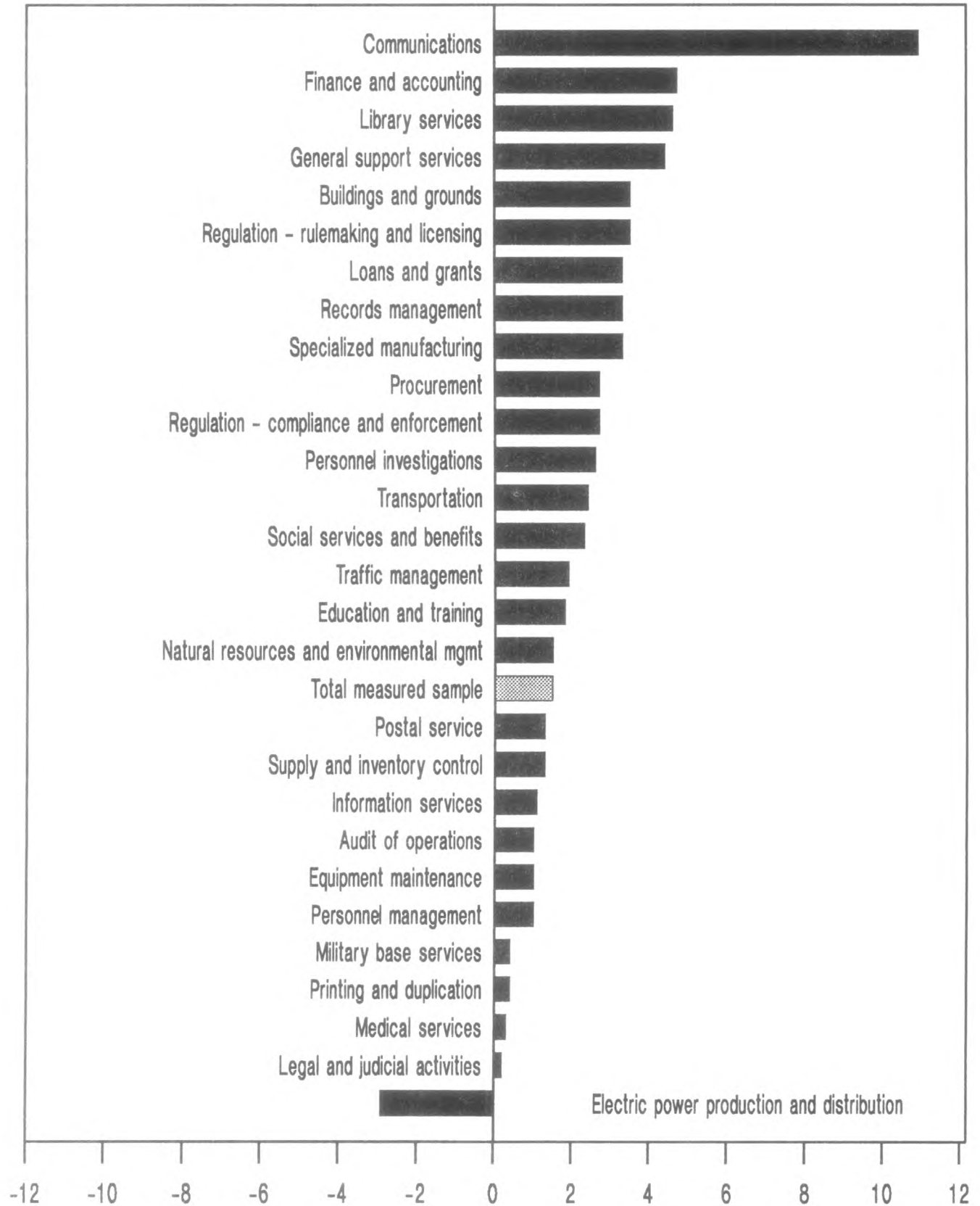
ranged from an annual average increase of 10.4 percent for communications to a 2.8-percent average annual decline for military base services; in the latter case there has been a movement to contract out operations. Long-term employee year trends ranged from a 4.7-percent average annual increase for electric power production and distribution to an average annual decline of 3.9 percent for supply and inventory control.

Communications had the largest average annual increase in productivity over the long term (10.9 percent for 1973-86) of any of the 28 functions. Between 1973 and 1982, productivity increased at an average annual rate of 11.8 percent. However, the increase has slowed dramatically in recent years. Between 1982 and 1986 the average annual percent increase was 6.7 percent, and in 1986 it was 4.5 percent. The six organizations that were included in this functional group in 1986 were in the Department of Defense, the Federal Emergency Management Agency, and the Department of State.

The function with the second largest long-term average annual increase in productivity (4.7 percent) was finance and accounting, which includes internal government operations

Chart 4. Output per employee year in the Federal Government by functional category and for total measured sample, fiscal years 1967-86

(Average annual percent change)



SOURCE: Bureau of Labor Statistics, U.S. Department of Labor.

such as payroll and voucher operations, and final government services, such as Treasury bill and bond sales to the public. In 1986, there were 18 organizations included under this function. Finance and accounting productivity, which has improved in 15 of the 18 years measured, has been driven by the automation of many of the routine processing operations. In one organization that serves the public, productivity doubled in one year as output mushroomed, operations were mechanized, and employment was held roughly constant.

Electric power production and distribution registered the only long-term decrease in productivity of the 28 functions. Productivity has decreased in 12 of the 18 years measured, which is a reflection of decreasing output, particularly in recent years. Employment has been cut back over the past 6 years, but the decrease in output has exceeded the cut in input by a wide margin.

Compensation and unit labor cost

Compensation per employee year, which includes fringe benefits as well as salaries and wages, in the Federal agencies increased 3.1 percent in fiscal 1986. Unit labor cost, which reflects the interaction of changes in employee compensation and productivity, increased 1.4 percent in 1986. The 1985 rates were 5.2 percent for compensation per employee year and 4.5 percent for unit labor cost.

In 1986, changes in compensation per employee year for the 28 functions ranged from an increase of 12.2 percent for electric power production and distribution to a decrease of 3.3 percent for traffic management. Traffic management, and natural resources and environmental management were the only two functions that showed decreasing compensation per employee year. The change in unit labor cost ranged from a 20.5-percent increase for electric power production and distribution to a 5.9 percent decrease for regulation—compliance and enforcement. Six of the 28 functions showed decreasing unit labor cost in 1986.

Over the long term, compensation per employee year increased at an average annual rate of 7.9 percent between 1967 and 1986, with increases ranging from 11.6 percent in 1971 to 3.1 percent in 1986. While compensation per employee year has increased every year, the rate of increase has slowed, particularly in recent years. The average annual increase was 9.0 percent between 1967 and 1972; 8.9 between 1972 and 1977; 7.7 between 1977 and 1982; and 4.5 between 1982 and 1986. The 1986 figure of 3.1 percent was the smallest since measurement was begun in 1967.

Unit labor cost increased at an annual rate of 6.3 percent between 1967 and 1986. The largest increase was 10.8 percent in 1970, the smallest, 1.4 percent in 1986. Like compensation, unit labor cost has increased every year, with the rate of increase slowing as time progressed: 7.6 percent between 1967 and 1972; 7.3 between 1972 and 1977; 5.9 between 1977 and 1982; and 3.6 between 1982 and 1986. This is a reflection of progressively smaller increases in compensation and increasing productivity.

The average annual increase in compensation per employee year in the 28 functions ranged from a high of 8.8 percent for the Postal Service, where employees bargain for compensation, to a low of 5.5 percent in personnel management and in procurement, both part of general government operations, where employees are not permitted to bargain over compensation. The change in unit labor cost ranged from a 10.0-percent average annual increase for electric power production and generation to an average annual decrease of 3.4 percent for communications.

Communications was the only function that registered a long-term decrease in unit labor cost, a reflection of rapidly increasing productivity. Between 1973 and 1982, productivity increased at an average annual rate of 11.8 percent, while compensation increased at an average annual rate of 7.5 percent, resulting in a decrease in unit labor cost of 3.8 percent. More recently, productivity growth has slowed and unit labor cost has increased. In 1986, unit labor cost increased 3.4 percent.

The electric power production and distribution function registered the largest average annual increase in unit labor cost, 10.0 percent. Unit labor cost has risen rapidly throughout the measured period—an average annual increase of 2.9 percent between 1967 and 1972; 11.2 percent between 1972 and 1977; 12.7 percent between 1977 and 1982; and 13.7 percent between 1982 and 1986. The increases are primarily a reflection of changes in productivity, as noted above, which have been kindled by oil embargoes, recessions, inflation, high interest rates, and problems with nuclear plant construction and operation.

State and Local Government

Electric services (SIC 4911)

State and local government electric power services output per employee year increased 0.4 percent in 1985, the last year for which data are available, as output and employment increased 2.9 and 2.5 percent respectively. In 1984, output and employment also increased but productivity dropped as employment grew more rapidly than output. The long-term productivity trend (1967-85) shows an average annual increase of 1.7 percent, with output increasing at a rate of 3.3 percent and employment increasing at 1.6 percent. However, over the 1980-85 period, productivity trends declined at an average annual rate of 1.5 percent as employment increased at a more rapid rate than output (2.9 versus 1.2 percent).

Unemployment insurance (SIC 9441 pt.)

State unemployment insurance productivity increased 4.8 percent in fiscal 1986 as output dropped 3.1 percent and inputs were cut 7.4 percent. In 1985, productivity increased 2.9 percent and output and employment dropped 1.2 percent and 4.1 percent respectively. The decrease in output over the past 3 years is a reflection of decreasing unemployment in the

Nation and the resulting drop in unemployment insurance claims and payments. The long-term (1963-86) average annual increase in productivity was 0.9 percent, with output increasing at an average annual rate of 4.0 percent and labor increasing at 3.0 percent. The trends, marked by five distinct cycles, generally followed the business cycle.

State sales of alcoholic beverages

Output per employee year dropped 1.6 percent in 1985,

the latest year for which data are available, as output and input dropped 2.6 and 1.1, respectively. In 1984, productivity increased as output and employment dropped. The drop in output and input in 1984 and 1985 was a continuation of trends that started in 1978, trends which reflect decreasing demand for spirits and a shift in several States from government to private sector operations.

