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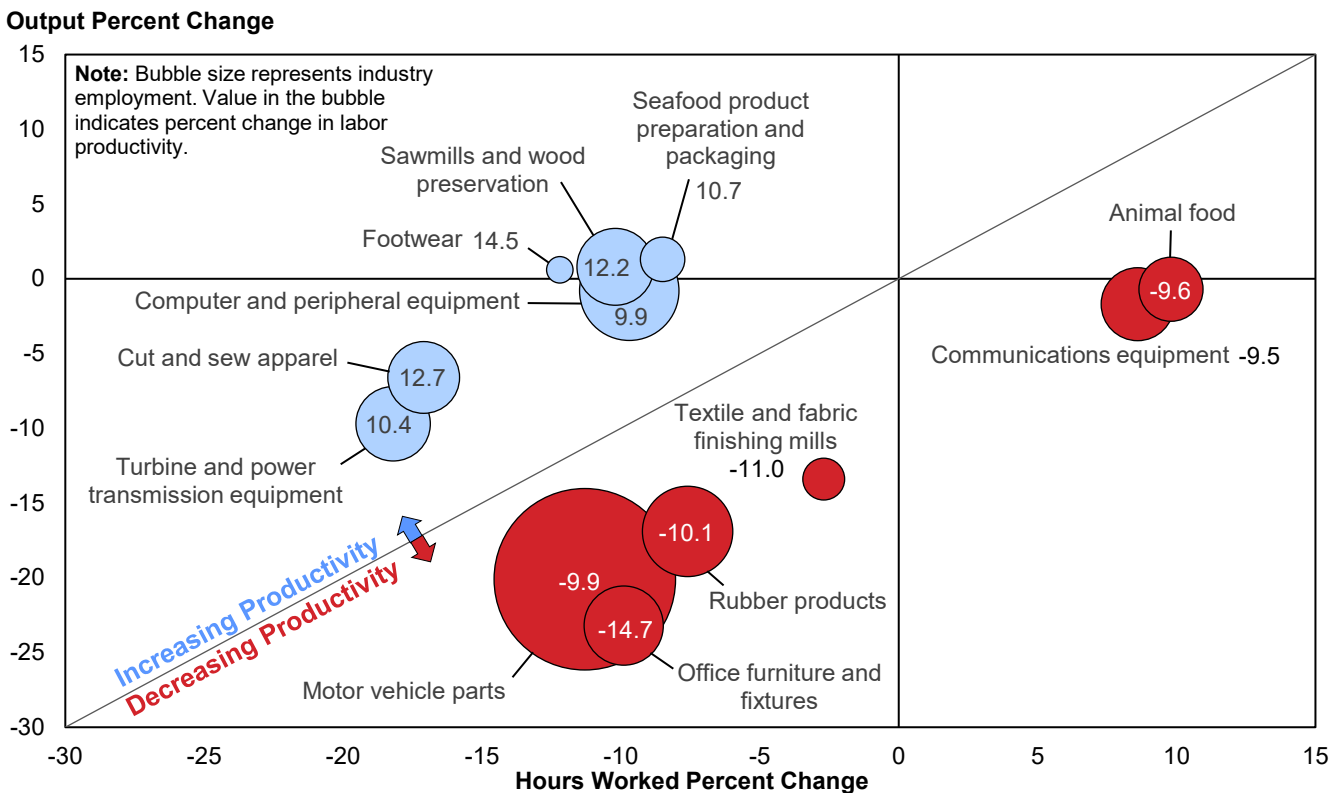
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**PRODUCTIVITY AND COSTS BY INDUSTRY**  
**MANUFACTURING AND MINING INDUSTRIES – 2020**

**Labor productivity** rose in 41 of the 86 NAICS four-digit manufacturing industries in 2020, the U.S. Bureau of Labor Statistics reported today. The footwear industry had the largest productivity gain with an increase of 14.5 percent. (See chart 1.) Three out of the four industries in the mining sector posted productivity declines in 2020, with the greatest decline occurring in the metal ore mining industry with a decrease of 6.7 percent.

Although more mining and manufacturing industries recorded productivity gains in 2020 than 2019, declines in both output and hours worked were widespread. Output fell in over 90 percent of detailed industries in 2020 and 87 percent had declines in hours worked. Seventy-two industries had declines in both output and hours worked in 2020. This was the greatest number of such industries since 2009. Within this set of industries, 35 had increasing labor productivity.

**Chart 1. Manufacturing and mining industries with the largest change in productivity, 2020 (NAICS 4-digit industries)**



Change in productivity is approximately equal to the change in output minus the change in hours worked. All six industries with productivity gains (those above the diagonal line) had declines in hours worked greater than 8.0 percent. All six industries with declining productivity (below the diagonal line) had declining output, yet two industries, animal food manufacturing and communications equipment manufacturing, recorded growth in hours worked greater than 8.0 percent. See chart 1.

