125 Y E A R S
BUREAU OF LABOR STATISTICS U.S. DEPARTMENT OF LABOR

For release 10:00 a.m. (EDT) Wednesday, December 9, 2009
USDL-09-1502
Technical Information: (202) 691-5618 • dipsweb@bls.gov • www.bls.gov/lpc
Media Contact:
(202) 691-5902 • PressOffice@bls.gov

## PRODUCTIVITY AND COSTS BY INDUSTRY: MANUFACTURING INDUSTRIES, 2007

Labor productivity - defined as output per hour - rose in 53 percent of detailed manufacturing industries in 2007, the U.S. Bureau of Labor Statistics reported today. This was about unchanged from the proportion that recorded productivity increases the previous year. (See table 1.) Unit labor costs declined in 19 percent of the industries.

Output fell and hours declined in more industries in 2007 than in 2006. Output fell in 58 percent of the 864 -digit NAICS industries in 2007 and hours fell in 63 percent. More industries experienced sharp increases or large declines in productivity in 2007 than in the previous year. Productivity rose by 10 percent or more in ten industries and declined by 10 percent or more in nine industries. Two of the ten largest detailed industries by employment size - aerospace products and parts manufacturing and semiconductors and electronic components manufacturing - posted double-digit output and productivity growth in 2007.

Unit labor costs fell in 16 of the 86 manufacturing industries in 2007. (See table 1.) Unit labor costs reflect the total labor costs required to produce a unit of output. Increases in labor productivity help to offset increases in hourly compensation and thus limit increases in unit labor costs.

This report presents data for the manufacturing industries included in the attached tables. Productivity data for industries in other sectors have been published in separate releases and can be found on the BLS Labor Productivity and Costs web site at http://www.bls.gov/lpc.

Over the longer 1987-2007 period, labor productivity increased in over 95 percent of the detailed manufacturing industries. (See table 2.) Chart 1 compares the distribution of productivity growth rates for 4 -digit manufacturing industries in the most recent year with those for the period from 1987 to 2007.

Chart 1. Distribution of annual percent change in output per hour, 1987-2007 and 2006-2007


Productivity rose in a higher proportion of the more aggregate industries. In 2007 labor productivity increased in 13 of the 21 3-digit NAICS manufacturing industries. Chart 2 shows the range of productivity changes for all 3digit manufacturing industries. Productivity rose the fastest in primary metals manufacturing and in computer and electronic products manufacturing, two industries where output increased rapidly but hours fell. In contrast, a very large drop in output combined with a much smaller drop in labor hours resulted in a large productivity decline in apparel manufacturing. Unit labor costs fell in 2 of the aggregate industries in 2007: primary metals manufacturing and transportation equipment manufacturing.


Between 1987 and 2007, productivity rose in all but one of the 21 aggregate industries. The only industry to decline was apparel manufacturing, as output fell more rapidly than hours.

Year-to-year movements in industry productivity measures may be erratic, particularly in smaller industries. The annual measures based on sample data may differ from measures generated by a census of establishments in the industry. Annual changes in an industry's output and use of labor may reflect cyclical changes in the economy as well as long-term trends. As a result, long-term productivity changes tend to be more reliable indicators of industry performance than are year-to-year changes.

Revisions: This news release incorporates data from the Census Bureau's 2007 Economic Census and the annual benchmark revision of the BLS Current Employment Statistics (CES) survey published in February 2009. The productivity measures in this release reflect, for the first time, data classified according to the 2007 NAICS; series for some industries may have changed as a result. The base year has been changed from 1997 to 2002 for all indexes. All of the measures for 2007 in this release are preliminary and subject to revision.

The manufacturing industry measures have been revised to include, for the first time, the output of nonemployer firms and the employment, hours, and labor compensation of self-employed and unpaid family workers. Although small, the revision reflects a more complete accounting of the economic activity in each industry, and improves consistency with the measures for other sectors that account for the activity of these firms and workers. The employment and hours series included in this news release were previously released in September 2009 as part of a database of employment and hours for a comprehensive set of 3 - and 4-digit NAICS industries.