Table 292. Federal Government—Audit of operations: Indexes of output per employee year and related data, 1967-86
(1977=100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	78.4	113.3	144.6	48.9	62.3
1968	82.8	124.3	150.1	51.9	62.6
1969	90.1	129.0	143.2	55.5	61.6
1970	90.3	120.4	133.4	64.3	71.2
1971	79.0	96.6	122.3	70.1	88.7
1972	83.3	94.6	113.6	75.6	90.7
1973	89.2	99.8	111.9	78.1	87.5
1974	94.7	106.8	112.7	82.4	86.9
1975	99.2	114.0	115.0	85.2	86.0
1976	97.1	105.5	108.7	93.1	95.9
1977	100.0	100.0	100.0	100.0	100.0
1978	102.6	104.9	102.2	108.6	105.8
1979	100.8	102.1	101.3	115.4	114.5
1980	97.6	101.4	103.9	117.2	120.1
1981	97.0	102.9	106.1	126.1	130.1
1982	93.3	98.3	105.4	149.4	160.2
1983	95.3	102.0	107.0	159.6	167.6
1984	97.9	105.3	107.6	166.2	169.8
1985	100.6	108.4	107.7	172.5	171.4
1986 ¹	93.7	101.3	108.2	178.9	191.0
Average annual percent change:					
1967-86	1.0	-.7	-1.6	7.1	6.1
1981-86	.2	.7	.5	6.5	6.3

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 293. Federal Government—Buildings and grounds: Indexes of output per employee year and related data, 1967-86
(1977=100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	79.3	97.7	123.1	40.1	50.5
1968	78.1	96.9	124.0	41.6	53.3
1969	78.7	94.6	120.1	46.1	58.5
1970	77.2	92.1	119.3	51.8	67.2
1971	76.3	93.4	122.4	56.3	73.8
1972	79.0	94.5	119.6	63.1	79.9
1973	77.0	87.6	113.9	68.1	88.5
1974	80.9	89.8	110.9	75.4	93.1
1975	91.7	103.4	112.7	80.2	87.5
1976	94.1	102.5	108.9	89.1	94.6
1977	100.0	100.0	100.0	100.0	100.0
1978	102.6	102.6	100.0	102.9	100.3
1979	109.0	106.7	97.9	110.7	101.6
1980	109.7	109.3	99.6	112.7	102.7
1981	122.1	116.0	95.0	125.8	103.0
1982	127.0	115.3	90.8	130.4	102.6
1983	127.9	114.4	89.4	124.8	97.5
1984	130.4	116.4	89.2	127.0	97.4
1985	128.8	116.0	90.0	129.6	100.6
1986 ¹	125.3	110.9	88.5	137.9	110.0
Average annual percent change:					
1967-86	3.5	1.4	-2.0	7.1	3.5
1981-86	.5	-.5	-1.1	1.3	.8

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 294. Federal Government-Communications: Indexes of output per employee year and related data, 1973-86
(1977=100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1973	70.0	68.8	98.3	76.5	109.3
1974	74.6	77.0	103.2	82.0	109.9
1975	82.5	82.9	100.6	89.5	108.5
1976	88.1	89.6	101.8	96.2	109.2
1977	100.0	100.0	100.0	100.0	100.0
1978	111.1	111.4	100.3	107.3	96.5
1979	112.8	113.5	100.7	114.6	101.6
1980	145.0	142.7	98.4	118.7	81.9
1981	178.4	167.4	93.8	136.4	76.5
1982	183.2	166.8	91.0	155.7	84.9
1983	196.1	185.5	94.6	156.3	79.7
1984	213.8	209.1	97.8	162.7	76.1
1985	226.1	223.9	99.0	170.8	75.5
1986 ¹	236.3	232.7	98.5	184.5	78.1
Average annual percent change:					
1973-86	10.9	10.4	-4	7.1	-3.4
1981-86	6.2	7.9	1.5	5.4	-8

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 295. Federal Government-Education and training: Indexes of output per employee year and related data, 1968-86
(1977=100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1968	91.5	98.5	107.6	49.1	53.6
1969	91.6	107.8	117.7	53.2	58.0
1970	83.4	109.3	131.0	56.5	67.7
1971	84.0	109.3	130.1	61.9	73.7
1972	86.9	113.1	130.2	71.5	82.3
1973	84.9	109.6	129.1	73.6	86.7
1974	83.5	100.5	120.3	80.0	95.7
1975	81.0	95.3	117.7	85.3	105.4
1976	88.5	93.5	105.6	91.0	102.8
1977	100.0	100.0	100.0	100.0	100.0
1978	98.7	95.3	96.5	103.6	104.9
1979	104.8	95.5	91.1	108.8	103.7
1980	105.4	99.1	94.0	118.3	112.2
1981	115.8	100.6	86.8	132.8	114.6
1982	111.8	106.4	95.2	141.8	126.9
1983	109.2	105.0	96.1	150.1	137.4
1984	108.1	106.3	98.3	157.3	145.5
1985	108.6	109.0	100.4	164.3	151.4
1986 ¹	109.2	110.9	101.5	173.5	158.8
Average annual percent change:					
1968-86	1.8	(²)	-1.8	7.4	5.5
1981-86	-1.1	1.7	2.8	5.4	6.5

¹ Preliminary.

² Less than .05 percent.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 296. Federal Government—Electric power: production and distribution: Indexes of output per employee year and related data, 1967–86
(1977=100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	86.9	38.9	44.7	45.9	52.9
1968	94.8	49.5	52.2	48.8	51.5
1969	103.1	55.8	54.1	52.8	51.3
1970	111.1	64.6	58.1	56.9	51.2
1971	107.5	73.4	68.3	62.9	58.6
1972	114.1	83.1	72.8	68.1	59.6
1973	112.6	76.2	67.7	71.8	63.7
1974	110.3	74.8	67.8	75.6	68.5
1975	108.2	80.0	74.0	81.3	75.2
1976	104.1	87.1	83.7	93.6	89.9
1977	100.0	100.0	100.0	100.0	100.0
1978	102.2	123.4	120.7	107.7	105.4
1979	90.7	123.4	136.2	115.6	127.5
1980	92.2	127.7	138.5	120.7	131.0
1981	85.6	118.4	138.3	120.6	140.9
1982	62.8	76.8	122.3	121.5	193.4
1983	77.9	83.3	106.9	132.9	170.6
1984	67.2	65.9	98.0	142.1	211.5
1985	58.5	56.4	96.4	146.9	250.9
1986 ¹	54.5	45.2	82.9	164.7	302.4
Average annual percent change:					
1967-86	-2.9	1.7	4.7	6.8	10.0
1981-86	-7.2	-15.7	-9.1	6.5	14.7

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 297. Federal Government—Equipment maintenance: Indexes of output per employee year and related data, 1968–86
(1977=100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1968	95.4	136.6	143.1	47.7	50.0
1969	99.5	142.1	142.8	56.4	56.7
1970	97.8	123.6	126.4	61.2	62.6
1971	105.0	118.6	112.9	68.3	65.0
1972	103.9	119.9	115.4	68.9	66.3
1973	98.4	110.8	112.6	72.6	73.8
1974	100.7	107.5	106.7	78.7	78.1
1975	101.1	107.8	106.6	85.8	84.9
1976	101.6	104.3	102.7	93.4	92.0
1977	100.0	100.0	100.0	100.0	100.0
1978	104.1	104.2	100.1	109.2	104.9
1979	105.1	103.0	98.0	113.8	108.2
1980	106.3	99.4	93.5	126.2	118.7
1981	110.3	104.0	94.3	143.1	129.8
1982	110.5	104.6	94.6	147.8	133.7
1983	110.5	106.1	96.0	156.5	141.6
1984	115.5	111.1	96.2	168.6	146.0
1985	117.1	113.3	96.7	174.7	149.2
1986 ¹	119.3	115.4	96.8	180.5	151.3
Average annual percent change:					
1968-86	1.0	-1.0	-2.1	7.6	6.5
1981-86	1.8	2.3	.6	5.1	3.3

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 298. Federal Government—Finance and accounting: Indexes of output per employee year and related data, 1967–86
(1977 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	78.3	93.1	118.8	49.0	62.6
1968	80.3	96.2	119.7	51.8	64.5
1969	81.1	99.2	122.2	54.2	66.8
1970	83.7	99.2	118.5	61.4	73.3
1971	84.9	99.1	116.7	66.2	77.9
1972	83.5	98.2	117.6	70.9	84.9
1973	82.5	96.0	116.3	74.7	90.5
1974	85.3	94.0	110.1	81.3	95.3
1975	92.6	96.9	104.6	88.0	95.0
1976	98.7	99.8	101.1	94.9	96.1
1977	100.0	100.0	100.0	100.0	100.0
1978	103.1	98.3	95.3	109.5	106.2
1979	107.6	100.5	93.4	117.4	109.1
1980	121.3	116.4	95.9	126.9	104.6
1981	127.9	121.4	94.9	135.9	106.3
1982	150.8	132.2	87.7	144.8	96.0
1983	166.6	142.4	85.5	154.3	92.6
1984	163.9	145.7	88.9	164.3	100.3
1985	163.2	148.2	90.8	171.0	104.7
1986 ¹	170.0	155.9	91.6	172.6	101.5
Average annual percent change:					
1967-86	4.7	2.6	-2.0	7.3	2.5
1981-86	4.8	4.7	-1	5.1	.3

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 299. Federal Government—General support services: Indexes of output per employee year and related data, 1967–86
(1977 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	65.5	53.1	81.1	50.1	76.6
1968	71.9	60.0	83.4	51.8	72.0
1969	72.5	62.4	86.1	55.2	76.2
1970	80.7	68.2	84.5	61.4	76.1
1971	83.6	73.6	88.1	64.3	77.0
1972	94.4	80.8	85.6	73.2	77.5
1973	98.6	84.8	85.9	76.8	77.8
1974	101.3	90.5	89.3	88.6	87.4
1975	91.2	88.7	97.3	88.3	96.8
1976	94.2	91.9	97.6	91.0	96.6
1977	100.0	100.0	100.0	100.0	100.0
1978	103.6	109.8	106.0	99.5	96.1
1979	110.0	110.6	100.6	104.3	94.8
1980	114.3	117.9	103.1	110.9	97.0
1981	129.3	127.2	98.3	123.9	95.8
1982	162.0	163.0	100.7	134.1	82.8
1983	158.2	163.2	103.2	140.7	89.0
1984	148.6	167.3	112.5	147.2	99.0
1985	136.1	168.2	123.6	152.6	112.1
1986 ¹	143.0	173.9	121.6	160.5	112.2
Average annual percent change:					
1967-86	4.4	6.4	2.0	6.4	1.9
1981-86	-2	4.9	5.2	5.1	5.3

