NEWS RELEASE

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NOTE: This release was reissued on Friday, July 9, 2010 to correct errors in measures of employment, hours, and productivity for agriculture, construction, and mining machinery manufacturing (NAICS 3331) and machinery manufacturing (NAICS 333). Other minor corrections have been made to measures for the following industries: NAICS 321, 3219, 482111, 491, 4911, $541921,561311,56172$. Corrections have been made to tables 1 and 2 ; no changes were required to the text and the charts in the news release.

## PRODUCTIVITY AND COSTS BY INDUSTRY: MANUFACTURING, MINING, AND SELECTED SERVICE-PROVIDING INDUSTRIES, 2008

Labor productivity - defined as output per hour - rose in 46 percent of the 138 detailed manufacturing, mining, and service-providing industries studied in 2008, the U.S. Bureau of Labor Statistics reported today. This was down from the 62 percent that recorded productivity increases the previous year. Unit labor costs, which reflect the total labor costs required to produce a unit of output, declined in 30 percent of the industries, compared to 20 percent in 2007.

Fewer industries recorded productivity increases in 2008 than in any other year since 1988. Output rose in fewer industries and hours declined in more industries in 2008 compared to 2007. Output rose in 41 of the 138 industries examined, compared to 72 in 2007; hours declined in 101, compared to 79 industries in 2007. The percent of industries with output increases declined each year from 2005 to 2008, with the largest drop occurring in 2008. (See chart 1.) The percent of industries with declining hours rose each year from 2006 to 2008, with the largest increase occurring in 2008.

Chart 1. Percent of manufacturing, mining, and service-providing industries with increases in
productivity and output and decreases in hours, 2005-2008


Over the 1987 to 2008 period, labor productivity increased in 92 percent of the industries. Unit labor costs declined in 18 percent of the industries. (See table 2.) Chart 2 shows a more negative distribution of productivity growth rates for the industries studied in the most recent year compared to those for the longer-term period from 1987 to 2008.

Chart 2. Distribution of annual percent change in output per hour, 1987-2008 and 2007-2008: 138 industries in manufacturing, mining, and services


With this release, productivity and cost measures are published for the first time for general freight trucking, local (NAICS 48411) and for general freight trucking (NAICS 4841). The latter combines the previously published measures for long-distance general freight trucking with the new measures for local freight trucking. Trends in the local freight trucking industry are strongly affected by business cycles and the overall economic environment. While productivity in this industry declined slightly in 2008, between 1994 and 2008 productivity increased at an average rate of 3.1 percent per year. The widespread adoption of onboard computer systems, satellite-based tracking, and wireless internet have contributed to substantial increases in efficiency in this industry.

Industry labor productivity measures are updated as data become available. Productivity data through 2008 for industries in wholesale and retail trade were published on August 28, 2009 and can be found on the BLS Labor Productivity and Costs web site at www.bls.gov/lpc.

## Manufacturing

Labor productivity increased in 35 of the 86 detailed manufacturing industries in 2008, compared with 51 in 2007. (See table 1.) Productivity growth was highest in the computer and electronic products subsector, led by the computer and peripheral equipment and magnetic media manufacturing and reproduction industries. Output rose in only 20 percent of the industries, compared to 45 percent in 2007, while hours declined in 78 percent of the industries, compared to 64 percent in 2007. However, unit labor costs declined in a greater number of industries than in the previous year - about 23 percent of the industries in 2008, compared to 14 percent in 2007.

## Service-Providing

Labor productivity rose in slightly fewer of the measured service-providing industries in 2008 than in 2007. Led by wireless telecommunications carriers and employment placement agencies, labor productivity increased in 26 of the 47 detailed service-providing industries studied in 2008, compared with 32 in 2007. Output rose in 43 percent of the service-providing industries in 2008, compared to 64 percent in 2007, while labor hours declined in 70 percent, compared to 49 percent in 2007. Unit labor costs declined in 43 percent of the service-providing industries in 2008, compared to 32 percent in 2007.