## Technical Note

Labor Productivity: The industry labor productivity measures describe the relationship between industry output and the labor time involved in its production. They show the changes from period to period in the amount of goods and services produced per hour. Although the labor productivity measures relate output to hours of all persons in an industry, they do not measure the specific contribution of labor or any other factor of production. 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; managerial skill; and the characteristics and effort of the workforce.

Output: Industry output is measured as an annualweighted index of the changes in the various products or services (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. For manufacturing industries, 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 U.S. Census Bureau, U.S. Department of Commerce, together with information on price changes primarily from BLS.

Labor Hours: The primary source of data on industry employment and hours is the BLS Current Employment Statistics (CES) survey. The CES provides monthly data on the number of total and production worker jobs held by wage and salary workers in nonfarm establishments, as well as data on the average weekly hours of production workers in those establishments. CES data are supplemented or further disaggregated for some industries using data from the BLS Quarterly Census of Employment and Wages (QCEW), the Bureau of the Census, or other sources. Data from the Current Population Survey (CPS) also supplement the CES data. CPS data are used to estimate employment and hours of self-employed and unpaid family workers in each industry. Data from the CPS, together with the CES data, are also used to estimate the historical average weekly hours of nonproduction workers for each
industry. Hours of all persons in an industry are treated as homogeneous and are directly aggregated.

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 industry labor compensation by an index of real industry output. Unit labor costs also describe the relationship between compensation per hour and real output per hour (labor productivity). Increases in hourly compensation increase unit labor costs; increases in labor productivity offset compensation increases and lower unit labor costs.

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 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.

Additional Information: While the rates of change reported by BLS in this news release are rounded to one decimal place, all industry productivity percent changes are calculated using index numbers to three decimal places.

Industry productivity and related indexes and rates of change can be accessed online by visiting the Labor Productivity and Costs web site at http://www.bls.gov/lpc/. Levels of industry employment, hours, labor compensation, and value of production, and the implicit price deflator for output for these industries are available upon request by calling the Division of Industry Productivity Studies (202-691-5618) or by sending a request by e-mail to dipsweb@bls.gov. Information in this report will be made available to sensory-impaired individuals upon request. Voice phone: 202-6915618; TDD message referral phone number: 1-800-877-8339.

To subscribe to the industry productivity program's electronic notification service, send an e-mail to dipsnews@bls.gov with the word "subscribe" in the subject line.

Table 1. Percent change in output per hour, output, hours, compensation, and unit labor costs, 2006-2007