### Labor Productivity Trends in NAICS 3-Digit Industries, 2020

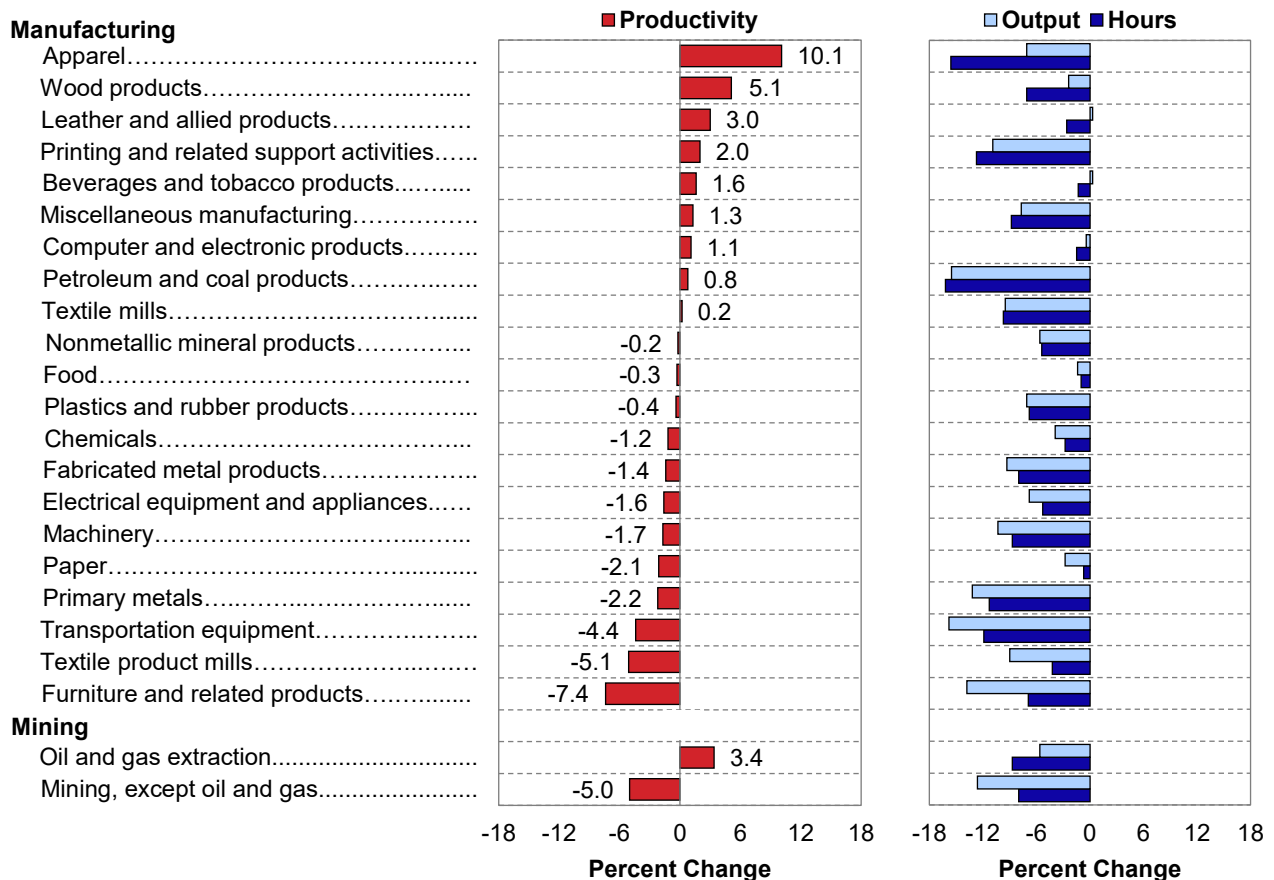
#### Manufacturing

- Labor productivity increased in 9 of the 21 NAICS 3-digit manufacturing industries in 2020 as hours worked fell in all 21 industries and output declined in 19. (See chart 2.)
- Both output and hours worked fell by over 5.0 percent in 13 industries.
- The apparel industry had the largest productivity gain, 10.1 percent.
- The furniture and related products industry had the largest productivity decline, 7.4 percent.

#### Mining

- Labor productivity rose by 3.4 percent in the oil and gas extraction industry as hours worked declined more than output. (See chart 2.)
- The mining, except oil and gas industry had a productivity decline of 5.0 percent. Output fell 12.6 percent in 2020 while hours worked declined 8.0 percent.

**Chart 2. Productivity growth in NAICS 3-digit manufacturing and mining industries, 2020**



## Trends in Unit Labor Costs in 2020

Unit labor costs increase when hourly compensation growth exceeds productivity growth.

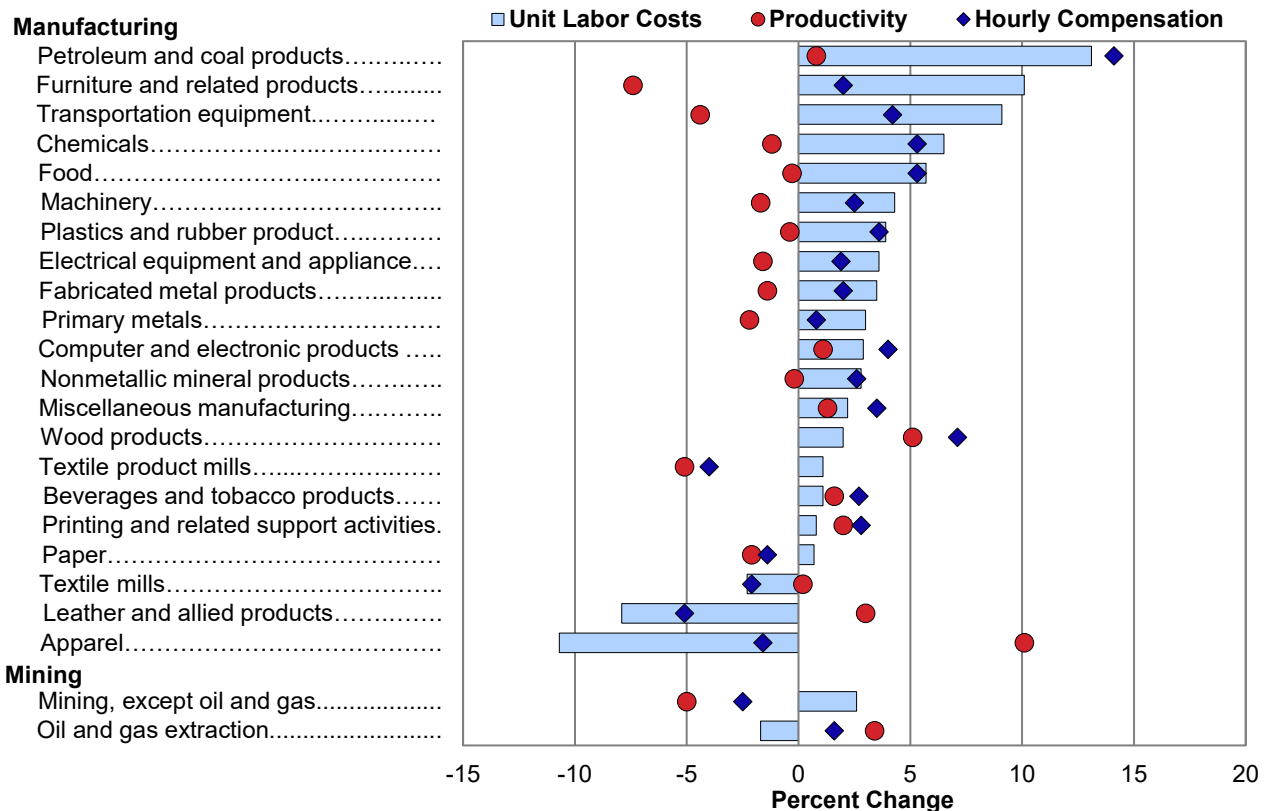
### Manufacturing

- In manufacturing, unit labor costs increased in 18 of the 21 NAICS 3-digit industries. (See chart 3.) The three industries with declines in unit labor costs were all nondurable manufacturers with the largest decline occurring in apparel.
- Twenty-six NAICS 4-digit manufacturing industries had declines in unit labor costs. Of these, nearly three quarters also recorded growth in productivity. (See table 1.)