## Mining

Labor productivity in the overall mining sector fell 3.0 percent in 2008, an improvement over the 7.6 percent decline in 2007. Although productivity fell or showed little change in the four mining extraction industries, productivity grew rapidly in support activities for mining, where output rose sharply while hours increased only modestly. Unit labor costs fell in only one of the five mining industries in 2008.

The chart below shows the change in productivity in the largest (those with employment over 500,000) manufacturing and service industries and in the overall mining sector. Among these industries, engineering services recorded the largest productivity increase and aerospace products and parts had the largest decline.

Chart 3. Percent change in output per hour in the largest (by employment) manufacturing, mining, and service-providing industries, 2007-2008


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 year-to-year changes.

## 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 annual-weighted 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 Census Bureau, U.S. Department of Commerce, together with information on price changes primarily from BLS. Output measures for some mining and utilities industries are based on physical quantity data from the Energy Information Administration, U.S. Department of Energy, while output measures for some transportation industries are based on physical quantity data from the Bureau of Transportation Statistics, U.S. Department of Transportation. Other data sources for some industries include the U.S. Geological Survey, U.S. Department of the Interior; the U.S. Postal Service; the Postal Rate Commission; and the Federal Deposit Insurance Corporation.

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 or nonsupervisory worker jobs held by wage and salary workers in nonfarm establishments, as well as data on the average weekly hours of production or nonsupervisory 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 or supervisory workers for each industry. Other sources of employment and hours data for some service industries include the Association of American Railroads, the U.S. Department of Transportation, and the U.S. Postal Service. 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.

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 2010. Although labor productivity and cost data for manufacturing industries were published on a NAICS 2007 basis in

December 2009, this is the first release of productivity measures for the service-providing and mining industries classified according to the 2007 NAICS. Series for some industries may have changed as a result. All industry labor productivity and cost series are now on a NAICS 2007 basis.

The mining 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.

All of the measures for 2008 in this release are preliminary and subject to revision.
Additional Information: Measures for the two added industries were developed using standard BLS methods as described above. 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.

Three industries that were previously available on the BLS web site are also included in this release: coinoperated laundries and drycleaners (NAICS 812310); drycleaning and laundry services (except coin-operated) (NAICS 812320); and linen and uniform supply (NAICS 81233).

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: 202-691-5618; 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, 2007-2008