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 300. Federal Government—Information services: Indexes of output per employee year and related data, 1967–86
(1977=100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	95.7	83.6	87.4	56.8	59.4
1968	98.3	86.9	88.4	59.8	60.8
1969	101.4	90.1	88.9	62.7	61.8
1970	99.7	89.7	89.9	71.7	71.8
1971	100.2	92.9	92.7	75.3	75.2
1972	102.6	95.8	93.4	79.4	77.4
1973	95.5	96.5	101.1	78.8	82.5
1974	98.3	98.6	100.3	84.4	85.9
1975	103.4	103.6	100.1	88.7	85.8
1976	100.9	102.5	101.6	93.8	93.0
1977	100.0	100.0	100.0	100.0	100.0
1978	101.4	98.4	97.0	108.9	107.3
1979	103.6	100.1	96.6	114.3	110.3
1980	103.6	100.7	97.1	123.8	119.4
1981	104.4	103.2	98.9	134.2	128.5
1982	106.7	100.2	93.8	141.8	132.8
1983	114.0	104.1	91.3	149.0	130.7
1984	118.8	107.1	90.2	158.2	133.2
1985	124.6	113.2	90.8	165.7	132.9
1986 ¹	125.9	113.3	90.0	170.4	135.4
Average annual percent change:					
1967-86	1.1	1.2	.1	6.1	4.9
1981-86	4.2	2.5	-1.6	5.0	.8

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 301. Federal Government—Legal and judicial activities: Indexes of output per employee year and related data, 1967–86
(1977=100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	100.9	69.3	68.7	56.0	55.6
1968	100.0	70.8	70.8	58.1	58.1
1969	102.3	71.0	69.4	64.6	63.1
1970	107.4	74.1	69.0	73.5	68.5
1971	115.1	80.0	69.5	79.6	69.2
1972	117.1	85.4	72.9	82.8	70.7
1973	114.0	87.7	76.9	84.2	73.8
1974	105.2	86.9	82.6	85.7	81.5
1975	106.4	93.4	87.8	86.7	81.5
1976	104.3	99.5	95.4	90.3	86.5
1977	100.0	100.0	100.0	100.0	100.0
1978	97.8	101.2	103.5	109.1	111.6
1979	102.1	106.4	104.2	115.1	112.7
1980	101.5	114.1	112.5	124.4	122.5
1981	104.4	119.6	114.6	134.6	129.0
1982	108.9	124.2	114.1	148.6	136.5
1983	112.0	131.5	117.4	155.8	139.1
1984	110.5	134.5	121.7	164.1	148.6
1985	113.7	143.0	125.7	170.8	150.2
1986 ¹	113.8	145.2	127.6	177.5	155.9
Average annual percent change:					
1967-86	.2	4.1	3.9	6.2	6.0
1981-86	1.6	4.1	2.5	5.4	3.8

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 302. Federal Government—Library services: Indexes of output per employee year and related data, 1967-86
(1977=100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	56.5	39.2	69.3	45.1	79.8
1968	59.4	47.5	80.0	46.6	78.4
1969	64.1	50.9	79.3	52.8	82.3
1970	64.4	51.1	79.3	59.7	92.6
1971	65.5	52.5	80.3	64.6	98.7
1972	65.9	54.5	82.7	70.5	107.0
1973	69.4	60.5	87.2	73.4	105.8
1974	74.4	66.4	89.2	79.5	106.9
1975	83.5	76.5	91.7	84.5	101.1
1976	92.7	87.8	94.6	89.6	96.6
1977	100.0	100.0	100.0	100.0	100.0
1978	96.4	99.6	103.3	111.0	115.2
1979	100.4	105.8	105.4	114.4	113.9
1980	106.4	111.2	104.5	126.9	119.2
1981	111.5	114.0	102.3	139.7	125.3
1982	107.2	112.0	104.5	144.9	135.2
1983	110.1	114.0	103.5	157.0	142.5
1984	118.6	119.2	100.5	162.4	137.0
1985	120.9	121.6	100.6	174.1	144.1
1986 ¹	130.8	124.7	95.3	180.4	137.9
Average annual percent change:					
1967-86	4.6	6.5	1.8	7.8	3.1
1981-86	3.6	2.1	-1.4	5.5	1.8

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 303. Federal Government—Loans and grants: Indexes of output per employee year and related data, 1967-86
(1977=100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	63.4	57.3	90.3	46.3	73.0
1968	67.0	62.1	92.7	49.3	73.6
1969	69.8	63.8	91.4	53.4	76.5
1970	77.5	72.8	94.0	60.8	78.5
1971	85.8	86.4	100.6	65.5	76.3
1972	84.9	88.7	104.5	68.9	81.3
1973	86.0	88.5	102.9	73.4	85.4
1974	87.5	83.1	95.0	81.1	92.7
1975	91.1	85.4	93.7	86.0	94.5
1976	95.8	91.4	95.3	91.7	95.7
1977	100.0	100.0	100.0	100.0	100.0
1978	99.0	105.5	106.6	104.3	105.3
1979	107.6	117.2	108.9	107.3	99.7
1980	105.1	115.1	109.5	118.7	112.9
1981	110.3	117.0	106.0	134.4	121.8
1982	104.7	99.1	94.6	145.3	138.7
1983	117.3	110.6	94.3	152.9	130.3
1984	112.1	108.1	96.4	156.4	139.5
1985	122.4	114.5	93.5	164.4	134.3
1986 ¹	122.7	112.7	91.8	166.5	135.7
Average annual percent change:					
1967-86	3.3	3.4	.2	7.3	3.9
1981-86	2.8	.6	-2.1	4.3	1.5

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 304. Federal Government—Medical services: Indexes of output per employee year and related data, 1967–86
(1977=100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	98.4	81.9	83.2	47.2	47.9
1968	100.3	85.9	85.6	49.5	49.3
1969	100.6	86.8	86.3	51.8	51.5
1970	99.8	85.7	85.9	58.9	59.0
1971	99.1	85.9	86.6	64.4	64.9
1972	93.9	84.8	90.3	70.4	74.9
1973	96.9	91.5	94.4	74.5	76.8
1974	96.7	92.5	95.6	79.5	82.2
1975	98.5	95.5	97.0	86.6	87.9
1976	100.1	99.1	99.0	96.7	96.6
1977	100.0	100.0	100.0	100.0	100.0
1978	98.2	100.3	102.1	105.0	106.9
1979	98.4	101.1	102.8	111.6	113.5
1980	100.5	104.0	103.5	120.9	120.3
1981	100.8	104.6	103.7	136.6	135.5
1982	101.9	110.5	108.4	147.1	144.3
1983	103.9	114.8	110.5	153.6	147.7
1984	103.4	115.4	111.6	159.5	154.2
1985	103.6	116.8	112.8	165.1	159.4
1986 ¹	105.4	119.6	113.5	173.5	164.7
Average annual percent change:					
1967-86	.3	2.0	1.7	7.4	7.1
1981-86	.8	2.4	1.7	4.6	3.8

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 305. Federal Government—Military base services: Indexes of output per employee year and related data, 1967–86
(1977=100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	100.1	157.4	157.2	44.3	44.3
1968	104.4	152.7	146.3	49.3	47.2
1969	104.7	146.7	140.1	54.0	51.5
1970	101.6	140.7	138.4	63.0	62.0
1971	93.6	134.7	143.9	65.5	70.0
1972	94.7	133.5	141.0	65.6	69.3
1973	89.5	116.6	130.3	70.7	78.9
1974	90.6	108.9	120.2	71.1	78.5
1975	95.7	109.2	114.2	80.3	83.9
1976	99.9	106.3	106.3	87.9	87.9
1977	100.0	100.0	100.0	100.0	100.0
1978	100.4	96.6	96.1	102.8	102.3
1979	101.5	95.0	93.6	106.1	104.5
1980	102.2	96.1	94.0	113.1	110.6
1981	104.9	97.6	93.0	125.8	119.9
1982	109.3	98.7	90.2	136.3	124.6
1983	107.9	98.9	91.7	137.3	127.3
1984	99.4	95.9	96.4	139.0	139.9
1985	100.4	90.9	90.6	153.9	153.3
1986 ¹	108.0	95.8	88.8	161.4	149.5
Average annual percent change:					
1967-86	.4	-2.8	-3.2	6.9	6.5
1981-86	-6	-1.0	-5	4.7	5.3

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 306. Federal Government—Natural resources and environmental management: Indexes of output per employee year and related data, 1967–86
(1977=100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	90.2	94.1	104.3	50.2	55.6
1968	91.3	94.3	103.2	53.4	58.5
1969	90.7	90.8	100.1	57.7	63.6
1970	91.5	87.8	95.9	65.6	71.8
1971	97.2	90.2	92.9	71.8	73.9
1972	99.4	93.8	94.3	75.0	75.5
1973	101.2	93.1	92.0	79.7	78.8
1974	99.9	91.5	91.5	84.0	84.0
1975	98.5	92.9	94.3	88.0	89.3
1976	99.9	97.0	97.1	94.8	95.0
1977	100.0	100.0	100.0	100.0	100.0
1978	105.1	107.6	102.4	105.6	100.6
1979	102.2	105.2	102.9	112.8	110.3
1980	102.0	105.0	103.0	129.1	126.6
1981	102.7	107.3	104.5	136.4	132.8
1982	111.9	113.6	101.5	146.6	131.0
1983	112.7	114.0	101.2	157.5	139.8
1984	118.2	115.5	97.7	166.6	140.9
1985	120.0	116.2	96.9	178.2	148.5
1986 ¹	121.1	113.9	94.0	177.4	146.5
Average annual percent change:					
1967-86	1.5	1.5	.1	7.0	5.5
1981-86	3.1	1.1	-2.0	5.7	2.5

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 307. Federal Government—Personnel investigations: Indexes of output per employee year and related data, 1967–86
(1977=100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	68.1	39.0	57.2	49.1	72.2
1968	74.0	41.4	56.0	55.1	74.5
1969	69.1	39.7	57.4	59.0	85.3
1970	68.1	35.9	52.7	69.6	102.3
1971	76.9	36.6	47.6	70.4	91.5
1972	77.4	33.6	43.5	78.5	101.4
1973	80.3	32.5	40.5	83.4	103.9
1974	82.8	108.5	131.0	76.7	92.7
1975	87.6	113.9	130.0	84.4	96.3
1976	83.4	95.5	114.5	92.1	110.4
1977	100.0	100.0	100.0	100.0	100.0
1978	103.3	104.6	101.3	105.6	102.2
1979	108.6	65.5	60.3	117.9	108.5
1980	107.7	64.9	60.3	129.3	120.1
1981	109.7	71.6	65.2	139.6	127.2
1982	104.5	80.8	77.3	137.9	132.0
1983	99.4	83.0	83.6	156.6	157.5
1984	102.2	86.8	85.0	157.8	154.4
1985	105.6	95.5	90.5	166.0	157.2
1986 ¹	99.4	96.5	97.0	167.3	168.2
Average annual percent change:					
1967-86	2.6	5.5	2.8	6.7	3.9
1981-86	-1.2	6.0	7.3	4.3	5.6