### Mining

- Unit labor costs declined in the oil and gas extraction industry by 1.7 percent but increased in the mining, except oil and gas industry by 2.6 percent. (See chart 3.)
- Unit labor costs rose in 3 of the 4 NAICS 4-digit mining industries measured. All three of these industries recorded declines in hourly compensation along with even greater declines in productivity. (See table 1.)

**Chart 3. Unit labor costs, productivity, and hourly compensation in NAICS 3-digit manufacturing and mining industries, 2020**



## Long-Term Trends in Labor Productivity and Unit Labor Costs

Chart 4 displays the number of NAICS 4-digit manufacturing and mining industries with increases in productivity, output, and hours worked for selected time periods through 2020.

### *Labor Productivity*

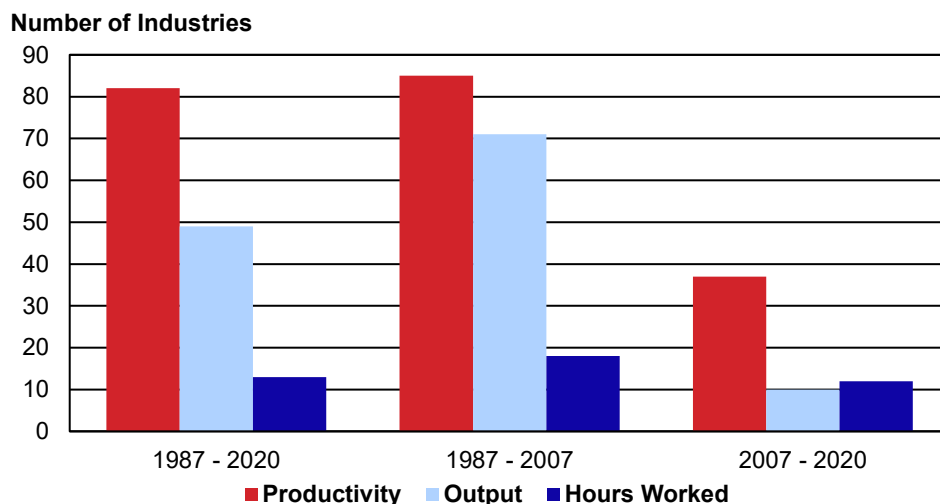
- Over the entire **1987-2020** period, labor productivity rose in 83 of the 91 manufacturing and mining industries. Output rose in 50 industries while hours worked increased in only 14. (See table 2.) In the 14 industries where hours worked increased, they rose at a slow pace, 0.7 percent per year on average.
- During the more recent **2007-2020** period, productivity increased in just 38 industries. These increases are predominantly the result of a decline in hours worked rather than an increase in output, as hours worked fell in 79 NAICS 4-digit manufacturing and mining industries while output increased in only 11. Oil and gas extraction had the greatest average annual growth in output over this period, 6.0 percent.

### *Unit Labor Costs*

- During the **1987-2020** period, unit labor costs increased in 78 of the 86 NAICS 4-digit manufacturing industries. All five mining industries saw an increase in unit labor costs. (See table 2.)
- From **2007 to 2020**, unit labor costs increased in 82 of the 86 manufacturing industries and in 3 of the 5 mining industries. Unit labor costs increased the most in the pharmaceutical and medicine industry.

The computer and peripheral equipment industry recorded the largest productivity gain as well as the largest unit labor cost decline during both the 1987-2020 and 1987-2007 periods. However, between 2007 and 2020, the oil and gas extraction industry posted the greatest productivity growth and the largest unit labor cost decline.

**Chart 4. Manufacturing and mining industries with increases in labor productivity, output, and hours worked (NAICS 4-digit industries)**



## **Additional Information**

Manufacturing industry output measures for 2019 and earlier years are constructed primarily using data from the economic censuses and annual surveys of the U.S. Census Bureau together with data on price changes primarily from BLS. These measures have been revised due to the release of the 2017 Economic Census Summary Series and the 2019 Annual Survey of Manufactures. Manufacturing industry output for 2020 is estimated based on historical relationships between BLS sectoral output, BLS price indexes, and data on industrial production from the Federal Reserve Board.

Mining industry output measures are constructed primarily using data from the U.S. Energy Information Administration and the U.S. Geological Survey's Mineral Commodity Summaries and Mineral Yearbooks. The data from the U.S. Energy Information Administration are usually revised on a monthly schedule while the U.S. Geological Survey's publications are released annually.

The COVID-19 pandemic did not impact the availability of source data used to construct productivity measures in this release. Data source providers continued to collect and publish high quality industry data for 2020. Additional information can be found on the BLS website at <https://www.bls.gov/covid19/effects-of-covid-19-pandemic-on-productivity-and-costs-statistics.htm#Industry-Productivity>

Access the productivity data dashboard at [www.bls.gov/lpc/lpc\\_by\\_industry\\_dashboard.xlsx](http://www.bls.gov/lpc/lpc_by_industry_dashboard.xlsx) for

- Additional industries and sectors
- Detailed data series: indexes of productivity and related measures; rates of change; and levels of industry employment, hours worked, nominal value of production, and labor compensation
- Additional years and long-term data

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## Technical Note

**Labor Productivity:** Labor productivity describes the relationship between real output and the labor hours involved in its production. These measures show the changes from period to period in the amount of goods and services produced per hour worked. Although the labor productivity measures relate output in an industry to hours worked of all persons in that industry, they do not measure the specific contribution of labor to growth in output. Rather, they reflect the joint effects of many influences, including: changes in technology; capital investment; utilization of capacity, energy, and materials; the use of purchased services inputs, including contract employment services; the organization of production; the characteristics and effort of the workforce; and managerial skill.