| NAICS code | Industry | 2008Employment <br> (thousands) | Percent change, 2007-2008 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Output per hour | Output | Hours | Labor compensation | Unit labor costs |
|  | Mining Industries |  |  |  |  |  |  |
| 21 | Mining | 725 | -3.0 | 0.9 | 4.0 | 13.4 | 12.4 |
| 211 | Oil and gas extraction | 161 | -9.0 | 1.5 | 11.6 | 17.7 | 15.9 |
| 2111 | Oil and gas extraction | 161 | -9.0 | 1.5 | 11.6 | 17.7 | 15.9 |
| 212 | Mining, except oil and gas | 230 | -0.7 | -1.4 | -0.7 | 5.2 | 6.7 |
| 2121 | Coal mining | 82 | -5.7 | 2.2 | 8.4 | 12.2 | 9.7 |
| 2122 | Metal ore mining | 40 | -3.4 | 6.9 | 10.6 | 16.1 | 8.6 |
| 2123 | Nonmetallic mineral mining and quarrying | 108 | 0.1 | -10.7 | -10.8 | -6.8 | 4.4 |
| 213 | Support activities for mining | 334 | 23.8 | 29.3 | 4.4 | 15.0 | -11.0 |
| 2131 | Support activities for mining | 334 | 23.8 | 29.3 | 4.4 | 15.0 | -11.0 |
|  | Utilities |  |  |  |  |  |  |
| 2211 | Power generation and supply | 404 | -4.1 | -1.6 | 2.6 | 3.7 | 5.4 |
| 2212 | Natural gas distribution | 107 | 0.8 | 1.0 | 0.2 | 3.5 | 2.5 |
|  | Manufacturing |  |  |  |  |  |  |
| 311 | Food | 1511 | -0.4 | -0.6 | -0.1 | 1.7 | 2.3 |
| 3111 | Animal food | 53 | -6.0 | -0.6 | 5.8 | 3.0 | 3.6 |
| 3112 | Grain and oilseed milling | 62 | -3.7 | 1.4 | 5.3 | 4.0 | 2.5 |
| 3113 | Sugar and confectionery products | 74 | -7.7 | -8.2 | -0.6 | -5.5 | 3.0 |
| 3114 | Fruit and vegetable preserving and specialty | 173 | -2.3 | -2.5 | -0.1 | 0.6 | 3.1 |
| 3115 | Dairy products | 132 | 7.9 | 2.3 | -5.2 | 5.6 | 3.2 |
| 3116 | Animal slaughtering and processing | 514 | 2.5 | 1.6 | -0.9 | 0.4 | -1.2 |
| 3117 | Seafood product preparation and packaging | 39 | -12.8 | -13.6 | -1.0 | -5.2 | 9.8 |
| 3118 | Bakeries and tortilla manufacturing | 300 | -7.5 | -5.1 | 2.6 | 5.0 | 10.7 |
| 3119 | Other food products | 164 | 1.4 | -0.1 | -1.5 | 0.4 | 0.5 |
| 312 | Beverages and tobacco products | 200 | -2.5 | -6.9 | -4.5 | 1.6 | 9.1 |
| 3121 | Beverages | 179 | 0.1 | -5.3 | -5.4 | 2.9 | 8.6 |
| 3122 | Tobacco and tobacco products | 22 | -13.0 | -10.6 | 2.7 | -4.6 | 6.7 |
| 313 | Textile mills | 161 | -1.6 | -15.6 | -14.2 | -12.6 | 3.5 |
| 3131 | Fiber, yarn, and thread mills | 37 | 1.3 | -13.4 | -14.5 | -14.8 | -1.6 |
| 3132 | Fabric mills | 72 | 5.3 | -13.5 | -17.8 | -12.0 | 1.7 |
| 3133 | Textile and fabric finishing mills | 52 | -14.7 | -22.2 | -8.8 | -11.8 | 13.3 |
| 314 | Textile product mills | 163 | -3.2 | -8.6 | -5.7 | -5.2 | 3.8 |