| NAICS code | Industry | 2007 <br> Employment <br> (thousands) | Percent change, 2006-2007 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Output per hour | Output | Hours | Labor compensation | Unit labor costs |
|  | Manufacturing |  |  |  |  |  |  |
| 311 | Food | 1515 | -2.6 | -0.6 | 2.1 | 5.5 | 6.2 |
| 3111 | Animal food | 50 | 1.0 | -2.8 | -3.8 | 8.4 | 11.6 |
| 3112 | Grain and oilseed milling | 61 | 1.7 | 3.3 | 1.6 | 1.0 | -2.3 |
| 3113 | Sugar and confectionery products | 75 | -8.9 | -6.6 | 2.5 | 5.1 | 12.6 |
| 3114 | F ruit and vegetable preserving and specialty | 174 | 6.6 | 3.7 | -2.7 | 7.2 | 3.3 |
| 3115 | Dairy products | 136 | -1.2 | 1.1 | 2.4 | 6.5 | 5.4 |
| 3116 | Animal slaughtering and processing | 514 | -3.3 | -0.9 | 2.5 | 13.9 | 15.0 |
| 3117 | Seafood product preparation and packaging | 43 | -10.5 | -1.0 | 10.7 | 7.8 | 8.9 |
| 3118 | Bakeries and tortilla manufacturing | 293 | -2.4 | -1.8 | 0.6 | -2.2 | -0.4 |
| 3119 | Other food products | 168 | -7.8 | -0.1 | 8.3 | -1.5 | -1.4 |
| 312 | Beverages and tobacco products | 201 | -3.1 | -1.5 | 1.6 | 1.7 | 3.3 |
| 3121 | Beverages | 178 | 0.1 | 3.3 | 3.2 | 4.1 | 0.7 |
| 3122 | Tobacco and tobacco products | 22 | -0.6 | -11.1 | -10.6 | -8.8 | 2.5 |
| 313 | Textile mills | 179 | 1.5 | -10.1 | -11.4 | -3.5 | 7.4 |
| 3131 | Fiber, yarn, and thread mills | 42 | 9.7 | -5.1 | -13.5 | 7.1 | 13.0 |
| 3132 | Fabric mills | 82 | 0.6 | -12.6 | -13.1 | -10.5 | 2.4 |
| 3133 | Textile and fabric finishing mills | 55 | -3.8 | -10.7 | -7.1 | 2.5 | 14.7 |
| 314 | Textile product mills | 176 | -11.2 | -17.8 | -7.5 | 0.7 | 22.6 |
| 3141 | Textile furnishings mills | 91 | -7.3 | -18.8 | -12.5 | 3.7 | 27.8 |
| 3149 | Other textile product mills | 85 | -14.6 | -15.8 | -1.4 | -2.2 | 16.1 |
| 315 | Apparel | 245 | -29.7 | -31.4 | -2.4 | -8.3 | 33.7 |
| 3151 | Apparel knitting mills | 35 | -32.8 | -35.2 | -3.5 | -9.1 | 40.2 |
| 3152 | Cut and sew apparel | 191 | -29.4 | -30.8 | -2.0 | -7.1 | 34.2 |
| 3159 | Accessories and other apparel | 19 | -25.7 | -28.7 | -4.0 | -17.5 | 15.6 |
| 316 | Leather and allied products | 39 | -5.5 | -11.5 | -6.3 | -2.2 | 10.6 |
| 3161 | Leather and hide tanning and finishing | 5 | 30.3 | 12.8 | -13.4 | -6.3 | -16.9 |
| 3162 | F ootwear | 17 | -19.8 | -18.0 | 2.2 | -9.2 | 10.7 |
| 3169 | Other leather products | 17 | -2.5 | -14.4 | -12.2 | 5.3 | 23.0 |
| 321 | Wood products | 548 | 0.3 | -7.1 | -7.3 | -1.0 | 6.5 |
| 3211 | Sawmills and wood preservation | 118 | -5.0 | -10.3 | -5.6 | -4.0 | 7.0 |
| 3212 | Plywood and engineered wood products | 109 | 3.7 | -9.3 | -12.5 | -6.3 | 3.2 |
| 3219 | Other wood products | 321 | 1.9 | -4.4 | -6.1 | 2.3 | 7.0 |
| 322 | Paper and paper products | 459 | 3.6 | 1.0 | -2.6 | 1.2 | 0.2 |
| 3221 | Pulp, paper, and paperboard mills | 132 | 2.9 | -2.0 | -4.8 | -3.3 | -1.3 |
| 3222 | Converted paper products | 326 | 4.6 | 2.9 | -1.6 | 4.3 | 1.3 |
| $323$ | Printing and related support activities | $658$ | $3.1$ | 1.0 | -2.1 | 7.8 | $6.8$ |
| $3231$ | Printing and related support activities | 658 | 3.1 | 1.0 | -2.1 | 7.8 | 6.8 |
| 324 | P etroleum and coal products | 115 | 1.4 | 0.0 | -1.4 | 0.7 | 0.7 |
| 3241 | Petroleum and coal products | 115 | 1.4 | 0.0 | -1.4 | 0.7 | 0.7 |
| 325 | Chemicals | 869 | 6.9 | 5.1 | -1.7 | 6.3 | 1.1 |
| 3251 | Basic chemicals | 149 | 15.5 | 13.7 | -1.5 | -0.3 | -12.3 |
| 3252 | Resin, rubber, and artificial fibers | 109 | 3.0 | 5.8 | 2.7 | 15.2 | 8.9 |
| 3253 | A dricultural chemicals | 36 | 6.0 | -3.9 | -9.3 | 5.5 | 9.8 |
| 3254 | Pharmaceuticals and medicines | 296 | -2.3 | -0.9 | 1.5 | 6.8 | 7.8 |
| 3255 | Paints, coatings, and adhesives | 66 | -2.1 | -4.0 | -1.9 | 8.5 | 13.0 |
| 3256 | Soaps, cleaning compounds, and toiletries | 112 | 20.7 | 13.5 | -6.0 | 8.2 | -4.7 |
| 3259 | Other chemical products and preparations | 101 | 15.5 | 6.8 | -7.5 | 6.7 | -0.1 |
| 326 | Plastics and rubber products | 762 | -0.5 | -2.0 | -1.5 | 1.5 | 3.5 |
| 3261 | Plastics products | 612 | -1.6 | -2.7 | -1.2 | 2.4 | 5.3 |
| 3262 | Rubber products | 150 | 4.6 | 1.7 | -2.8 | -1.8 | -3.4 |