**Unit Labor Costs:** Unit labor costs represent the cost of labor required to produce one unit of output. The unit labor cost indexes are computed by dividing an index of nominal industry labor compensation by an index of real industry output. Unit labor costs also describe the relationship between compensation per hour worked (hourly compensation) and real output per hour worked (labor productivity). When hourly compensation growth outpaces productivity, unit labor costs increase. Alternatively, when productivity growth exceeds hourly compensation, unit labor costs decrease.

**Output:** Industry output is measured as an annual-weighted index of the changes in the various products (in real terms) provided for sale outside the industry. Real industry output is usually derived by deflating nominal sales or values of production using BLS price indexes, but for some industries it is measured by physical quantities of output. Industry output reflects sectoral value of production, derived by adjusting shipments for changes in inventories and removing intra-industry transactions. Industry output measures are constructed primarily using data from the economic censuses and annual surveys of the Census Bureau, U.S. Department of Commerce, together with data on price changes primarily from BLS. Data from the Bureau of Economic Analysis at the U.S. Department of Commerce is used in part to construct intra-industry transactions. Other data sources include the Energy Information Administration at the U.S. Department of Energy and the U.S. Geological Survey at the U.S. Department of the Interior. Manufacturing industry output for 2020 is estimated based on historical relationships between BLS sectoral output, BLS price indexes, and data on industrial production from the Federal Reserve Board.

**Labor Hours:** Labor hours are measured as annual hours worked by all employed persons in an industry. Data on industry employment and hours come primarily from the BLS Current Employment Statistics (CES) survey and Current Population Survey (CPS). CES data on the number of total and production worker jobs held by wage and salary workers in nonfarm establishments are supplemented with CPS data on self-employed and unpaid family workers to estimate industry employment. Hours worked estimates are derived using CES and CPS employment, CES data on the average weekly hours paid of production workers, CPS data on hours of nonproduction, self-employed, and unpaid family workers, and ratios of hours worked to hours paid based on data from the National Compensation Survey (NCS). For some industries, employment and hours data are supplemented or further disaggregated using data from the BLS Quarterly Census of Employment and Wages (QCEW), the Census Bureau, or other sources. Hours worked are estimated separately for different types of workers and then are directly aggregated; no adjustments for labor composition are made.

**Labor Compensation:** Labor compensation, defined as payroll plus supplemental payments, is a measure of the cost to the employer of securing the services of labor. Payroll includes salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, and compensation in kind. Supplemental payments include both legally required expenditures and payments for voluntary programs. The legally required portion consists primarily of federal old age and survivors' insurance, unemployment compensation, and workers' compensation. Payments for voluntary programs include all programs not specifically required by legislation, such as the employer portion of private health insurance and pension plans. Industry compensation measures are constructed primarily using data from the BLS QCEW and the economic censuses of the Census Bureau at the U.S. Department of Commerce.

**Table 1. Recent labor productivity, unit labor costs, and related data**

Industry	2017 NAICS code	2020 Employment (thousands)	Percent change, 2019-2020					
			Labor productivity	Unit labor costs	Output	Hours worked	Labor compen- sation	Hourly compen- sation
<b>Mining</b>								
Mining.....	21	584.7	13.9	-10.8	-7.3	-18.6	-17.3	1.6
Oil and gas extraction.....	211	138.6	3.4	-1.7	-5.6	-8.7	-7.2	1.6
Oil and gas extraction.....	2111	138.6	3.4	-1.7	-5.6	-8.7	-7.2	1.6
Mining, except oil and gas.....	212	179.4	-5.0	2.6	-12.6	-8.0	-10.3	-2.5
Coal mining.....	2121	41.6	-3.8	2.9	-24.7	-21.8	-22.5	-0.9
Metal ore mining.....	2122	41.9	-6.7	5.5	-8.9	-2.4	-3.9	-1.6
Nonmetallic mineral mining and quarrying.....	2123	95.9	-4.3	1.4	-7.1	-3.0	-5.9	-3.0
<b>Nondurable Manufacturing</b>								
Food.....	311	1,666.2	-0.3	5.7	-1.4	-1.0	4.3	5.3
Animal food.....	3111	67.4	-9.6	9.3	-0.7	9.8	8.5	-1.2
Grain and oilseed milling.....	3112	61.8	-1.3	5.1	-0.9	0.3	4.2	3.8
Sugar and confectionery products.....	3113	73.9	1.6	0.0	-1.3	-2.8	-1.3	1.5
Fruit and vegetable preserving and specialty.....	3114	170.6	4.3	6.7	-1.3	-5.4	5.3	11.3
Dairy products.....	3115	152.8	0.8	2.4	-0.3	-1.1	2.2	3.3
Animal slaughtering and processing.....	3116	540.4	-2.8	8.8	-0.3	2.5	8.5	5.8
Seafood product preparation and packaging.....	3117	32.4	10.7	-5.8	1.3	-8.5	-4.6	4.2
Bakeries and tortilla products.....	3118	338.8	0.4	2.1	-3.3	-3.7	-1.3	2.5
Other food products.....	3119	228.1	0.7	8.7	-3.5	-4.2	4.9	9.5
Beverages and tobacco products.....	312	281.8	1.6	1.1	0.3	-1.3	1.4	2.7
Beverages.....	3121	270.4	3.1	0.0	1.5	-1.5	1.5	3.1
Tobacco.....	3122	11.4	-7.3	2.1	-2.6	5.1	-0.6	-5.4
Textile mills.....	313	101.0	0.2	-2.3	-9.5	-9.7	-11.6	-2.1
Fiber, yarn, and thread mills.....	3131	23.6	7.5	-8.9	-10.0	-16.3	-18.0	-2.0
Fabric mills.....	3132	48.7	3.1	-2.3	-7.0	-9.7	-9.1	0.7
Textile and fabric finishing mills.....	3133	28.7	-11.0	2.5	-13.4	-2.7	-11.2	-8.7
Textile product mills.....	314	116.6	-5.1	1.1	-9.0	-4.2	-8.0	-4.0
Textile furnishings mills.....	3141	50.2	-6.9	-1.6	-8.8	-2.0	-10.2	-8.3
Other textile product mills.....	3149	66.4	-3.7	3.6	-9.4	-5.9	-6.1	-0.2
Apparel.....	315	105.4	10.1	-10.7	-7.1	-15.6	-17.0	-1.6
Apparel knitting mills.....	3151	8.4	3.0	-8.5	-11.4	-14.0	-18.9	-5.8
Cut and sew apparel.....	3152	84.5	12.7	-11.6	-6.6	-17.1	-17.4	-0.3
Accessories and other apparel.....	3159	12.5	-1.5	-5.6	-7.2	-5.8	-12.4	-7.0
Leather and allied products.....	316	30.4	3.0	-7.9	0.3	-2.6	-7.6	-5.1
Leather and hide tanning and finishing.....	3161	4.8	1.6	-7.5	2.1	0.4	-5.5	-5.9
Footwear.....	3162	11.5	14.5	-12.2	0.6	-12.2	-11.7	0.5
Other leather products.....	3169	14.1	-7.4	-2.2	-1.3	6.6	-3.5	-9.4
Paper.....	322	357.0	-2.1	0.7	-2.8	-0.7	-2.1	-1.4
Pulp, paper, and paperboard mills.....	3221	92.6	1.6	0.8	-3.8	-5.3	-3.0	2.5
Converted paper products.....	3222	264.4	-3.5	0.7	-2.4	1.2	-1.7	-2.9
Printing and related support activities.....	323	397.8	2.0	0.8	-10.9	-12.7	-10.2	2.8
Printing and related support activities.....	3231	397.8	2.0	0.8	-10.9	-12.7	-10.2	2.8
Petroleum and coal products.....	324	106.5	0.8	13.1	-15.5	-16.2	-4.4	14.1
Petroleum and coal products.....	3241	106.5	0.8	13.1	-15.5	-16.2	-4.4	14.1
Chemicals.....	325	860.9	-1.2	6.5	-3.9	-2.8	2.4	5.3
Basic chemicals.....	3251	150.1	-2.2	1.6	-4.9	-2.8	-3.4	-0.6
Resin, rubber, and artificial fibers.....	3252	91.8	-1.6	-2.9	-2.1	-0.5	-5.0	-4.5
Agricultural chemicals.....	3253	37.2	5.3	8.2	-2.8	-7.8	5.1	14.0
Pharmaceuticals and medicines.....	3254	318.7	-3.1	10.4	-2.6	0.5	7.6	7.0
Paints, coatings, and adhesives.....	3255	64.2	2.9	10.7	-11.4	-13.8	-1.8	13.9
Soaps, cleaning compounds, and toiletries.....	3256	119.9	-3.5	6.3	-2.1	1.4	4.1	2.6
Other chemical products and preparations.....	3259	79.0	5.0	2.4	-6.3	-10.8	-4.1	7.4