| 3141 | Textile furnishings mills | 82 | -2.6 | -12.6 | -10.2 | -4.9 | 8.8 |
| 3149 | Other textile product mills | 81 | -0.5 | -1.1 | -0.6 | -5.4 | -4.4 |
| 315 | Apparel | 221 | -1.8 | -13.7 | -12.1 | -10.4 | 3.9 |
| 3151 | Apparel knitting mills | 32 | -3.4 | -15.0 | -12.0 | -15.2 | -0.2 |
| 3152 | Cut and sew apparel | 172 | -1.6 | -13.2 | -11.9 | -9.2 | 4.6 |
| 3159 | Accessories and other apparel | 17 | 0.0 | -14.6 | -14.6 | -13.1 | 1.8 |
| 316 | Leather and allied products | 36 | 3.6 | -5.7 | -9.0 | -3.1 | 2.8 |
| 3161 | Leather and hide tanning and finishing | 5 | -2.7 | -12.3 | -9.9 | -0.5 | 13.5 |
| 3162 | Footwear | 17 | 18.1 | 11.6 | -5.5 | 2.6 | -8.1 |
| 3169 | Other leather products | 15 | -4.8 | -16.5 | -12.2 | -8.4 | 9.7 |
| 321 | Wood products | 486 | -2.0 | -14.3 | -12.5 | -11.3 | 3.4 |
| 3211 | Sawmills and wood preservation | 106 | 3.5 | -9.4 | -12.5 | -5.6 | 4.2 |
| 3212 | Plywood and engineered wood products | 90 | -4.0 | -18.3 | -14.9 | -15.6 | 3.3 |
| 3219 | Other wood products | 290 | -3.4 | -14.6 | -11.6 | -11.7 | 3.4 |
| 322 | Paper and paper products | 446 | -0.6 | -4.3 | -3.7 | -1.0 | 3.5 |
| 3221 | Pulp, paper, and paperboard mills | 127 | 0.5 | -4.1 | -4.6 | -0.8 | 3.4 |
| 3222 | Converted paper products | 319 | -1.2 | -4.5 | -3.4 | -1.0 | 3.6 |
| $\begin{aligned} & 323 \\ & 3231 \end{aligned}$ | Printing and related support activities Printing and related support activities | 623 623 | 1.4 1.4 | -6.0 -6.0 | -7.3 -7.3 | -6.3 -6.3 | $\begin{aligned} & -0.4 \\ & -0.4 \end{aligned}$ |
| 324 | Petroleum and coal products | 118 | -3.0 | 0.6 | 3.7 | 0.0 | -0.6 |
| 3241 | Petroleum and coal products | 118 | -3.0 | 0.6 | 3.7 | 0.0 | -0.6 |
| 325 | Chemicals | 855 | -6.7 | -9.6 | -3.1 | -0.4 | 10.1 |
| 3251 | Basic chemicals | 153 | -15.1 | -12.3 | 3.4 | 1.9 | 16.1 |
| 3252 | Resin, rubber, and artificial fibers | 104 | -8.5 | -13.2 | -5.2 | -1.0 | 14.0 |
| 3253 | Agricultural chemicals | 37 | -1.1 | -8.6 | -7.6 | 1.5 | 11.0 |
| 3254 | Pharmaceuticals and medicines | 292 | -1.3 | -4.2 | -2.9 | -0.6 | 3.8 |
| 3255 | Paints, coatings, and adhesives | 62 | -4.0 | -9.1 | -5.3 | -1.8 | 8.0 |
| 3256 | Soaps, cleaning compounds, and toiletries | 112 | -5.6 | -9.6 | -4.3 | 1.2 | 12.0 |
| 3259 | Other chemical products and preparations | 96 | 0.8 | -6.0 | -6.7 | -5.4 | 0.6 |
| 326 | Plastics and rubber products | 734 | -5.3 | -9.2 | -4.2 | -4.9 | 4.8 |
| 3261 | Plastics products | 589 | -4.8 | -8.8 | -4.2 | -5.2 | 3.9 |
| 3262 | Rubber products | 145 | -7.5 | -11.4 | -4.2 | -3.7 | 8.7 |