Table 1. Percent change in output per hour, output, hours, compensation, and unit labor costs, 2006-2007

| NAICS code | Industry | 2007Employment <br> (thousands) | Percent change, 2006-2007 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Output per hour | Output | Hours | Labor compensation | Unit labor costs |
| 327 | Nonmetallic mineral products | 515 | 0.7 | -1.7 | -2.4 | 1.3 | 3.1 |
| 3271 | Clay products and refractories | 63 | -5.7 | -10.6 | -5.2 | -5.5 | 5.7 |
| 3272 | Glass and glass products | 102 | -0.6 | -4.4 | -3.8 | -3.6 | 0.8 |
| 3273 | Cement and concrete products | 246 | 3.7 | -0.4 | -4.0 | 0.6 | 1.1 |
| 3274 | Lime and gypsum products | 19 | -4.6 | -4.4 | 0.1 | 3.8 | 8.6 |
| 3279 | Other nonmetallic mineral products | 85 | -2.7 | 3.2 | 6.1 | 13.7 | 10.2 |
| 331 | Primary metals | 458 | 8.0 | 3.8 | -3.9 | 2.9 | -0.9 |
| 3311 | Iron and steel mills and ferroalloy production | 101 | 3.0 | 4.8 | 1.7 | 6.0 | 1.2 |
| 3312 | Steel products from purchased steel | 61 | -2.1 | -4.1 | -2.0 | 1.0 | 5.3 |
| 3313 | Alumina and aluminum production | 71 | 7.2 | 0.3 | -6.4 | -3.4 | -3.7 |
| 3314 | Other nonferrous metal production | 69 | 21.5 | 13.0 | -7.0 | 20.4 | 6.5 |
| 3315 | Foundries | 156 | 1.1 | -4.4 | -5.5 | -3.8 | 0.6 |
| 332 | F abricated metal products | 1598 | 1.7 | 3.0 | 1.3 | 10.0 | 6.8 |
| 3321 | Forging and stamping | 111 | 5.7 | 3.0 | -2.6 | 7.4 | 4.2 |
| 3322 | Cutlery and hand tools | 53 | 12.2 | 2.3 | -8.8 | 7.3 | 4.9 |
| 3323 | Architectural and structural metals | 424 | -0.4 | 2.7 | 3.0 | 14.9 | 11.9 |
| 3324 | Boilers, tanks, and shipping containers | 97 | 3.2 | 6.7 | 3.4 | 8.6 | 1.8 |
| 3325 | Hardware | 34 | -14.6 | -14.2 | 0.4 | -5.8 | 9.8 |
| 3326 | Spring and wire products | 57 | -1.9 | -3.8 | -2.0 | -0.1 | 3.9 |
| 3327 | Machine shops and threaded products | 376 | 2.4 | 3.6 | 1.2 | 12.5 | 8.5 |
| 3328 | Coating, engraving, and heat treating metals | 149 | 2.6 | 4.7 | 2.1 | 12.1 | 7.0 |
| 3329 | Other fabricated metal products | 297 | 0.6 | 2.5 | 1.9 | 6.0 | 3.5 |
| 333 | Machinery | 1204 | 0.2 | 1.2 | 1.0 | 6.7 | 5.5 |
| 3331 | Agriculture, construction, and mining machinery | 232 | -3.3 | 5.2 | 8.8 | 12.4 | 6.9 |
| 3332 | Industrial machinery | 128 | 2.3 | 3.3 | 1.0 | 8.3 | 4.8 |
| 3333 | Commercial and service industry machinery | 110 | -10.0 | -6.5 | 3.9 | 1.4 | 8.4 |
| 3334 | HVAC and commercial refrigeration equipment | 155 | -3.7 | -5.7 | -2.0 | 0.5 | 6.5 |