**Table 1. Recent labor productivity, unit labor costs, and related data — Continued**

Industry	2017 NAICS code	2020 Employment (thousands)	Percent change, 2019-2020					
			Labor productivity	Unit labor costs	Output	Hours worked	Labor compen- sation	Hourly compen- sation
Plastics and rubber products.....	326	715.5	-0.4	3.9	-7.1	-6.8	-3.5	3.6
Plastics products.....	3261	581.5	1.7	3.4	-5.0	-6.6	-1.7	5.2
Rubber products.....	3262	134.0	-10.1	7.9	-16.9	-7.6	-10.4	-3.0
<b>Durable Manufacturing</b>								
Wood products.....	321	413.2	5.1	2.0	-2.4	-7.1	-0.4	7.1
Sawmills and wood preservation.....	3211	96.9	12.2	-2.7	0.8	-10.2	-1.8	9.2
Plywood and engineered wood products.....	3212	78.7	-1.2	1.9	-2.3	-1.1	-0.5	0.6
Other wood products.....	3219	237.6	3.5	4.8	-4.5	-7.7	0.2	8.5
Nonmetallic mineral products.....	327	410.8	-0.2	2.8	-5.6	-5.4	-3.0	2.6
Clay products and refractories.....	3271	42.0	1.1	-7.9	-0.8	-1.9	-8.7	-6.9
Glass and glass products.....	3272	80.0	0.6	-3.1	-5.1	-5.7	-8.0	-2.5
Cement and concrete products.....	3273	194.5	-1.9	9.6	-7.9	-6.1	1.0	7.5
Lime and gypsum products.....	3274	15.3	2.2	-1.2	-3.7	-5.7	-4.9	0.9
Other nonmetallic mineral products.....	3279	79.0	2.4	-1.3	-3.1	-5.4	-4.4	1.0
Primary metals.....	331	357.4	-2.2	3.0	-13.2	-11.3	-10.6	0.8
Iron and steel mills and ferroalloys.....	3311	83.2	-2.3	2.8	-12.8	-10.8	-10.3	0.5
Steel products from purchased steel.....	3312	55.4	-4.1	7.3	-15.1	-11.5	-9.0	2.8
Alumina and aluminum production.....	3313	56.9	2.2	1.1	-8.7	-10.7	-7.7	3.3
Other nonferrous metal production.....	3314	58.2	-6.5	11.4	-16.7	-10.9	-7.2	4.1
Foundries.....	3315	103.7	-0.6	-3.2	-12.7	-12.2	-15.5	-3.8
Fabricated metal products.....	332	1,418.7	-1.4	3.5	-9.3	-8.0	-6.1	2.0
Forging and stamping.....	3321	91.1	-4.5	0.4	-12.2	-8.0	-11.8	-4.2
Cutlery and handtools.....	3322	35.0	4.7	-4.1	-3.3	-7.7	-7.3	0.5
Architectural and structural metals.....	3323	389.2	-1.6	3.3	-5.2	-3.6	-2.1	1.6
Boilers, tanks, and shipping containers.....	3324	90.2	6.9	-6.8	0.5	-6.0	-6.3	-0.3
Hardware.....	3325	24.6	-4.9	8.5	-10.3	-5.7	-2.7	3.2
Spring and wire products.....	3326	40.7	0.3	-1.5	-8.2	-8.5	-9.6	-1.3
Machine shops and threaded products.....	3327	345.7	-9.2	15.2	-19.8	-11.7	-7.6	4.6
Coating, engraving, and heat treating metals.....	3328	131.8	-2.4	6.7	-14.8	-12.7	-9.1	4.1
Other fabricated metal products.....	3329	270.4	0.8	1.2	-7.1	-7.8	-5.9	2.0
Machinery.....	333	1,068.5	-1.7	4.3	-10.3	-8.7	-6.4	2.5
Agriculture, construction, and mining machinery...	3331	204.8	-6.2	4.8	-15.5	-9.9	-11.5	-1.8
Industrial machinery.....	3332	118.3	-2.8	4.2	-2.3	0.5	1.8	1.3
Commercial and service industry machinery.....	3333	88.0	-0.2	3.9	-8.3	-8.1	-4.8	3.7
HVAC and commercial refrigeration equipment....	3334	134.4	0.9	-1.8	-1.4	-2.3	-3.2	-1.0
Metalworking machinery.....	3335	165.0	-1.2	9.5	-16.7	-15.7	-8.8	8.2
Turbine and power transmission equipment.....	3336	90.8	10.4	0.2	-9.7	-18.2	-9.5	10.7
Other general purpose machinery.....	3339	267.2	-4.6	6.4	-11.2	-6.9	-5.6	1.4
Computer and electronic products.....	334	1,084.4	1.1	2.9	-0.4	-1.5	2.5	4.0
Computer and peripheral equipment.....	3341	162.2	9.9	8.9	-0.8	-9.7	8.0	19.7
Communications equipment.....	3342	87.4	-9.5	0.1	-1.7	8.6	-1.6	-9.3
Audio and video equipment.....	3343	21.9	0.6	-0.4	-3.5	-4.2	-3.9	0.2
Semiconductors and electronic components.....	3344	376.0	-2.2	0.8	0.3	2.5	1.1	-1.4
Electronic instruments.....	3345	423.4	3.3	1.8	-0.3	-3.5	1.5	5.1
Magnetic media manufacturing and reproducing...	3346	13.5	-2.0	1.6	-3.4	-1.4	-1.9	-0.5
Electrical equipment and appliances.....	335	382.1	-1.6	3.6	-6.8	-5.3	-3.5	1.9
Electric lighting equipment.....	3351	42.6	-5.0	1.0	-7.5	-2.6	-6.6	-4.1
Household appliances.....	3352	60.1	3.5	-1.1	1.7	-1.8	0.5	2.4
Electrical equipment.....	3353	135.3	-3.1	5.2	-9.6	-6.6	-4.8	1.9
Other electrical equipment and components.....	3359	144.1	-2.6	6.1	-8.4	-6.0	-2.7	3.4
Transportation equipment.....	336	1,591.6	-4.4	9.1	-15.8	-11.9	-8.2	4.2
Motor vehicles.....	3361	187.5	7.0	13.4	-18.4	-23.7	-7.4	21.4
Motor vehicle bodies and trailers.....	3362	151.7	-0.2	-2.3	-8.4	-8.1	-10.5	-2.5
Motor vehicle parts.....	3363	540.4	-9.9	5.8	-20.1	-11.3	-15.4	-4.7