Table 1. Percent change in output per hour, output, hours, compensation, and unit labor costs, 2007-2008

| NAICS code | Industry | 2008Employment <br> (thousands) | Percent change, 2007-2008 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Output per hour | Output | Hours | Labor compensation | Unit labor costs |
| 327 | Nonmetallic mineral products | 481 | -4.5 | -11.9 | -7.7 | -4.0 | 9.0 |
| 3271 | Clay products and refractories | 57 | -1.4 | -9.4 | -8.1 | -7.7 | 1.8 |
| 3272 | Glass and glass products | 104 | -4.0 | -3.5 | 0.5 | 1.1 | 4.8 |
| 3273 | Cement and concrete products | 223 | -7.1 | -17.6 | -11.3 | -5.4 | 14.8 |
| 3274 | Lime and gypsum products | 18 | -1.7 | -7.2 | -5.6 | -1.7 | 5.8 |
| 3279 | Other nonmetallic mineral products | 79 | 1.2 | -6.1 | -7.2 | -4.8 | 1.4 |
| 331 | Primary metals | 443 | 4.9 | 0.0 | -4.7 | 2.3 | 2.3 |
| 3311 | Iron and steel mills and ferroalloy production | 100 | 8.5 | 6.7 | -1.7 | 7.5 | 0.8 |
| 3312 | Steel products from purchased steel | 62 | -4.6 | -7.9 | -3.5 | 6.9 | 16.1 |
| 3313 | Alumina and aluminum production | 66 | -1.6 | -9.4 | -8.0 | 1.6 | 12.2 |
| 3314 | Other nonferrous metal production | 67 | 4.6 | 2.1 | -2.4 | 0.5 | -1.6 |
| 3315 | Foundries | 148 | -7.1 | -13.4 | -6.8 | -3.7 | 11.2 |
| 332 | Fabricated metal products | 1550 | 1.4 | -3.2 | -4.6 | 0.7 | 4.1 |
| 3321 | Forging and stamping | 107 | 0.1 | -3.6 | -3.7 | 1.7 | 5.5 |
| 3322 | Cutlery and hand tools | 49 | -3.3 | -11.8 | -8.8 | -2.2 | 10.9 |
| 3323 | Architectural and structural metals | 412 | -0.9 | -4.5 | -3.7 | 0.0 | 4.8 |
| 3324 | Boilers, tanks, and shipping containers | 98 | -2.1 | -2.4 | -0.3 | 8.7 | 11.3 |
| 3325 | Hardware | 30 | 7.7 | -13.8 | -19.9 | -6.0 | 9.0 |
| 3326 | Spring and wire products | 53 | 4.3 | -6.6 | -10.4 | -3.3 | 3.5 |
| 3327 | Machine shops and threaded products | 370 | 3.7 | -0.9 | -4.4 | 1.0 | 1.9 |
| 3328 | Coating, engraving, and heat treating metals | 145 | 1.2 | -0.1 | -1.3 | -1.2 | -1.2 |
| 3329 | Other fabricated metal products | 286 | 4.0 | -2.0 | -5.8 | 0.9 | 2.9 |
| 333 | Machinery | 1201 | -1.4 | -2.0 | -0.6 | 0.9 | 2.9 |
| 3331 | Agriculture, construction, and mining machinery | 244 | 2.2 | 4.0 | 1.7 | 5.9 | 1.8 |
| 3332 | Industrial machinery | 124 | -9.7 | -13.6 | -4.4 | -3.8 | 11.3 |
| 3333 | Commercial and service industry machinery | 105 | 6.3 | -0.4 | -6.2 | 1.0 | 1.4 |
| 3334 | HVAC and commercial refrigeration equipment | 151 | -0.5 | -2.9 | -2.4 | 1.5 | 4.5 |
| 3335 | Metalworking machinery | 195 | 0.1 | 0.5 | 0.4 | -2.8 | -3.3 |
| 3336 | Turbine and power transmission equipment | 106 | -2.7 | -0.1 | 2.7 | 5.2 | 5.3 |
| 3339 | Other general purpose machinery | 277 | -4.3 | -3.9 | 0.4 | 0.3 | 4.4 |
|  | Computer and electronic products | 1255 | 6.7 | 6.9 | 0.3 | -3.0 | -9.3 |