| 3335 | Metalworking machinery | 200 | 5.0 | -0.7 | -5.5 | 5.7 | 6.5 |
| 3336 | Turbine and power transmission equipment | 102 | -0.3 | -1.6 | -1.3 | 4.2 | 5.9 |
| 3339 | Other general purpose machinery | 278 | 2.2 | 3.0 | 0.7 | 8.0 | 4.9 |
| 334 | Computer and electronic products | 1280 | 8.0 | 4.7 | -3.0 | 8.7 | 3.8 |
| 3341 | Computer and peripheral equipment | 187 | 22.3 | 18.4 | -3.1 | -10.6 | -24.5 |
| 3342 | Communications equipment | 129 | -4.6 | -14.3 | -10.1 | 5.2 | 22.7 |
| 3343 | Audio and video equipment | 30 | -27.3 | -30.2 | -3.9 | -7.5 | 32.4 |
| 3344 | Semiconductors and electronic components | 450 | 15.6 | 11.0 | -4.0 | 14.4 | 3.1 |
| 3345 | Electronic instruments | 445 | 7.3 | 8.5 | 1.1 | 10.6 | 1.9 |
| 3346 | Magnetic media manufacturing and reproduction | 39 | 2.7 | -7.8 | -10.2 | 7.4 | 16.6 |
| 335 | Electrical equipment and appliances | 432 | 2.6 | 2.3 | -0.3 | 6.3 | 4.0 |
| 3351 | Electric lighting equipment | 59 | 0.9 | 3.3 | 2.4 | 5.1 | 1.8 |
| 3352 | Household appliances | 77 | -2.9 | -2.1 | 0.8 | -10.7 | -8.8 |
| 3353 | Electrical equipment | 158 | 5.5 | 6.2 | 0.7 | 7.9 | 1.6 |
| 3359 | Other electrical equipment and components | 139 | 4.3 | 1.1 | -3.1 | 12.6 | 11.4 |
| 336 | Transportation equipment | 1726 | 6.4 | 3.3 | -2.9 | 0.8 | -2.4 |
| 3361 | Motor vehicles | 221 | 4.8 | -0.7 | -5.2 | -4.8 | -4.2 |
| 3362 | Motor vehicle bodies and trailers | 168 | 6.9 | -5.0 | -11.2 | 3.3 | 8.7 |
| 3363 | Motor vehicle parts | 613 | 3.2 | -3.1 | -6.1 | -4.7 | -1.7 |
| 3364 | Aerospace products and parts | 492 | 12.0 | 16.8 | 4.3 | 4.4 | -10.6 |
| 3365 | Railroad rolling stock | 28 | -0.8 | -0.3 | 0.5 | 26.0 | 26.4 |
| 3366 | Ship and boat building | 163 | 1.8 | 1.9 | 0.2 | 15.7 | 13.5 |
| 3369 | Other transportation equipment | 42 | 21.0 | 17.0 | -3.3 | 9.0 | -6.9 |
| 337 | Furniture and related products | 568 | -2.7 | -6.9 | -4.3 | 3.7 | 11.4 |
| 3371 | Household and institutional furniture | 380 | -3.6 | -9.3 | -5.9 | 1.7 | 12.1 |
| 3372 | Office furniture and fixtures | 139 | -2.7 | -3.6 | -0.9 | 7.9 | 11.8 |
| 3379 | Other furniture-related products | 49 | -0.9 | -2.0 | -1.1 | 3.8 | 5.9 |
| 339 | Miscellaneous manufacturing |  | -3.3 | -4.4 | -1.1 | 2.7 | 7.4 |
| 3391 | Medical equipment and supplies | 320 | -3.5 | -2.1 | 1.5 | 5.5 | 7.7 |
| 3399 | Other miscellaneous manufacturing | 390 | -3.7 | -6.8 | -3.3 | -0.1 | 7.2 |