**Table 1. Recent labor productivity, unit labor costs, and related data — Continued**

Industry	2017 NAICS code	2020 Employment (thousands)	Percent change, 2019-2020					
			Labor productivity	Unit labor costs	Output	Hours worked	Labor compen- sation	Hourly compen- sation
Aerospace products and parts.....	3364	513.0	-5.2	10.5	-13.8	-9.0	-4.7	4.8
Railroad rolling stock.....	3365	23.7	-1.6	-1.8	-2.0	-0.4	-3.7	-3.4
Ship and boat building.....	3366	139.1	6.6	4.8	-7.0	-12.7	-2.5	11.7
Other transportation equipment.....	3369	36.2	1.5	-1.3	-2.4	-3.8	-3.7	0.1
Furniture and related products.....	337	378.5	-7.4	10.1	-13.8	-6.9	-5.0	2.0
Household and institutional furniture.....	3371	241.7	-2.9	5.3	-8.7	-5.9	-3.9	2.2
Office furniture and fixtures.....	3372	102.9	-14.7	20.8	-23.2	-9.9	-7.2	3.0
Other furniture related products.....	3379	33.9	-2.3	1.8	-6.1	-3.9	-4.4	-0.5
Miscellaneous manufacturing.....	339	640.2	1.3	2.2	-7.7	-8.8	-5.6	3.5
Medical equipment and supplies.....	3391	325.3	-1.0	3.4	-8.0	-7.1	-4.9	2.4
Other miscellaneous manufacturing.....	3399	314.9	3.8	0.4	-7.2	-10.6	-6.9	4.2