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 308. Federal Government—Personnel management: Indexes of output per employee year and related data, 1967–86
(1977=100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	80.4	47.6	59.2	58.0	72.0
1968	86.0	62.9	73.1	60.2	70.0
1969	81.5	59.5	73.0	64.7	79.3
1970	83.8	59.8	71.3	73.7	87.9
1971	95.6	73.6	77.1	76.5	80.0
1972	94.9	72.2	76.0	79.1	83.3
1973	93.4	77.6	83.1	79.3	84.9
1974	99.9	91.1	91.2	83.9	84.0
1975	95.2	93.8	98.5	88.0	92.4
1976	93.1	92.0	98.8	91.1	97.8
1977	100.0	100.0	100.0	100.0	100.0
1978	96.6	99.0	102.6	107.4	111.2
1979	108.8	24.0	22.1	128.0	117.6
1980	99.9	111.9	112.1	104.9	105.0
1981	97.3	104.3	107.1	124.9	128.3
1982	106.7	106.2	99.4	134.6	126.1
1983	94.3	103.1	109.3	141.4	149.9
1984	101.9	105.1	103.1	147.9	145.2
1985	100.1	105.6	105.4	153.4	153.2
1986 ¹	99.0	108.7	109.8	158.6	160.2
Average annual percent change:					
1967-86	1.0	3.3	2.3	5.5	4.4
1981-86	-1	.6	.7	4.8	4.9

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 309. Federal Government—Postal service (SIC 4311): Indexes of output per employee year and related data, 1967–86
(1977=100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	90.3	91.5	101.2	38.8	42.9
1968	88.8	92.7	104.4	40.7	45.8
1969	89.4	95.6	106.9	43.7	48.9
1970	89.8	97.7	108.7	47.5	52.8
1971	91.8	99.5	108.4	54.4	59.2
1972	92.8	98.3	106.0	58.6	63.1
1973	98.2	100.6	102.5	62.8	64.0
1974	95.6	100.8	105.4	69.7	72.8
1975	95.5	99.2	103.8	79.3	83.0
1976	95.9	98.1	102.4	89.2	93.0
1977	100.0	100.0	100.0	100.0	100.0
1978	103.2	102.3	99.1	107.8	104.5
1979	101.9	102.8	100.8	114.6	112.4
1980	105.1	106.9	101.7	123.9	117.9
1981	106.4	108.4	101.9	134.7	126.6
1982	107.0	109.0	101.9	142.8	133.5
1983	107.9	111.3	103.2	148.2	137.4
1984	109.8	119.3	108.6	155.5	141.6
1985	110.3	124.8	113.2	163.9	148.7
1986 ¹	111.7	130.3	116.6	167.1	149.6
Average annual percent change:					
1967-86	1.3	1.5	.2	8.8	7.4
1981-86	1.0	4.1	3.0	4.5	3.5

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 310. Federal Government—Printing and duplication: Indexes of output per employee year and related data, 1967–86
(1977=100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	116.7	142.4	122.0	42.0	36.0
1968	115.5	140.7	121.8	44.2	38.3
1969	111.6	136.2	122.0	46.6	41.8
1970	110.9	135.4	122.0	51.9	46.8
1971	102.4	119.4	116.6	57.1	55.7
1972	100.8	115.7	114.8	63.4	62.9
1973	103.1	119.7	116.0	65.7	63.7
1974	99.5	113.5	114.0	72.1	72.5
1975	98.4	108.1	109.8	80.1	81.4
1976	100.4	106.6	106.2	91.3	91.0
1977	100.0	100.0	100.0	100.0	100.0
1978	97.6	94.4	96.8	106.8	109.5
1979	103.7	96.6	93.2	114.9	110.8
1980	108.3	96.7	89.3	121.8	112.4
1981	102.6	92.8	90.4	123.4	120.3
1982	105.8	89.7	84.8	132.6	125.3
1983	113.1	96.7	85.5	139.8	123.6
1984	120.3	103.1	85.7	143.7	119.4
1985	122.1	102.6	84.1	150.1	122.9
1986 ¹	125.0	101.0	80.8	157.8	126.2
Average annual percent change:					
1967-86	.4	-2.1	-2.4	7.7	7.3
1981-86	4.3	2.6	-1.7	4.8	.4

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 311. Federal Government—Procurement: Indexes of output per employee year and related data, 1967–86
(1977=100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	88.9	117.3	131.9	56.9	64.0
1968	86.0	110.4	128.4	61.3	71.3
1969	84.6	107.5	127.0	67.2	79.5
1970	76.5	90.5	118.2	75.9	99.1
1971	84.5	88.6	104.8	82.9	98.1
1972	84.9	89.3	105.2	75.4	88.8
1973	87.7	91.4	104.1	81.5	92.9
1974	93.3	93.2	99.9	84.3	90.4
1975	95.9	94.8	98.9	90.3	94.1
1976	99.4	95.5	96.1	95.5	96.1
1977	100.0	100.0	100.0	100.0	100.0
1978	108.7	108.7	100.0	107.6	98.9
1979	115.4	111.8	96.8	112.8	97.8
1980	121.0	120.4	99.4	118.9	98.2
1981	127.7	130.9	102.5	130.4	102.1
1982	125.3	134.5	107.3	136.7	109.1
1983	124.7	138.3	110.9	144.4	115.8
1984	127.2	142.6	112.1	149.4	117.5
1985	122.5	145.5	118.7	155.1	126.6
1986 ¹	119.4	149.6	125.3	161.0	134.9
Average annual percent change:					
1967-86	2.7	2.3	-4	5.5	2.7
1981-86	-1.1	2.7	3.8	4.3	5.4

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 312. Federal Government—Records management: Indexes of output per employee year and related data, 1967–86
(1977=100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	73.5	104.8	142.4	46.5	63.2
1968	72.0	104.6	145.2	46.8	65.0
1969	78.9	112.6	142.7	52.0	65.9
1970	77.4	116.1	150.0	58.6	75.7
1971	74.8	113.3	151.4	64.1	85.7
1972	83.2	115.3	138.5	72.1	86.6
1973	82.2	115.5	140.5	73.4	89.3
1974	80.2	92.1	114.8	81.4	101.5
1975	86.9	85.5	98.3	85.4	98.2
1976	94.0	93.2	99.1	94.2	100.2
1977	100.0	100.0	100.0	100.0	100.0
1978	103.7	102.3	98.6	107.7	103.8
1979	110.0	111.7	101.6	113.0	102.7
1980	111.6	115.0	103.0	115.4	103.4
1981	113.8	109.9	96.5	115.7	101.7
1982	120.0	109.2	91.0	126.8	105.6
1983	120.5	108.9	90.4	127.8	106.1
1984	123.6	111.1	89.9	135.0	109.3
1985	121.7	111.6	91.7	147.3	121.0
1986 ¹	122.9	114.7	93.3	150.0	122.0
Average annual percent change:					
1967-86	3.3	.2	-3.0	6.5	3.1
1981-86	1.3	.9	-.4	5.3	3.9

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 313. Federal Government—Regulation-compliance and enforcement: Indexes of output per employee year and related data, 1967–86
(1977=100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	80.7	62.3	77.2	51.7	64.0
1968	83.0	65.6	78.9	53.6	64.5
1969	85.6	66.8	78.0	57.9	67.6
1970	88.0	69.5	79.0	65.4	74.2
1971	89.6	73.2	81.6	69.5	77.5
1972	92.6	76.3	82.3	73.7	79.6
1973	95.0	82.6	86.9	75.7	79.7
1974	95.9	87.1	90.8	81.0	84.4
1975	95.1	91.9	96.7	86.4	90.8
1976	98.0	96.3	98.3	93.4	95.3
1977	100.0	100.0	100.0	100.0	100.0
1978	101.2	103.9	102.7	108.9	107.6
1979	104.5	110.3	105.6	115.4	110.5
1980	107.6	114.2	106.1	124.8	115.9
1981	112.5	116.0	103.2	134.6	119.6
1982	118.6	117.3	98.9	146.2	123.3
1983	126.6	125.9	99.4	156.6	123.7
1984	126.9	128.8	101.5	162.9	128.3
1985	130.5	137.4	105.3	173.7	133.1
1986 ¹	141.4	150.0	106.0	177.2	125.3
Average annual percent change:					
1967-86	2.7	4.6	1.8	7.0	4.2
1981-86	4.2	5.2	1.0	5.7	1.4

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 314. Federal Government—Regulation—rulemaking and licensing: Indexes of output per employee year and related data, 1967–86
(1977 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	76.4	64.4	84.3	50.9	66.6
1968	79.6	68.8	86.3	53.0	66.6
1969	83.3	69.8	83.8	57.9	69.5
1970	87.6	73.8	84.3	66.9	76.4
1971	91.9	79.1	86.0	70.7	77.0
1972	92.6	80.2	86.7	73.4	79.3
1973	95.6	87.8	91.8	76.1	79.5
1974	93.6	89.2	95.3	81.0	86.5
1975	93.5	92.1	98.5	85.1	90.9
1976	94.4	92.8	98.3	91.0	96.3
1977	100.0	100.0	100.0	100.0	100.0
1978	93.1	107.9	115.9	100.9	108.3
1979	95.5	107.9	112.9	108.4	113.5
1980	109.5	126.4	115.4	119.4	109.0
1981	121.7	140.1	115.1	132.3	108.7
1982	131.4	144.1	109.6	149.6	113.8
1983	139.3	160.7	115.4	156.3	112.2
1984	146.1	174.5	119.4	163.8	112.1
1985	153.3	184.6	120.4	168.9	110.2
1986 ¹	150.5	180.5	119.9	169.3	112.4
Average annual percent change:					
1967-86	3.5	5.9	2.3	6.8	3.2
1981-86	4.6	6.2	1.5	4.8	.2