Table 2. Average annual percent change in output per hour, output, hours, compensation, and unit labor costs, 1987-2007

| NAICS code | Industry | Average annual percent change, 1987-2007 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Output per hour | Output | Hours | Labor compensation | Unit labor costs |
|  | Manufacturing |  |  |  |  |  |
| 311 | Food | 1.1 | 1.5 | 0.3 | 3.2 | 1.7 |
| 3111 | Animal food | 3.2 | 2.1 | -1.0 | 3.3 | 1.2 |
| 3112 | Grain and oilseed milling | 2.3 | 1.2 | -1.1 | 2.0 | 0.8 |
| 3113 | Sugar and confectionery products | 1.3 | 0.3 | -0.9 | 2.2 | 1.9 |
| 3114 | Fruit and vegetable preserving and specialty | 1.8 | 1.5 | -0.3 | 3.0 | 1.5 |
| 3115 | Dairy products | 1.3 | 0.9 | -0.3 | 3.1 | 2.1 |
| 3116 | Animal slaughtering and processing | 0.8 | 2.3 | 1.5 | 4.0 | 1.7 |
| 3117 | Seafood product preparation and packaging | 2.1 | 1.3 | -0.8 | 3.5 | 2.2 |
| 3118 | Bakeries and tortilla manufacturing | 0.9 | 0.5 | -0.3 | 2.2 | 1.7 |
| 3119 | Other food products | 0.4 | 2.1 | 1.7 | 4.4 | 2.2 |
| 312 | Beverages and tobacco products | 0.7 | 0.0 | -0.7 | 1.5 | 1.4 |
| 3121 | Beverages | 1.9 | 1.8 | -0.1 | 2.1 | 0.3 |
| 3122 | Tobacco and tobacco products | 1.2 | -2.7 | -3.9 | -0.8 | 2.0 |
| 313 | Textile mills | 3.7 | -1.9 | -5.5 | -2.0 | 0.0 |
| 3131 | Fiber, yarn, and thread mills | 4.3 | -0.8 | -4.9 | -1.2 | -0.4 |
| 3132 | Fabric mills | 4.7 | -2.1 | -6.5 | -2.2 | -0.1 |
| 3133 | Textile and fabric finishing mills | 1.3 | -2.7 | -3.9 | -2.2 | 0.5 |
| 314 | Textile product mills | 0.9 | -0.8 | -1.7 | 1.3 | 2.0 |
| 3141 | Textile furnishings mills | 0.7 | -1.0 | -1.7 | 0.5 | 1.6 |
| 3149 | Other textile product mills | 1.4 | -0.2 | -1.6 | 2.3 | 2.5 |
| 315 | Apparel | -0.9 | -7.5 | -6.6 | -5.0 | 2.7 |
| 3151 | Apparel knitting mills | -0.4 | -6.3 | -5.9 | -5.3 | 1.1 |
| 3152 | Cut and sew apparel | -0.9 | -7.8 | -6.9 | -5.0 | 3.0 |
| 3159 | Accessories and other apparel | -2.9 | -6.7 | -3.9 | -3.9 | 3.0 |
| 316 | Leather and allied products | 2.1 | -4.3 | -6.3 | -2.9 | 1.5 |
| 3161 | Leather and hide tanning and finishing | 0.9 | -4.3 | -5.2 | -2.6 | 1.8 |
| 3162 | Footwear | 1.3 | -6.5 | -7.7 | -5.0 | 1.7 |
| 3169 | Other leather products | 2.1 | -2.4 | -4.4 | -0.6 | 1.9 |
| 321 | Wood products | 1.5 | 0.8 | -0.7 | 3.3 | 2.4 |
| 3211 | Sawmills and wood preservation | 2.4 | 0.6 | -1.7 | 1.8 | 1.2 |
| 3212 | Plywood and engineered wood products | 1.0 | 0.9 | 0.0 | 3.2 | 2.2 |
| 3219 | Other wood products | 1.3 | 0.9 | -0.4 | 3.9 | 3.1 |
| 322 | Paper and paper products | 2.1 | 0.4 | -1.6 | 1.6 | 1.2 |
| 3221 | Pulp, paper, and paperboard mills | 3.1 | 0.0 | -3.0 | 0.5 | 0.4 |
| 3222 | Converted paper products | 1.6 | 0.7 | -0.9 | 2.5 | 1.8 |
| 323 | Printing and related support activities | 1.4 | 0.4 | -1.0 | 2.2 | 1.8 |
| 3231 | Printing and related support activities | 1.4 | 0.4 | -1.0 | 2.2 | 1.8 |
| 324 | Petroleum and coal products | 2.8 | 1.2 | -1.6 | 3.9 | $2.7$ |
| 3241 | Petroleum and coal products | 2.8 | 1.2 | -1.6 | 3.9 | 2.7 |
| 325 | Chemicals | 2.2 | 1.6 | -0.6 | 3.3 | 1.7 |
| 3251 | Basic chemicals | 3.6 | 1.2 | -2.4 | 2.0 | 0.8 |
| 3252 | Resin, rubber, and artificial fibers | 2.8 | 1.3 | -1.5 | 2.1 | 0.9 |
| 3253 | Agricultural chemicals | 2.9 | 1.0 | -1.8 | 1.8 | 0.7 |
| 3254 | Pharmaceuticals and medicines | 0.8 | 3.4 | 2.6 | 6.4 | 2.9 |
| 3255 | Paints, coatings, and adhesives | 1.2 | 0.1 | -1.2 | 2.8 | 2.7 |
| 3256 | Soaps, cleaning compounds, and toiletries | 3.5 | 2.9 | -0.6 | 3.1 | 0.2 |
| 3259 | Other chemical products and preparations | 2.7 | 0.5 | -2.1 | 1.7 | 1.2 |
| 326 | Plastics and rubber products | 2.4 | 2.3 | -0.1 | 1.2 | -1.1 |
| 3261 | Plastics products | 2.3 | 2.6 | 0.3 | 4.0 | 1.3 |
| 3262 | Rubber products | 2.6 | 1.1 | -1.5 | -3.6 | -4.6 |