**Table 2. Long run labor productivity, unit labor costs, and related data**

Industry	2017 NAICS code	2020 Employment (thousands)	Average annual percent change, 1987-2020					
			Labor productivity	Unit labor costs	Output	Hours worked	Labor compen- sation	Hourly compen- sation
<b>Mining</b>								
Mining.....	21	584.7	1.9	1.8	1.4	-0.5	3.3	3.7
Oil and gas extraction.....	211	138.6	3.0	1.9	1.8	-1.2	3.7	5.0
Oil and gas extraction.....	2111	138.6	3.0	1.9	1.8	-1.2	3.7	5.0
Mining, except oil and gas.....	212	179.4	1.1	1.7	-0.4	-1.4	1.3	2.8
Coal mining.....	2121	41.6	1.4	1.0	-2.2	-3.6	-1.2	2.5
Metal ore mining.....	2122	41.9	0.1	3.4	0.3	0.2	3.7	3.5
Nonmetallic mineral mining and quarrying.....	2123	95.9	1.1	2.1	0.7	-0.3	2.9	3.2
Support activities for mining <sup>1</sup> .....	213	352.6	2.8	1.6	4.9	2.1	6.6	4.4
Support activities for mining <sup>1</sup> .....	2131	352.6	2.8	1.6	4.9	2.1	6.6	4.4
<b>Nondurable Manufacturing</b>								
Food.....	311	1,666.2	0.6	1.9	1.1	0.5	3.1	2.6
Animal food.....	3111	67.4	1.0	2.1	1.5	0.5	3.7	3.2
Grain and oilseed milling.....	3112	61.8	1.6	1.3	0.8	-0.8	2.2	3.0
Sugar and confectionery products.....	3113	73.9	1.2	1.9	0.5	-0.7	2.5	3.2
Fruit and vegetable preserving and specialty.....	3114	170.6	0.9	2.0	0.7	-0.1	2.7	2.9
Dairy products.....	3115	152.8	1.0	2.0	1.1	0.2	3.2	3.0
Animal slaughtering and processing.....	3116	540.4	0.4	2.0	1.6	1.2	3.7	2.4
Seafood product preparation and packaging.....	3117	32.4	1.5	2.3	0.4	-1.1	2.7	3.8
Bakeries and tortilla products.....	3118	338.8	0.0	1.8	0.2	0.1	2.0	1.8
Other food products.....	3119	228.1	0.2	2.3	2.0	1.7	4.3	2.5
Beverages and tobacco products.....	312	281.8	-0.5	2.7	-0.2	0.2	2.4	2.2
Beverages.....	3121	270.4	0.3	2.0	1.1	0.8	3.1	2.3
Tobacco.....	3122	11.4	2.0	1.6	-2.8	-4.7	-1.2	3.6
Textile mills.....	313	101.0	2.3	-0.1	-2.5	-4.7	-2.6	2.2
Fiber, yarn, and thread mills.....	3131	23.6	2.2	-0.8	-2.1	-4.2	-2.9	1.4
Fabric mills.....	3132	48.7	2.6	0.3	-2.9	-5.3	-2.6	2.8
Textile and fabric finishing mills.....	3133	28.7	0.8	0.9	-3.3	-4.0	-2.4	1.7
Textile product mills.....	314	116.6	0.4	2.3	-2.0	-2.3	0.3	2.6
Textile furnishings mills.....	3141	50.2	0.0	2.1	-2.7	-2.8	-0.6	2.2
Other textile product mills.....	3149	66.4	1.2	2.0	-0.7	-1.9	1.3	3.2
Apparel.....	315	105.4	0.2	1.2	-6.3	-6.5	-5.2	1.4
Apparel knitting mills.....	3151	8.4	0.0	1.5	-7.4	-7.4	-6.0	1.6
Cut and sew apparel.....	3152	84.5	0.5	1.1	-6.2	-6.6	-5.2	1.6
Accessories and other apparel.....	3159	12.5	-2.4	2.2	-5.9	-3.6	-3.8	-0.2
Leather and allied products.....	316	30.4	0.8	1.8	-3.8	-4.5	-2.0	2.6
Leather and hide tanning and finishing.....	3161	4.8	0.7	0.4	-2.7	-3.4	-2.3	1.2
Footwear.....	3162	11.5	1.3	2.1	-4.6	-5.8	-2.6	3.3
Other leather products.....	3169	14.1	-0.3	2.4	-3.5	-3.2	-1.2	2.1
Paper.....	322	357.0	1.5	1.4	-0.3	-1.8	1.1	2.9
Pulp, paper, and paperboard mills.....	3221	92.6	2.1	1.0	-0.8	-2.8	0.2	3.1
Converted paper products.....	3222	264.4	1.3	1.7	0.1	-1.2	1.8	3.0
Printing and related support activities.....	323	397.8	1.1	1.2	-1.1	-2.1	0.1	2.3
Printing and related support activities.....	3231	397.8	1.1	1.2	-1.1	-2.1	0.1	2.3
Petroleum and coal products.....	324	106.5	1.9	2.7	0.6	-1.3	3.4	4.7
Petroleum and coal products.....	3241	106.5	1.9	2.7	0.6	-1.3	3.4	4.7
Chemicals.....	325	860.9	0.8	2.4	0.4	-0.4	2.8	3.2
Basic chemicals.....	3251	150.1	1.6	1.7	0.2	-1.3	1.9	3.3
Resin, rubber, and artificial fibers.....	3252	91.8	1.6	1.9	0.2	-1.4	2.1	3.6
Agricultural chemicals.....	3253	37.2	1.5	2.5	0.2	-1.3	2.7	4.0
Pharmaceuticals and medicines.....	3254	318.7	-1.0	4.0	0.8	1.8	4.8	3.0
Paints, coatings, and adhesives.....	3255	64.2	0.2	2.8	-0.6	-0.8	2.1	3.0

See footnotes at end of table.