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 315. Federal Government—Social services and benefits: Indexes of output per employee year and related data, 1967–86
(1977 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	75.2	48.5	64.5	50.4	67.0
1968	75.4	51.4	68.1	52.5	69.6
1969	78.0	53.5	68.7	56.2	72.1
1970	81.2	55.4	68.1	64.7	79.7
1971	86.0	60.6	70.5	70.3	81.8
1972	87.5	63.3	72.4	74.7	85.4
1973	91.3	67.4	73.8	78.9	86.4
1974	89.7	77.9	86.8	80.2	89.4
1975	92.2	88.5	96.0	84.6	91.7
1976	96.1	95.3	99.1	91.7	95.5
1977	100.0	100.0	100.0	100.0	100.0
1978	99.4	97.0	97.6	109.2	109.8
1979	102.5	100.7	98.3	117.4	114.6
1980	101.0	97.9	96.9	127.0	125.7
1981	102.1	96.9	94.9	138.1	135.3
1982	102.4	98.3	96.0	146.5	143.1
1983	109.8	106.1	96.6	156.5	142.5
1984	110.1	103.6	94.1	163.7	148.7
1985	118.7	106.9	90.1	172.8	145.6
1986 ¹	118.6	100.6	84.8	177.5	149.6
Average annual percent change:					
1967-86	2.3	4.5	2.1	7.1	4.7
1981-86	3.5	1.2	-2.2	5.3	1.7

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 316. Federal Government—Specialized manufacturing: Indexes of output per employee year and related data, 1967–86
(1977=100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	78.5	107.5	137.0	43.8	55.8
1968	85.2	109.9	129.0	47.2	55.4
1969	87.3	114.2	130.9	50.0	57.4
1970	92.7	116.0	125.3	54.8	59.2
1971	102.3	124.5	121.7	59.8	58.4
1972	96.6	120.4	124.6	63.3	65.5
1973	94.8	126.6	133.5	69.6	73.3
1974	94.3	113.5	120.4	75.9	80.5
1975	93.5	105.2	112.5	82.9	88.6
1976	97.8	112.8	115.3	88.8	90.7
1977	100.0	100.0	100.0	100.0	100.0
1978	106.0	103.3	97.4	106.0	100.0
1979	119.2	108.0	90.6	114.5	96.1
1980	119.6	110.1	92.1	127.9	106.9
1981	141.8	121.8	85.9	134.3	94.7
1982	133.4	119.4	89.6	145.1	108.8
1983	138.0	122.3	88.6	147.9	107.1
1984	143.8	128.2	89.1	150.6	104.7
1985	146.9	130.1	88.6	159.8	108.7
1986 ¹	149.4	124.1	83.0	161.6	108.2
Average annual percent change:					
1967-86	3.3	.5	-2.8	7.7	4.2
1981-86	1.7	1.1	-6	3.6	1.8

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 317. Federal Government—Supply and inventory control: Indexes of output per employee year and related data, 1967–86
(1977=100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	76.6	154.9	202.3	49.4	64.5
1968	79.0	156.1	197.6	51.5	65.2
1969	90.6	172.5	190.4	51.0	56.4
1970	84.9	150.8	177.6	57.4	67.6
1971	85.8	137.2	159.9	64.4	75.1
1972	86.2	131.5	152.5	68.7	79.6
1973	86.8	122.7	141.4	72.8	83.9
1974	86.8	112.2	129.1	79.8	91.8
1975	94.2	112.9	119.9	82.6	87.7
1976	96.1	108.1	112.4	92.7	96.4
1977	100.0	100.0	100.0	100.0	100.0
1978	96.8	101.0	104.3	99.8	103.1
1979	95.2	95.9	100.8	108.3	113.8
1980	97.8	98.2	100.4	114.8	117.4
1981	98.8	99.0	100.2	121.7	123.2
1982	106.1	104.7	98.6	131.5	123.9
1983	104.3	104.9	100.5	138.4	132.6
1984	100.2	102.9	102.6	143.5	143.1
1985	96.7	101.3	104.8	150.7	155.9
1986 ¹	98.2	102.2	104.1	155.3	158.2
Average annual percent change:					
1967-86	1.3	-2.7	-3.9	6.6	5.2
1981-86	-1.0	.1	1.1	4.9	5.9

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 318. Federal Government—Traffic management: Indexes of output per employee year and related data, 1967–86
(1977=100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1972	97.2	126.1	129.7	75.5	77.7
1973	96.8	119.7	123.6	78.9	81.4
1974	89.8	104.7	116.6	80.6	89.7
1975	96.3	100.9	104.8	85.9	89.2
1976	93.8	101.2	107.8	91.0	96.9
1977	100.0	100.0	100.0	100.0	100.0
1978	106.2	104.4	98.3	103.9	97.8
1979	115.3	108.4	93.9	110.5	95.8
1980	115.0	105.5	91.7	110.9	96.5
1981	124.8	104.4	83.6	117.4	94.0
1982	117.0	105.2	89.9	134.0	114.6
1983	115.8	106.4	91.9	137.6	118.8
1984	112.7	105.8	93.8	145.5	129.1
1985	120.8	110.3	91.3	155.5	128.7
1986 ¹	111.8	101.4	90.7	150.4	134.5
Average annual percent change:					
1972-86	1.9	-5	-2.4	5.6	3.6
1981-86	-1.4	(²)	1.4	5.1	6.6

¹ Preliminary.

² Less than .05 percent.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 319. Federal Government—Transportation: Indexes of output per employee year and related data, 1967–86
(1977=100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	72.7	67.3	92.6	43.8	60.2
1968	80.3	75.5	94.0	46.3	57.7
1969	83.8	79.7	95.1	51.5	61.5
1970	85.6	83.5	97.5	60.3	70.4
1971	82.4	83.2	100.9	66.8	81.0
1972	85.9	86.7	101.0	72.4	84.4
1973	90.1	90.5	100.5	74.7	82.9
1974	91.3	91.1	99.8	79.4	86.9
1975	92.9	93.2	100.3	86.7	93.3
1976	94.6	94.2	99.5	94.1	99.5
1977	100.0	100.0	100.0	100.0	100.0
1978	105.3	106.6	101.2	105.8	100.4
1979	107.1	107.0	100.0	112.9	105.5
1980	107.6	108.5	100.8	120.7	112.2
1981	112.0	106.5	95.1	135.1	120.6
1982	114.3	103.9	90.9	143.0	125.1
1983	114.6	103.1	90.0	157.0	137.0
1984	113.2	103.2	91.1	164.5	145.2
1985	114.4	105.8	92.5	172.4	150.7
1986 ¹	116.3	106.9	91.9	177.3	152.4
Average annual percent change:					
1967-86	2.4	2.1	-3	7.7	5.2
1981-86	.5	.2	-3	5.8	5.2

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 320. State and local government—Electric power (SIC 4911): Indexes of output per employee year and related data, 1967–85
(1977=100)

Fiscal year	Output per employee year	Output	Employee years
Index:			
1967	64.3	62.4	97.0
1968	71.2	67.9	95.4
1969	80.6	74.3	92.2
1970	84.0	80.4	95.7
1971	86.9	86.3	99.3
1972	88.5	88.0	99.4
1973	87.6	90.1	102.8
1974	87.1	91.1	104.6
1975	88.7	91.5	103.1
1976	93.2	96.2	103.2
1977	100.0	100.0	100.0
1978	99.1	104.3	105.2
1979	100.1	110.3	110.2
1980	100.2	112.2	110.9
1981	99.1	114.0	115.0
1982	96.7	110.4	114.2
1983	94.8	112.8	119.0
1984	93.3	116.4	124.7
1985 ¹	93.7	119.8	127.8
Average annual percent change:			
1967-85	1.7	3.3	1.6
1981-85	-1.5	1.5	3.0

¹ Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output and employment based on data from the American Public Power Association, the Edison Electric Institute, and the Bureau of the Census.

Table 321. State and local government—Unemployment insurance (SIC 9441): Indexes of output per employee year and related data, 1963–86
(1977=100)

Fiscal year	Output per employee year	Output	Employee years
Index:			
1963	94.8	57.0	60.1
1964	93.5	54.6	58.4
1965	86.0	49.2	57.2
1966	86.8	43.4	50.1
1967	93.5	42.2	47.3
1968	88.6	44.0	49.6
1969	86.4	42.4	49.0
1970	95.7	49.5	51.7
1971	108.7	62.9	57.8
1972	94.3	64.8	68.7
1973	93.4	58.8	62.9
1974	106.6	63.3	59.4
1975	129.6	104.9	80.9
1976	113.9	118.2	103.8
1977	100.0	100.0	100.0
1978	89.0	79.2	89.0
1979	85.1	75.2	88.3
1980	109.2	96.4	88.3
1981	101.6	94.7	93.2
1982	117.9	113.2	96.0
1983	119.1	121.8	102.2
1984	102.0	86.1	84.5
1985	105.0	85.1	81.0
1986 ¹	110.0	82.5	75.0
Average annual percent change:			
1963-86 .....	.9	4.0	3.0
1981-86	-.3	-5.3	-5.0

¹ Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output and employment based on data from the Employment and Training Administration, U.S. Department of Labor.

Table 322. State and local government—State sales of alcoholic beverages: Indexes of output per employee year and related data, 1967-85
(1977=100)

Fiscal year	Output per employee year	Output	Employee years
Index:			
1967	78.8	73.3	93.0
1968	80.1	76.3	95.2
1969	81.3	80.0	98.4
1970	81.4	82.9	101.9
1971	85.8	86.1	100.4
1972	88.5	89.9	101.6
1973	94.0	94.2	100.2
1974	95.0	94.6	99.6
1975	96.9	97.4	100.5
1976	97.7	98.5	100.8
1977	100.0	100.0	100.0
1978	104.7	103.4	98.8
1979	105.5	103.3	97.9
1980	105.6	103.1	97.6
1981	105.2	101.6	96.6
1982	107.8	98.6	91.5
1983	109.7	96.1	87.6
1984	110.3	94.4	85.6
1985 ¹	108.5	91.9	84.7
Average annual percent change:			
1967-85	2.0	1.4	-6
1981-85 .....	.9	-2.4	-3.2

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output and employment based on data from the Distilled Spirits Council of the U.S. and the Bureau of the Census.

Appendix A. Methods and Data Sources

Industry Labor Productivity Measures

The indexes of output per employee hour are computed by dividing an index of output by an index of aggregate employee hours. Corresponding measures also are computed relating output to the number of employees. For industries in trade and services, measures are prepared relating output to the hours of all persons involved in producing that output, including self-employed and unpaid family workers.

The output indexes are based primarily on the physical quantity of the products of the industry combined with fixed-period weights. Unit employee hour weights are used whenever possible to aggregate the data.