Table 2. Average annual percent change in output per hour, output, hours, compensation, and unit labor costs, 1987-2007

| NAICS code | Industry | Average annual percent change, 1987-2007 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Output per hour | Output | Hours | Labor compensation | $\begin{gathered} \hline \text { Unit labor } \\ \text { costs } \end{gathered}$ |
| 327 | Nonmetallic mineral products | 1.4 | 1.3 | -0.1 | 2.7 | 1.4 |
| 3271 | Clay products and refractories | 1.2 | -0.9 | -2.1 | 0.5 | 1.4 |
| 3272 | Glass and glass products | 2.3 | 0.7 | -1.6 | 1.0 | 0.4 |
| 3273 | Cement and concrete products | 0.8 | 2.0 | 1.3 | 4.0 | 1.9 |
| 3274 | Lime and gypsum products | 1.2 | 0.5 | -0.8 | 3.3 | 2.8 |
| 3279 | Other nonmetallic mineral products | 1.6 | 1.8 | 0.2 | 3.5 | 1.7 |
| 331 | Primary metals | 3.1 | 1.1 | -1.9 | 1.1 | 0.0 |
| 3311 | Iron and steel mills and ferroalloy production | 5.2 | 2.4 | -2.7 | 0.4 | -1.9 |
| 3312 | Steel products from purchased steel | -0.9 | -1.4 | -0.6 | 1.1 | 2.5 |
| 3313 | Alumina and aluminum production | 3.0 | 0.8 | -2.2 | 1.0 | 0.2 |
| 3314 | Other nonferrous metal production | 1.2 | -1.1 | -2.3 | 2.4 | 3.6 |
| 3315 | Foundries | 2.6 | 0.9 | -1.6 | 1.5 | 0.5 |
| 332 | Fabricated metal products | 1.8 | 1.8 | 0.1 | 3.2 | 1.4 |
| 3321 | Forging and stamping | 3.2 | 2.2 | -0.9 | 2.6 | 0.3 |
| 3322 | Cutlery and hand tools | 1.8 | -0.2 | -2.0 | 1.8 | 2.0 |
| 3323 | Architectural and structural metals | 1.3 | 2.2 | 0.9 | 4.4 | 2.2 |
| 3324 | Boilers, tanks, and shipping containers | 0.9 | 0.4 | -0.5 | 2.0 | 1.6 |
| 3325 | Hardware | 0.9 | -2.0 | -2.9 | -0.7 | 1.3 |
| 3326 | Spring and wire products | 2.6 | 1.0 | -1.5 | 2.1 | 1.2 |
| 3327 | Machine shops and threaded products | 2.4 | 3.5 | 1.1 | 4.9 | 1.3 |
| 3328 | Coating, engraving, and heat treating metals | 3.1 | 3.6 | 0.4 | 4.0 | 0.4 |
| 3329 | Other fabricated metal products | 1.4 | 0.8 | -0.5 | 2.0 | 1.2 |
| 333 | Machinery | 2.7 | 2.0 | -0.7 | 2.5 | 0.4 |
| 3331 | Agriculture, construction, and mining machinery | 2.8 | 3.4 | 0.6 | 3.2 | -0.2 |
| 3332 | Industrial machinery | 3.2 | 2.5 | -0.7 | 3.0 | 0.6 |
| 3333 | Commercial and service industry machinery | 1.3 | -0.2 | -1.5 | 0.6 | 0.8 |