| 3341 | Computer and peripheral equipment | 185 | 32.8 | 35.8 | 2.2 | 7.8 | $-20.6$ |
| 3342 | Communications equipment | 130 | -4.7 | -2.4 | 2.4 | -7.7 | -5.5 |
| 3343 | Audio and video equipment | 28 | -15.7 | -20.2 | -5.3 | -13.1 | 8.8 |
| $3344$ | Semiconductors and electronic components | 434 | 4.4 | 3.1 | -1.3 | -6.8 | $-9.6$ |
| 3345 | Electronic instruments | 444 | 2.3 | 4.3 | 2.0 | -0.2 | -4.3 |
| 3346 | Magnetic media manufacturing and reproduction | 35 | 19.3 | 3.7 | -13.1 | -5.7 | -9.0 |
| 335 | Electrical equipment and appliances | 429 | -2.8 | -3.3 | -0.5 | 1.4 | 4.9 |
| 3351 | Electric lighting equipment | 59 | 2.0 | -3.1 | -5.0 | -0.2 | 3.0 |
| 3352 | Household appliances | 71 | -3.9 | -10.9 | -7.3 | -6.0 | 5.4 |
| 3353 | Electrical equipment | 161 | -4.2 | -0.1 | 4.2 | 4.4 | 4.5 |
| 3359 | Other electrical equipment and components | 138 | -2.3 | -2.6 | -0.3 | 1.8 | 4.6 |
|  | Transportation equipment | 1622 | -5.5 | -12.7 | -7.7 | -4.2 | 9.8 |
| $3361$ | Motor vehicles | 192 | -9.3 | -19.9 | -11.7 | -10.4 | $11.8$ |
| 3362 | Motor vehicle bodies and trailers | 142 | -5.8 | -21.9 | -17.1 | -15.5 | 8.2 |
| 3363 | Motor vehicle parts | 550 | -4.7 | -17.1 | -13.0 | -9.9 | 8.7 |
| 3364 | Aerospace products and parts | 508 | -9.1 | -6.9 | 2.4 | 3.3 | 10.9 |
| 3365 | Railroad rolling stock | 29 | 16.7 | 18.0 | 1.1 | 2.1 | -13.4 |
| 3366 | Ship and boat building | 157 | 12.9 | 2.9 | -8.9 | 5.4 | 2.5 |
| 3369 | Other transportation equipment | 44 | 3.8 | 9.0 | 5.0 | 2.9 | -5.6 |
|  | Furniture and related products | 513 | 3.8 | -8.9 | -12.2 | -9.2 | -0.3 |
| $3371$ | Household and institutional furniture | 335 | 4.8 | -10.1 | -14.2 | -10.7 | $-0.7$ |
| 3372 | Office furniture and fixtures | 133 | 0.9 | -5.1 | -5.9 | -5.7 | -0.6 |
| 3379 | Other furniture-related products | 45 | 2.5 | -13.6 | -15.7 | -11.5 | 2.4 |
| 339 | Miscellaneous manufacturing | 699 | 1.6 | 1.1 | -0.4 | -0.2 | -1.4 |
| 3391 | Medical equipment and supplies | 324 | 2.7 | 6.2 | 3.4 | 2.1 | -3.9 |
| 3399 | Other miscellaneous manufacturing | 375 | -0.6 | -4.3 | -3.7 | -2.8 | 1.6 |
|  | Transportation and Warehousing |  |  |  |  |  |  |
| 481 | Air transportation | 427 | -1.4 | -3.1 | -1.8 | -0.6 | 2.6 |
| 482111 | Line-haul railroads | 184 | -1.0 | -1.0 | 0.1 | 0.8 | 1.8 |
| 4841 | General freight trucking | 1196 | 0.2 | -3.1 | -3.3 | -4.3 | -1.2 |
| 48411 | General freight trucking, local | 315 | -0.1 | -5.8 | -5.7 | -6.2 | -0.4 |
| 48412 | General freight trucking, long-distance | 881 | -0.1 | -2.4 | -2.3 | -3.6 | -1.2 |
| 48421 | Used household and office goods moving | 95 | 6.5 | -5.7 | -11.4 | -4.4 | 1.3 |
| 491 | Postal service | 747 | -1.4 | -4.9 | -3.5 | -5.1 | -0.3 |
| 4911 | Postal service | 747 | -1.4 | -4.9 | -3.5 | -5.1 | -0.3 |