For many industries, however, unit labor weights are not available at the detailed product level, so substitute weights must be used. The most common substitute weights are unit values, which are used if they are believed to be proportional to unit employee hours. For many manufacturing industries, however, employee hour weights at the product-class level can be developed from the available data. In such cases, a dual-level weighting system is used: Unit value weights at the product level and employee hour weights at the product-class level.

Although the weights relate to fixed periods, they are updated periodically, usually in conjunction with economic censuses, which are conducted every 5 years. The most current weights used were derived from the 1982 economic censuses. For three industries—railroads, iron mining, and copper mining—two alternative productivity measures, using different concepts of industry output, are presented.

When adequate annual physical quantity data are not available, indexes are derived from data on the value of industry output adjusted for price change. Since the adjustment for price change is most often downward, the indexes usually are called “deflated value” indexes. Such indexes are conceptually equivalent to indexes which use data on physical quantities of products combined with unit value weights. This index is derived by dividing the value of the industry’s output by an industry price index. An index of these deflated values shows the change in the real value of output between the past and current periods.

Periodically, the output indexes for most of the measures are adjusted to levels based on data reported in the economic censuses for mining, manufacturing, and business. The most current adjustments presented in this report reflect data from the 1982 economic censuses.

Employment and employee hour indexes are developed primarily from basic data compiled by the Bureau of Labor Statistics and the Bureau of the Census. In concept, indexes based on employee hour data from the Bureau of the Census relate to plant hours only. Employee hour data from BLS include hours at work and also payroll hours such as vacations, holidays, and sick leave paid by the establishment directly to the employee.¹ Because of increases in paid leave over time, output per employee hour worked would tend to show a somewhat higher rate of gain than output per employee hour paid. However, actual differences may result from statistical limitations in the data as well as from differences in concepts. In general, BLS data are the preferred source for measuring industry employment and hours because they are collected monthly and are benchmarked each year to comprehensive data from the State unemployment insurance programs.

This report includes indexes of output per employee hour and output per employee. In most cases, the indexes are shown for all employees, production workers, and nonproduction workers.² Although both BLS and the Bureau of the Census provide data on production worker hours, neither source provides annual data by industry on nonproduction worker or all-employee hours. Therefore, the nonproduction worker hours are estimated.

The estimates of aggregate nonproduction worker hours for the manufacturing industries are derived from published employment data and from estimates of average annual hours paid or worked per nonproduction worker. Prior to 1968, the estimates of average annual hours paid were calculated by multiplying the number of workweeks in the year by the scheduled weekly hours. Estimated hours for vacations, holidays, disability, and personal time off were subtracted from average annual hours paid to obtain an estimate of average annual hours worked. Vacation and holiday trends were based on studies by the former U.S. Department of Health, Education, and Welfare and on data from BLS surveys. Personal time off was estimated as a constant on the basis of data obtained from various sources. From 1968 to 1977, the

¹ Indexes for the railroad transportation industry are based on data from the Interstate Commerce Commission and are related primarily to hours at work.

² The term “production workers” covers manufacturing and mining employees who work at the plant or mine and who are generally in nonsupervisory occupations. The remaining employees, such as professional, technical, clerical, supervisory, etc., are identified as “nonproduction workers.”

estimates of average annual hours paid and average annual hours worked have been based on data collected in the BLS survey, Employee Compensation in the Private Nonfarm Economy. Since these surveys are no longer conducted, the 1977 levels are being carried forward until other data become available.

For the 22 retail trade and service industries, measures of the hours of partners, proprietors, and supervisory workers were developed. Except for hotels, motels, and tourist courts, and beauty and barber shops, estimates were also made for the hours of unpaid family workers. Average weekly hours worked for partners, proprietors, and unpaid family workers were obtained from unpublished data collected in the Current Population Survey. Average weekly hours worked by supervisory employees were obtained from the censuses of population. Estimates for intercensal years were derived using extrapolation and linear interpolation techniques.

All-employee hour estimates for the manufacturing industries are derived by summing the aggregate hours for production workers and the estimated hours for nonproduction workers. Hours of all persons are derived by summing the aggregate hours for paid employees, partners, proprietors, and unpaid family workers.

Manufacturing and mining indexes involving nonproduction worker hours are subject to a wider margin of error than are the indexes involving only production worker hours because it is necessary to estimate the average hours of nonproduction workers. In general, any error in these estimates would have a relatively insignificant effect on the trend in the hours for all employees.

The output indexes and employee hour components of the industry productivity indexes are based on data from a number of different sources, which are identified in the tables. For many of the industries, the 1986 output indexes are based on the data sources that are regularly used. However, for some industries, the normal data sources are not yet available, and other information, such as the Federal Reserve Board output indexes, the Current Industrial Reports of the Bureau of the Census, and trade association data, were used. For those industries for which the Bureau of the Census is the primary source of employment and employee hours, the 1986 indexes were developed by linking employment and employee hour data from BLS, since 1986 census data are not yet available. Therefore, all 1986 output per employee hour measures are considered preliminary and are subject to revision. The indexes refer to the standard reference base 1977 = 100 and they conform to the 1987 Standard Industrial Classification (SIC) definitions.

Industry Multifactor Productivity Measures

Output

The output measures underlying multifactor productivity are calculated using, whenever possible, the same units of products or services of the industry as are used in measur-

ing output for the industry labor productivity measures. Whenever possible, physical quantities are used as the unit of measurement; when physical quantities are unavailable, constant-dollar value of shipments, sales, or revenue data are used. The multifactor productivity output measures differ from the labor productivity output measures primarily in the method used for weighting together the various categories of output, as explained below.

The multifactor output measure utilizes price weights for combining the various categories of output of an industry. Generally, census value data for each detailed output category are divided by the physical quantity of output for that category to obtain the unit value (or price) estimates. The price of each output category is multiplied by its corresponding quantity and then expressed as a share of the total value of output. These value shares, averaged at time t and $t-1$, are used to weight together the differences between t and $t-1$ in the logarithms of the quantities. The antilogarithms of the sums are taken and chained together to form the index. This form of weighting is known as Tornquist aggregation. The output data sources are the same as those used in calculating indexes for the labor productivity measures.

Employee hours

Employee hour indexes are calculated in the same way as those used in measuring industry labor productivity. As with the labor productivity measure, employee hours are treated as homogeneous and additive with no distinction made between hours of different groups of employees. The index is computed by simply dividing the aggregate employee hours for each year by the base-period total. Data sources are the same as those used in calculating employee hour indexes for the labor productivity measures.

Capital

The measure of capital input is based on the flow of services derived from the stock of physical assets. Physical capital is composed of equipment, structures, land, and inventories. Financial capital is excluded. Capital services are estimated by calculating capital stocks; changes in the stocks are assumed proportional to changes in capital services for each asset. Stocks of different asset types are Tornquist-aggregated, using estimated rental prices to construct the weights for assets of different types.

Capital stocks are calculated using the perpetual inventory method, which takes into account the continual additions to and subtractions from the stock of capital as new investment and retirement of old capital take place. The perpetual inventory method measures stocks at the end of a year equal to a weighted sum of all past investments, where the weights are the asset's efficiency relative to a new asset. A hyperbolic age-efficiency function is used to calculate the relative efficiency of an asset at different ages. The hyperbolic age-efficiency function can be expressed:

$$S_t = (L-t)/(L-(B)t)$$

where:

S_t = the relative efficiency of a t-year-old asset

L = the service life

t = the age of the asset

B = the parameter of efficiency decline

The parameter of efficiency decline is assumed to be 0.5 for equipment and 0.75 for structures. These parameters yield a function in which assets lose efficiency more slowly at first, then rapidly later in life.

Stocks of equipment, structures, inventories, and land are estimated separately. Individual price deflators for each asset category are constructed and used to convert the current-dollar investment to constant dollars. Industry-specific service lives are computed for each type of equipment asset for use in the perpetual inventory method.

Current-dollar values of inventory stocks are calculated for three separate categories of manufacturers' inventories: Finished goods, work in process, and materials and supplies. Inventory stocks for each year are calculated as the average of the end-of-year stocks in years t and $t-1$ to represent the average utilized during the year as a whole. This is also done with equipment, structures, and land. Current-dollar inventory values for the three categories of inventories are deflated with appropriate price indexes.

Land stocks are estimated as a function of the movement in constant-dollar gross structures stocks for the given industry.

The various equipment, structure, inventory, and land stock series in constant dollars are aggregated into one capital input measure using estimated rental prices as weights. The method of calculating rental prices is similar to that used in calculating multifactor productivity for major sectors of the economy except that no attempt is made to incorporate the effects of indirect business taxes, for which data are lacking at the industry level.

The rental prices are expressed in rates per constant dollar of productive capital stocks. Each rental price is multiplied by its constant-dollar capital stock to obtain current-dollar capital costs which are then converted to value shares for Tornquist aggregation.

Industry capital indexes are developed from basic data published and maintained by the Bureau of the Census and the Bureau of Economic Analysis, U.S. Department of Commerce; and the Office of Economic Growth and Employment Projections, Bureau of Labor Statistics. Price indexes are derived from producer price indexes developed by the Bureau of Labor Statistics.

Intermediate purchases

The index of intermediate purchases input is an aggregate of separate indexes of change in real materials, services,

fuels, and electricity consumed by an industry. With the exception of electricity, for which both price and quantity data are available, the above indexes are calculated by dividing annual current-dollar values by appropriate price indexes to obtain constant-dollar annual estimates. Separate price deflators for materials and fuels for each industry are constructed using detailed price and value data for individual subcomponents of each group. The aggregate deflators are divided into the current-dollar values to derive constant-dollar estimates. The constant-dollar series for each component are indexed by dividing each year's estimate by the base-period aggregate.

The indexes of change in real materials, services, fuels, and electricity are weighted together with value share weights to derive an aggregate intermediate purchases index. These weights are derived by dividing the current-dollar values of each by the total combined value of intermediate purchases, and averaging these weights at times t and $t-1$.

Industry intermediate purchases indexes are developed from basic data published by the Bureau of the Census and the Bureau of Economic Analysis.

Weights for major input components

The indexes representing quantity change for each of the three major inputs are weighted together to compute the index of combined inputs. The relative weights for each year are derived from total costs for each input. All-employee labor costs from Census data are used for the labor weight. The sum of current-dollar values for materials, services, fuels, and electricity constitute the weight for intermediate purchases. The weight for capital is derived by subtracting labor costs and an estimate of purchased services from Census value-added data. These compensation shares are averaged at time t and $t-1$.

Government Labor Productivity Measures

Federal

Indexes of output per employee year, output, and employee years for selected functional categories³ of Government activity and for approximately 380 participating organizations are constructed in a manner similar to that described for industries. In addition, indexes of compensation per employee year and unit labor cost are calculated. At the present time, these indexes cover about 68 percent (2.0 million employee years) of the Federal civilian work force.