| 3334 | HVAC and commercial refrigeration equipment | 2.2 | 1.9 | -0.3 | 2.5 | 0.6 |
| 3335 | Metalworking machinery | 2.2 | 0.6 | -1.6 | 1.9 | 1.4 |
| 3336 | Turbine and power transmission equipment | 2.3 | 1.9 | -0.3 | 1.5 | -0.4 |
| 3339 | Other general purpose machinery | 2.9 | 2.1 | -0.8 | 3.1 | 1.0 |
| 334 | Computer and electronic products | 12.5 | 9.9 | -2.3 | 1.5 | -7.6 |
| 3341 | Computer and peripheral equipment | 24.3 | 19.2 | -4.1 | -2.8 | -18.4 |
| 3342 | Communications equipment | 7.8 | 4.6 | -3.0 | 1.0 | -3.4 |
| 3343 | Audio and video equipment | 4.8 | 1.2 | -3.4 | 1.3 | 0.1 |
| 3344 | Semiconductors and electronic components | 17.4 | 15.8 | -1.4 | 2.7 | -11.3 |
| 3345 | Electronic instruments | 4.3 | 2.2 | -2.0 | 2.2 | 0.0 |
| 3346 | Magnetic media manufacturing and reproduction | 2.6 | 1.7 | -0.9 | 1.6 | -0.2 |
| 335 | Electrical equipment and appliances | 2.9 | 0.7 | -2.2 | 1.6 | 0.9 |
| 3351 | Electric lighting equipment | 2.1 | 0.5 | -1.6 | 1.9 | 1.4 |
| 3352 | Household appliances | 4.4 | 1.5 | -2.7 | 0.0 | -1.5 |
| 3353 | Electrical equipment | 3.2 | 0.7 | -2.4 | 1.5 | 0.8 |
| 3359 | Other electrical equipment and components | 2.2 | 0.3 | -1.8 | 2.2 | 1.9 |
| 336 | Transportation equipment | 3.2 | 2.1 | -1.0 | 1.4 | -0.7 |
| 3361 | Motor vehicles | 4.2 | 2.5 | -1.6 | 1.3 | -1.1 |
| 3362 | Motor vehicle bodies and trailers | 1.6 | 2.5 | 0.9 | 5.1 | 2.5 |
| 3363 | Motor vehicle parts | 3.1 | 2.9 | -0.2 | 1.6 | -1.3 |
| 3364 | Aerospace products and parts | 2.0 | -0.4 | -2.4 | 0.2 | 0.6 |
| 3365 | Railroad rolling stock | 4.7 | 5.3 | 0.7 | 4.2 | -1.1 |
| 3366 | Ship and boat building | 1.5 | 1.1 | -0.4 | 2.7 | 1.6 |
| 3369 | Other transportation equipment | 5.7 | 6.1 | 0.3 | 4.8 | -1.2 |
| 337 | F urniture and related products | 1.7 | 1.0 | -0.7 | 3.0 | 2.0 |
| 3371 | Household and institutional furniture | 1.6 | 0.8 | -0.8 | 3.0 | 2.2 |
| 3372 | Office furniture and fixtures | 1.7 | 1.1 | -0.6 | 2.9 | 1.8 |
| 3379 | Other furniture-related products | 2.2 | 2.5 | 0.3 | 3.6 | 1.0 |
| 339 | Miscellaneous manufacturing | 2.9 | 2.9 | 0.0 | 4.6 | 1.6 |
| 3391 | Medical equipment and supplies | 3.5 | 4.7 | 1.2 | 5.9 | 1.2 |
| 3399 | Other miscellaneous manufacturing | 2.3 | 1.5 | -0.8 | 3.5 | 1.9 |