Table 1. Percent change in output per hour, output, hours, compensation, and unit labor costs, 2007-2008


Table 2. Average annual percent change in output per hour, output, hours, compensation, and unit labor costs, 1987-2008

| NAICS code | Industry | Average annual percent change, 1987-2008 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Output per hour | Output | Hours | Labor compensation | Unit labor costs |
|  | Mining Industries |  |  |  |  |  |
| 21 | Mining | -0.4 | -0.2 | 0.2 | 5.4 | 5.7 |
| 211 | Oil and gas extraction | 0.5 | -0.8 | -1.3 | 5.7 | 6.5 |
| 2111 | Oil and gas extraction | 0.5 | -0.8 | -1.3 | 5.7 | 6.5 |
| 212 | Mining, except oil and gas | 2.0 | 0.8 | -1.1 | 2.3 | 1.4 |
| 2121 | Coal mining | 2.4 | 0.1 | -2.3 | 0.7 | 0.6 |
| 2122 | Metal ore mining | 1.9 | 2.2 | 0.4 | 5.0 | 2.7 |
| 2123 | Nonmetallic mineral mining and quarrying | 1.0 | 0.6 | -0.4 | 3.4 | 2.8 |
| 213 | Support activities for mining | 3.1 | 5.6 | 2.4 | 9.0 | 3.2 |
| 2131 | Support activities for mining | 3.1 | 5.6 | 2.4 | 9.0 | 3.2 |
|  | Utilities |  |  |  |  |  |
| 2211 | Power generation and supply | 2.4 | 1.1 | -1.3 | 2.8 | 1.6 |
| 2212 | Natural gas distribution | 2.8 | 1.3 | -1.5 | 3.3 | 2.0 |
|  | Manufacturing |  |  |  |  |  |
| 311 | Food | 1.1 | 1.4 | 0.3 | 3.1 | 1.7 |
| 3111 | Animal food | 2.7 | 2.0 | -0.7 | 3.4 | 1.3 |
| 3112 | Grain and oilseed milling | 2.1 | 1.3 | -0.8 | 2.2 | 0.9 |
| 3113 | Sugar and confectionery products | 0.8 | -0.1 | -0.9 | 1.8 | 1.9 |
| 3114 | Fruit and vegetable preserving and specialty | 1.6 | 1.3 | -0.3 | 2.9 | 1.5 |
| 3115 | Dairy products | 1.6 | 1.0 | -0.6 | 3.2 | 2.2 |
| 3116 | Animal slaughtering and processing | 0.9 | 2.3 | 1.4 | 3.8 | 1.5 |
| 3117 | Seafood product preparation and packaging | 0.9 | 0.1 | -0.8 | 3.0 | 2.8 |
| 3118 | Bakeries and tortilla manufacturing | 0.4 | 0.3 | -0.2 | 2.4 | 2.1 |
| 3119 | Other food products | 0.5 | 2.0 | 1.6 | 4.2 | 2.1 |
| 312 | Beverages and tobacco products | 0.6 | -0.3 | -0.9 | 1.7 | 1.9 |
| 3121 | Beverages | 1.9 | 1.5 | -0.4 | 2.3 | 0.8 |
| 3122 | Tobacco and tobacco products | 0.5 | -3.1 | -3.6 | -0.6 | 2.6 |
| 313 | Textile mills | 3.5 | -2.6 | -5.9 | -2.5 | 0.0 |
| 3131 | Fiber, yarn, and thread mills | 4.2 | -1.5 | -5.4 | -2.0 | -0.6 |
| 3132 | Fabric mills | 4.8 | -2.6 | -7.1 | -2.7 | -0.1 |
| 3133 | Textile and fabric finishing mills | 0.6 | -3.6 | -4.2 | -2.6 | 1.0 |
| 314 | Textile product mills | 0.8 | -1.1 | -1.9 | 0.9 | 2.0 |
| 3141 | Textile furnishings mills | 0.7 | -1.5 | -2.2 | 0.2 | 1.7 |