Ideally, a productivity index should relate final outputs to their associated direct and indirect input(s), and, in fact, the output data are final from the perspective of the functional categories within which these data are classified. However, since the outputs of one organization may be consumed wholly or partially by another Federal organization in the

³ See table accompanying discussion in text for definitions.

production of its final outputs, all output indicators in the Federal sample may not be final from the perspective of a higher level of organization; for example, the entire Federal Government. Therefore, the overall statistics do not represent "Federal productivity" but, rather, the weighted average of the productivity changes of the Federal organizations included in the sample.

Through an annual collection process, most data are submitted directly by agencies to BLS, but in some cases data are obtained from secondary sources such as agency budgets and annual reports. In the Federal sample, approximately 3,000 products and services are aggregated into output indexes by combining the quantities of each type of output using their respective base-year labor requirements as weights. These unit employee year weights are constructed from the detailed output and input data provided by each organization. Although the weights relate to fixed periods, they are updated every 5 years. The output segments are linked and referenced to a fiscal year 1977 base; the fiscal year is October 1 through September 30.

The organizational indexes are grouped into 28 functional categories, based on similarity of activity. Some of these categories, such as printing and duplication, are more homogeneous than others, such as general support services, which include many diverse activities. Nonetheless, these categories provide insight into the trends for the major functional areas underlying the overall sample. Although the indexes are also constructed for each participating organization, these are not published but are returned to each organization for its own use (for example, to stimulate further examination of the causes of productivity change within each organization). This is one method used by BLS to validate the basic data (that is, by examining the reasonableness of the derived trends).

Employee year indexes are developed from agency data submissions and secondary sources. As in all labor input measures used by the Bureau to develop productivity indexes, employee years are considered homogeneous and additive. Each employee year reflects the regularly scheduled time, overtime, and leave time of all full-time, part-time, and intermittent employees. An employee year is equivalent to one individual paid for 2,087 hours.

The compensation indexes include wages, salaries, and benefits including retirement, merit pay increases, incentive pay, health insurance, and the like. Data to compute the indexes are taken from agency data submissions and secondary sources. The unit labor cost index is derived by dividing the index of compensation by the index of output.

State and local

Government measurements are being extended to include indexes of output per employee year, output, and employee years for selected State and local services. A cross-section of services is being examined and indexes computed using concepts and methods similar to those for industries and the Federal Government. This research, which uses published and readily available secondary data, is keyed to the Standard Industrial Classification system.

Output indexes reflect final services to the public. The consequences or effectiveness of government service are not measured. The focus is on government production. For example, prison system outputs are the number of prisoners housed and to whom treatment is administered, not the effectiveness of rehabilitation or community safety. Output data are taken from Federal agencies such as the Departments of Labor, Justice, and Transportation and from industry groups such as the American Public Power Association, American Public Transit Association, and Distilled Spirits Council of the U.S.

Employee year index computations use the same general concepts as those used in the Federal measurements. The primary source of employment data is the Bureau of the Census's annual public employment survey. This is supplemented by data from Federal agencies and industry associations when available.

Rates of change

The average annual rates of change published in this bulletin are based on the linear least squares trends of the logarithms of the index numbers. Average annual rates of change for any time period shown are available on request from the Bureau of Labor Statistics.

Appendix B. BLS Publications on Productivity and Technology

How to order

The Monthly Labor Review is available by subscription or single copy from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402 (\$16 a year domestic; \$20 foreign; single copy \$4.75 domestic; \$5.94 foreign). Make checks payable to Superintendent of Documents.

Reprints and news releases are available free of charge, as long as the supply lasts, from the Bureau of Labor Statistics, Washington, DC 20212, or from the Bureau's regional offices. Electronic access to productivity news releases is available for a fee. For details, contact the BLS Office of Publications. Bulletins are for sale by the Superintendent of Documents or the BLS Publications Sales Center, P.O. Box 2145, Chicago, IL 60690. Prices are subject to change without notice. Out-of-print publications may be available at large public and school libraries and at Government depository libraries. Publications marked with an asterisk (*) also are available on microfiche and in paper copy from the National Technical Information Service, U.S. Department of Commerce, 5285 Port Royal Road, Springfield, VA 22161.

Papers are available from the Bureau's Office of Productivity and Technology.

Productivity trends in individual industries

- "Productivity Trends in the Cotton and Synthetic Broad Woven Fabrics Industry," by Mark W. Dumas and J. Edwin Henneberger, *Monthly Labor Review* (forthcoming).
- "Productivity in Industrial Inorganic Chemicals," by Horst Brand and Ziaul Ahmed, *Monthly Labor Review* (forthcoming).
- "Productivity in Industrial Organic Chemicals, n.e.c.," by Clyde Huffstutler and Barbara Bingham, *Monthly Labor Review* (forthcoming).
- "Productivity in Nonelectric Heating Equipment," by John W. Ferris and Virginia L. Klarquist, *Monthly Labor Review* (forthcoming).
- "Strong Gains in Semiconductor Productivity Linked to Multiple Innovations," by Mark Scott Sieling, *Monthly Labor Review* (forthcoming).
- "Productivity in the Retail Hardware Store Industry," by Patricia S. Wilder and Virginia L. Klarquist, *Monthly Labor Review* (forthcoming).
- "Productivity Trends in the Department Store Industry," by

- Brian L. Friedman, *Monthly Labor Review* (forthcoming).
- "Productivity in the Automotive Repair Shop Industry," by John G. Olsen and Richard B. Carnes, *Monthly Labor Review* (forthcoming).
- "Performance of Multifactor Productivity in the Steel and Motor Vehicles Industries," by Mark K. Sherwood, *Monthly Labor Review*, August 1987, pp. 22-31.
- "Measuring Productivity in Service Industries: The BLS Experience," by Jerome A. Mark. Paper presented at a Symposium on Technology and the Services Industries, National Academy of Engineering, Hanover, New Hampshire, August 10-11, 1987. 42 pp.
- "The Mining Machinery Industry: Labor Productivity Trends, 1972-84," by Barbara A. O'Neil, *Monthly Labor Review*, June 1987, pp. 31-35.
- "Productivity Trends in the Furniture and Home Furnishings Stores Industry," by Arthur S. Herman and J. Edwin Henneberger, *Monthly Labor Review*, May 1987, pp. 24-29.
- "Two Decades of Productivity Growth in Poultry Dressing and Processing," by Ziaul Z. Ahmed and Mark Sieling, *Monthly Labor Review*, April 1987, pp. 34-39.
- "Productivity Gains Continued in Many Industries During 1985," by Arthur S. Herman, *Monthly Labor Review*, April 1987, pp. 48-52.
- "Retail Liquor Stores Experience Flat Trend in Productivity," by James D. York, *Monthly Labor Review*, February 1987, pp. 25-29.
- "Trends of Labor Productivity in Metal Stampings Industries," by Horst Brand and Clyde Huffstutler, *Monthly Labor Review*, May 1986, pp. 13-20.
- "Productivity Continued to Increase in Many Industries in 1984," by Arthur S. Herman, *Monthly Labor Review*, March 1986, pp. 11-15.
- "Beauty and Barbershops: The Trend of Labor Productivity," by Horst Brand and Ziaul Z. Ahmed, *Monthly Labor Review*, March 1986, pp. 21-26.
- "Productivity in the Metal Doors, Sash, and Trim Industry," by Elmer S. Persigehl and John G. Olsen, *Monthly Labor Review*, March 1986, pp. 27-31.
- "Developments in Labor Statistics," by Jerome A. Mark. Talk before the National Association of Business Economists' Seminar on Economic Statistics, Washington, D.C., February 26, 1986.
- "Productivity Growth Low in the Oilfield Machinery Industry," by Brian L. Friedman and Arthur S. Herman, *Monthly Labor Review*, December 1985, pp. 34-38.

- “Productivity Trends in the Machine Tool Accessories Industry,” by James D. York, *Monthly Labor Review*, June 1985, pp. 28-32.
- “Productivity Growth Below Average in the Internal Combustion Engine Industry,” by J. Edwin Henneberger and Arthur S. Herman, *Monthly Labor Review*, May 1985, pp. 22-26.
- “Productivity Reports: Productivity Increased in Many Industries in 1983,” by Arthur S. Herman, *Monthly Labor Review*, March 1985, pp. 31-34.
- “Productivity in the Wood Kitchen Cabinets Industry,” by Horst Brand and Norman Bennett, *Monthly Labor Review*, March 1985, pp. 24-30.
- “Productivity in Making Air Conditioners, Refrigeration Equipment, and Furnaces,” by Horst Brand and Clyde Huffstutler, *Monthly Labor Review*, December 1984, pp. 11-17.
- “Productivity in the Apparel and Accessories Stores Industry,” by Brian L. Friedman, *Monthly Labor Review*, October 1984, pp. 37-42.
- “Productivity in the Service Sector,” by Jerome A. Mark. Statement for Subcommittee on Economic Stabilization of the U.S. House of Representatives, Committee on Banking, Finance and Urban Affairs, June 1984. 24 pp.
- “Meatpacking and Prepared Meats Industry: Above-Average Productivity Gains,” by Richard B. Carnes, *Monthly Labor Review*, April 1984, pp. 37-42.
- “Productivity Growth in the Switchgear Industry Slows After 1973,” by Arthur S. Herman and Phyllis F. Otto, *Monthly Labor Review*, March 1984, pp. 33-36.
- “Status of Recommendations for Improving Official Productivity Measures,” White House Conference on Productivity, Background Paper, July 1983.
- “Productivity Measures: Industries and Government,” reprint of chapter 11 of the BLS Handbook of Methods, BLS Bulletin 2285 (1988).

Productivity trends in government

- “Productivity Trends in the Federal Government,” by Donald M. Fisk, *Monthly Labor Review*, October 1985, pp. 3-9.
- “Public Sector Productivity Measurement: The BLS Experience,” by Jerome A. Mark, *The Measurement and Implications of Productivity Growth: Proceedings of a Workshop, 22-23 November 1984*, Canberra, Bureau of Labour Market Research, Australia Department of Employment and Industrial Relations, Monograph Series No. 14 (1986).
- “Productivity Measurement as a Tool in Federal Management Improvement,” by Charles W. Ardolini. Statement for Subcommittee on Civil Service, Post Office, and General Services of the U.S. Senate, Committee on Governmental Affairs, September 1984. 28 pp.
- Measuring Productivity in State and Local Government*, by Donald M. Fisk, BLS Bulletin 2166 (December 1983). Out of print.