**Table 2. Long run labor productivity, unit labor costs, and related data — Continued**

Industry	2017 NAICS code	2020 Employment (thousands)	Average annual percent change, 1987-2020					
			Labor productivity	Unit labor costs	Output	Hours worked	Labor compen- sation	Hourly compen- sation
Soaps, cleaning compounds, and toiletries.....	3256	119.9	1.2	1.4	1.1	-0.1	2.5	2.6
Other chemical products and preparations.....	3259	79.0	1.7	1.3	-0.3	-2.0	1.0	3.1
Plastics and rubber products.....	326	715.5	1.3	1.5	0.9	-0.4	2.4	2.9
Plastics products.....	3261	581.5	1.3	1.6	1.2	-0.1	2.8	2.9
Rubber products.....	3262	134.0	1.3	1.4	-0.2	-1.5	1.2	2.8
<b>Durable Manufacturing</b>								
Wood products.....	321	413.2	0.8	2.2	-0.3	-1.0	1.9	3.0
Sawmills and wood preservation.....	3211	96.9	1.7	1.3	0.2	-1.5	1.5	3.1
Plywood and engineered wood products.....	3212	78.7	0.4	1.9	-0.2	-0.6	1.7	2.3
Other wood products.....	3219	237.6	0.5	2.6	-0.5	-1.0	2.2	3.2
Nonmetallic mineral products.....	327	410.8	0.6	1.9	-0.1	-0.7	1.8	2.5
Clay products and refractories.....	3271	42.0	0.8	1.3	-1.3	-2.2	-0.1	2.1
Glass and glass products.....	3272	80.0	1.9	0.7	0.2	-1.7	0.9	2.7
Cement and concrete products.....	3273	194.5	-0.3	2.6	-0.1	0.2	2.4	2.2
Lime and gypsum products.....	3274	15.3	0.9	3.1	-0.6	-1.5	2.5	4.0
Other nonmetallic mineral products.....	3279	79.0	0.7	1.8	0.6	-0.2	2.4	2.6
Primary metals.....	331	357.4	1.8	0.8	-0.2	-2.0	0.6	2.6
Iron and steel mills and ferroalloys.....	3311	83.2	2.8	-0.3	0.3	-2.4	0.0	2.5
Steel products from purchased steel.....	3312	55.4	0.3	2.3	-0.5	-0.8	1.8	2.6
Alumina and aluminum production.....	3313	56.9	1.9	1.1	-0.1	-2.0	1.0	3.1
Other nonferrous metal production.....	3314	58.2	1.1	2.3	-0.7	-1.8	1.6	3.5
Foundries.....	3315	103.7	1.4	1.1	-0.8	-2.2	0.2	2.5
Fabricated metal products.....	332	1,418.7	0.8	1.8	0.4	-0.4	2.2	2.6
Forging and stamping.....	3321	91.1	1.9	0.6	0.6	-1.2	1.2	2.5
Cutlery and handtools.....	3322	35.0	1.2	1.3	-1.1	-2.3	0.2	2.6
Architectural and structural metals.....	3323	389.2	0.4	2.2	0.7	0.3	3.0	2.7
Boilers, tanks, and shipping containers.....	3324	90.2	1.1	1.2	0.5	-0.6	1.7	2.3
Hardware.....	3325	24.6	0.5	1.6	-2.3	-2.8	-0.7	2.1
Spring and wire products.....	3326	40.7	1.7	1.2	-0.4	-2.1	0.8	2.9
Machine shops and threaded products.....	3327	345.7	1.2	1.7	1.4	0.2	3.2	2.9
Coating, engraving, and heat treating metals.....	3328	131.8	1.4	1.2	1.3	-0.1	2.6	2.7
Other fabricated metal products.....	3329	270.4	0.3	2.0	-0.4	-0.7	1.6	2.4
Machinery.....	333	1,068.5	1.5	1.2	0.6	-0.8	1.9	2.7
Agriculture, construction, and mining machinery...	3331	204.8	1.4	1.2	1.1	-0.3	2.3	2.6
Industrial machinery.....	3332	118.3	1.3	1.4	0.7	-0.6	2.2	2.8
Commercial and service industry machinery.....	3333	88.0	1.2	1.2	-0.5	-1.7	0.6	2.4
HVAC and commercial refrigeration equipment...	3334	134.4	1.2	1.3	0.6	-0.5	2.0	2.5
Metalworking machinery.....	3335	165.0	1.4	1.2	-0.2	-1.6	1.0	2.6
Turbine and power transmission equipment.....	3336	90.8	1.5	0.6	0.7	-0.8	1.3	2.2
Other general purpose machinery.....	3339	267.2	1.5	1.8	0.8	-0.6	2.7	3.3
Computer and electronic products.....	334	1,084.4	8.0	-4.6	5.9	-1.9	1.0	3.0
Computer and peripheral equipment.....	3341	162.2	13.1	-11.4	9.7	-3.0	-2.8	0.2
Communications equipment.....	3342	87.4	4.5	-1.3	1.6	-2.8	0.3	3.2
Audio and video equipment.....	3343	21.9	2.3	1.2	-1.2	-3.4	0.0	3.6
Semiconductors and electronic components.....	3344	376.0	11.5	-7.6	10.0	-1.4	1.6	3.0
Electronic instruments.....	3345	423.4	2.8	0.5	1.3	-1.4	1.8	3.2
Magnetic media manufacturing and reproducing...	3346	13.5	0.0	0.3	-3.6	-3.6	-3.3	0.3
Electrical equipment and appliances.....	335	382.1	1.6	1.4	-0.2	-1.7	1.2	3.0
Electric lighting equipment.....	3351	42.6	1.7	1.5	-0.4	-2.1	1.1	3.2
Household appliances.....	3352	60.1	3.1	-0.3	0.5	-2.5	0.2	2.8
Electrical equipment.....	3353	135.3	1.4	1.4	-0.5	-1.9	0.9	2.8
Other electrical equipment and components.....	3359	144.1	0.7	2.3	-0.3	-1.0	1.9	3.0
Transportation equipment.....	336	1,591.6	2.1	0.3	1.1	-1.0	1.4	2.4
Motor vehicles.....	3361	187.5	2.6	0.4	1.2	-1.4	1.5	3.0

See footnotes at end of table.

**Table 2. Long run labor productivity, unit labor costs, and related data — Continued**

Industry	2017 NAICS code	2020 Employment (thousands)	Average annual percent change, 1987-2020					
			Labor productivity	Unit labor costs	Output	Hours worked	Labor compen- sation	Hourly compen- sation
Motor vehicle bodies and trailers.....	3362	151.7	1.2	2.1	1.4	0.3	3.6	3.3
Motor vehicle parts.....	3363	540.4	2.3	-0.7	1.7	-0.5	1.0	1.5
Aerospace products and parts.....	3364	513.0	1.7	1.0	0.1	-1.6	1.1	2.7
Railroad rolling stock.....	3365	23.7	2.6	0.4	2.6	0.0	3.0	3.1
Ship and boat building.....	3366	139.1	1.6	1.7	0.6	-1.0	2.3	3.4
Other transportation equipment.....	3369	36.2	3.6	-0.3	3.4	-0.2	3.1	3.3
Furniture and related products.....	337	378.5	0.9	1.9	-0.7	-1.6	1.3	2.9
Household and institutional furniture.....	3371	241.7	0.8	1.9	-1.0	-1.7	1.0	2.7
Office furniture and fixtures.....	3372	102.9	0.7	2.3	-0.6	-1.3	1.7	3.0
Other furniture related products.....	3379	33.9	1.8	1.1	0.5	-1.3	1.6	2.9
Miscellaneous manufacturing.....	339	640.2	1.5	1.5	1.1	-0.4	2.6	3.1
Medical equipment and supplies.....	3391	325.3	1.9	1.3	2.5	0.6	3.9	3.2
Other miscellaneous manufacturing.....	3399	314.9	1.1	1.6	-0.1	-1.2	1.5	2.7

<sup>1</sup> For NAICS industry 2131 average annual percent changes are for 1987-2018. Employment is for 2018.