- “Productivity Measurement of Government Services,” White House Conference on Productivity, Background Paper, June 1983.
- “Modest Productivity Gains in State Unemployment Insurance Service,” by Donald M. Fisk, *Monthly Labor Review*, January 1983, pp. 24-27.
- “Productivity Measures: Industries and Government,” reprint of chapter 11 of the *BLS Handbook of Methods*, Bulletin 2285 (1988).
- “Pilot Study Measures State, Local Electric Utilities,” by Donald M. Fisk, *Monthly Labor Review*, December 1981, pp. 45-47.
- “Measuring Productivity in Government,” by Jerome A. Mark, *Public Productivity Review*, March 1981, pp. 21-44.
- “Federal Sector Productivity Measurement,” by Charles W. Ardolini, in *Selected Papers from North American Conference on Labor Statistics*, May 1980, pp. 49-60.

Productivity and other economic trends

- Productivity and Costs* (quarterly news release).
- Multifactor Productivity Measures* (annual news release).
- “United States Multifactor Productivity Growth Since 1948,” by Edwin Dean and Kent Kunze, *Monthly Labor Review* (forthcoming).
- “Capital Discards and Multifactor Productivity Measurement,” by Susan Powers, *Monthly Labor Review* (forthcoming).
- “Multifactor Productivity in U.S. Manufacturing, 1949-83,” by William Gullickson and Michael Harper, *Monthly Labor Review*, October 1987, pp. 18-28.
- “Problems Encountered in Measuring Single- and Multifactor Productivity,” by Jerome A. Mark, *Monthly Labor Review*, December 1986, pp. 3-11.
- “United States Productivity Growth Since 1982: The Post-Recession Experience,” by Lawrence J. Fulco, *Monthly Labor Review*, December 1986, pp. 18-22.
- “The Contribution of Research and Development to Productivity Growth,” by Leo Sveikauskas, *Monthly Labor Review*, March 1986, pp. 16-20.
- “The Decline in Productivity During the First Half of 1985,” by Lawrence J. Fulco, *Monthly Labor Review*, December 1985, pp. 39-42.
- “Hours at Work Increase Relative to Hours Paid,” by Kent Kunze, *Monthly Labor Review*, June 1985, pp. 44-47.
- Trends in Manufacturing: A Chartbook*, BLS Bulletin 2219 (April 1985). Out of print.
- Productivity: A Selected, Annotated Bibliography, 1979-82*, BLS Bulletin 2212 (1984). Out of print.
- “A New BLS Survey Measures the Ratio of Hours Worked to Hours Paid,” by Kent Kunze, *Monthly Labor Review*, June 1984, pp. 3-7.
- “Multifactor Productivity: A New BLS Measure,” by Jerome A. Mark and William H. Waldorf, *Monthly Labor Review*, December 1983, pp. 3-15.
- Trends in Multifactor Productivity, 1948-81*, BLS Bulletin 2178 (September 1983). Out of print.

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A BLS Reader on Productivity, BLS Bulletin 2171 (June 1983). Out of print.

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"The Measurement of Capital Stock, Capital Wealth, and Capital Services," BLS Working Paper 128 (March 1982).

Technology studies

"Technological Change and Employment: Some Results from BLS Research," by Jerome A. Mark, *Monthly Labor Review*, April 1987, pp. 26-29.

Technology and Labor in Four Industries (lumber and wood products, footwear, hydraulic cement, and wholesale trade). BLS Bulletin 2263 (December 1986). Price: \$2.75.

Technology and Its Impact on Labor in Four Industries (tires, aluminum, aerospace, banking), BLS Bulletin 2242 (1986). Price: \$2.75.

The Impact of Technology on Labor in Four Industries (textiles, paper and paperboard, steel, motor vehicles), BLS Bulletin 2228 (1985). Out of print.

"Implications of Technological Change," by Jerome A. Mark. Seminar presentation, Ixtapan de la Sal, Mexico, August 1984. 31 pp.

Technological Change and Its Labor Impact in Four Industries (hosiery, folding paperboard boxes, metal cans, laundry and cleaning), BLS Bulletin 2182 (1984). Out of print.

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International Comparisons of Manufacturing Productivity and Labor Cost Trends: Preliminary Measures (annual news release; usually in June).

International Comparisons of Hourly Compensation Costs for Production Workers in Manufacturing, 1975-86, BLS Report 745 (September 1987). 10 pp.

"Developments in Productivity in the U.S. and Industrialized Countries," by Jerome A. Mark. Presentation before

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"Japanese Unemployment: BLS Updates Its Analysis," by Constance Sorrentino, *Monthly Labor Review*, June 1987, pp. 47-53.

"International Trends in Productivity and Unit Labor Costs in Manufacturing," by Arthur Neef, *Monthly Labor Review*, December 1986, pp. 12-17.

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"Productivity and Labor Costs Trends in Manufacturing, 12 Countries," by Edwin Dean, Harry Boissevain, and James Thomas, *Monthly Labor Review*, March 1986, pp. 3-10.

"Alternative Measures of Capital Inputs for Computation of Multifactor Productivity Growth in Japanese Manufacturing," by Edwin Dean, Masako Darrough, and Arthur Neef. Paper presented at the Conference on Productivity Growth in Japan and the United States, Conference on Research in Income and Wealth, Cambridge, Massachusetts, August 26-28, 1985. 45 pp.

"Recent Trends in Unemployment and the Labor Force, 10 Countries," by Joyanna Moy, *Monthly Labor Review*, August 1985, pp. 9-22.

"Comparative Changes in Labor Productivity and Unit Labor Costs by Manufacturing Industry: United States and Western Europe," by Arthur Neef and Edwin Dean. Paper presented at the American Enterprise Institute Conference on Interindustry Differences in Productivity Growth, Washington, DC, October 1984. 77 pp.

"Japan's Low Unemployment: An In-depth Analysis," by Constance Sorrentino, *Monthly Labor Review*, March 1984, pp. 18-27.

"Recent Labor Market Developments in the U.S. and Nine Other Countries," by Joyanna Moy, *Monthly Labor Review*, January 1984, pp. 44-51.

"Labor Market Contrasts: United States and Europe," by Janet Norwood, *Monthly Labor Review*, August 1983, pp. 3-7.

"International Comparisons of Labor Force Participation, 1960-81," by Constance Sorrentino, *Monthly Labor Review*, February 1983, pp. 23-36.

"Foreign Labor Statistics," reprint of chapter 13 of the *BLS Handbook of Methods*, Bulletin 2285 (1988).

"Unemployment, Labor Force Trends, and Layoff Practices in 10 Countries," by Joyanna Moy and Constance Sorrentino, *Monthly Labor Review*, December 1981, pp. 3-13.

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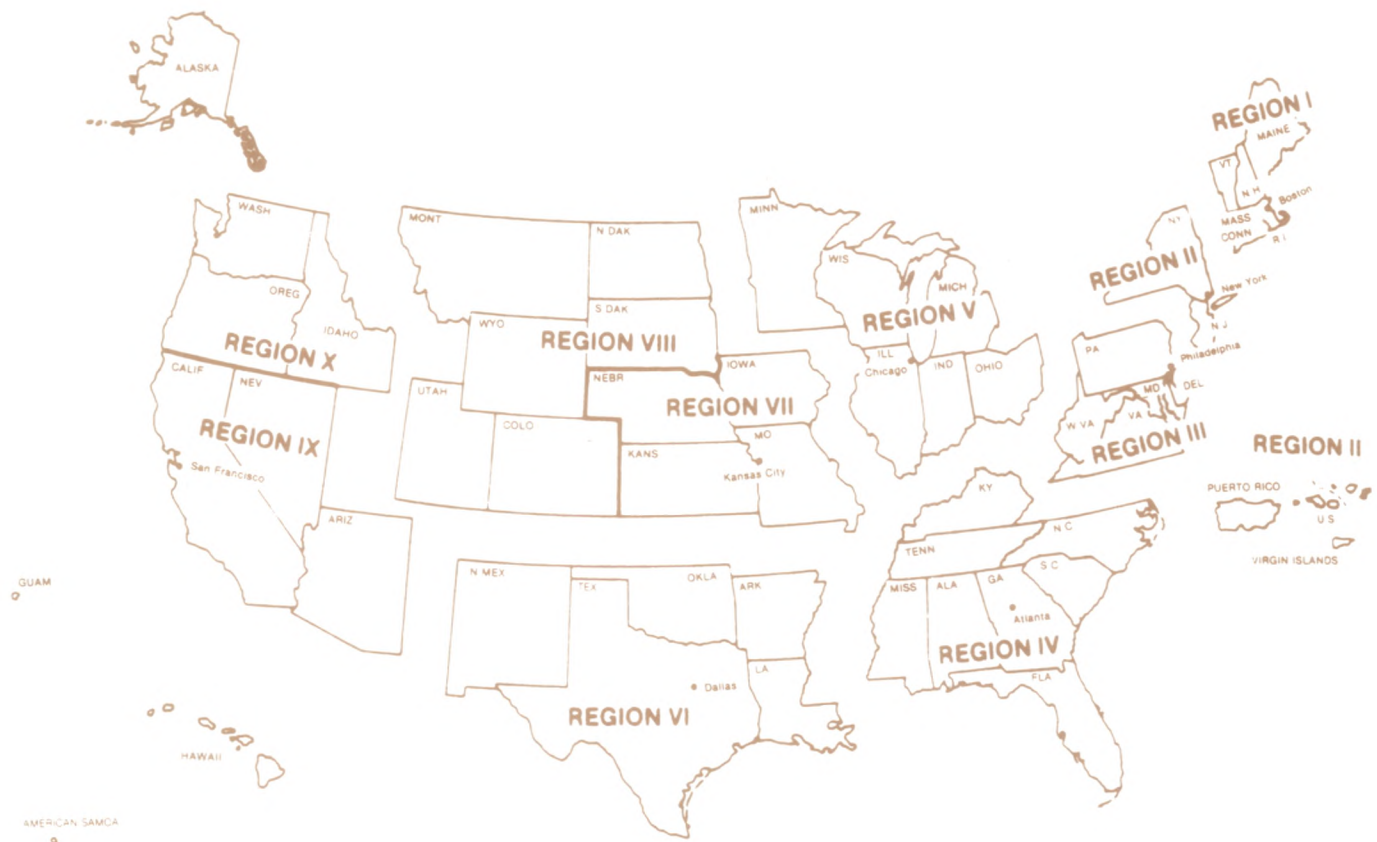
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