| 3149 | Other textile product mills | 1.4 | -0.2 | -1.5 | 1.9 | 2.1 |
| 315 | Apparel | -1.3 | -8.1 | -6.9 | -5.3 | 3.1 |
| 3151 | Apparel knitting mills | -0.6 | -6.8 | -6.2 | -6.0 | 0.8 |
| 3152 | Cut and sew apparel | -1.4 | -8.5 | -7.2 | -5.2 | 3.6 |
| 3159 | Accessories and other apparel | -2.6 | -6.9 | -4.4 | -4.3 | 2.8 |
| 316 | Leather and allied products | 2.2 | -4.5 | -6.6 | -2.8 | 1.8 |
| 3161 | Leather and hide tanning and finishing | 0.7 | -4.8 | -5.4 | -2.5 | 2.4 |
| 3162 | Footwear | 2.5 | -5.6 | -7.9 | -4.3 | 1.3 |
| 3169 | Other leather products | 1.5 | -3.5 | -4.9 | -1.1 | 2.5 |
| 321 | Wood products | 1.3 | 0.1 | -1.3 | 2.5 | 2.5 |
| 3211 | Sawmills and wood preservation | 2.5 | 0.1 | -2.3 | 1.4 | 1.3 |
| 3212 | Plywood and engineered wood products | 0.7 | -0.1 | -0.8 | 2.2 | 2.3 |
| 3219 | Other wood products | 1.1 | 0.1 | -1.0 | 3.2 | 3.0 |
| 322 | Paper and paper products | 2.0 | 0.2 | -1.7 | 1.5 | 1.3 |
| 3221 | Pulp, paper, and paperboard mills | 3.0 | -0.2 | -3.1 | 0.5 | 0.6 |
| 3222 | Converted paper products | 1.5 | 0.5 | -1.0 | 2.4 | 1.9 |
| 323 | Printing and related support activities | 1.5 | 0.1 | -1.3 | 1.8 | 1.6 |
| 3231 | Printing and related support activities | 1.5 | 0.1 | -1.3 | 1.8 | 1.6 |
| 324 | Petroleum and coal products | 2.6 | 1.2 | -1.3 | 3.9 | 2.7 |
| 3241 | Petroleum and coal products | 2.6 | 1.2 | -1.3 | 3.9 | 2.7 |
| 325 | Chemicals | 1.8 | 1.0 | -0.7 | 3.4 | 2.3 |
| 3251 | Basic chemicals | 2.7 | 0.5 | -2.1 | 2.1 | 1.6 |
| 3252 | Resin, rubber, and artificial fibers | 2.2 | 0.5 | -1.6 | 2.0 | 1.5 |
| 3253 | Agricultural chemicals | 2.6 | 0.5 | -2.1 | 1.9 | 1.4 |
| 3254 | Pharmaceuticals and medicines | 0.7 | 3.0 | 2.4 | 6.6 | 3.4 |
| 3255 | Paints, coatings, and adhesives | 1.0 | -0.3 | -1.4 | 2.6 | 2.9 |
| 3256 | Soaps, cleaning compounds, and toiletries | 3.0 | 2.3 | -0.7 | 3.1 | 0.8 |
| 3259 | Other chemical products and preparations | 2.4 | 0.0 | -2.3 | 1.5 | 1.4 |
| 326 | Plastics and rubber products | 2.0 | 1.7 | -0.3 | 3.0 | 1.3 |
| 3261 | Plastics products | 1.9 | 2.0 | 0.1 | 3.5 | 1.4 |
| 3262 | Rubber products | 2.1 | 0.4 | -1.7 | 1.4 | 1.0 |

Table 2. Average annual percent change in output per hour, output, hours, compensation, and unit labor costs, 1987-2008

| NAICS code | Industry | Average annual percent change, 1987-2008 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Output per hour | Output | Hours | Labor compensation | Unit labor costs |
| 327 | Nonmetallic mineral products | 1.2 | 0.7 | -0.5 | 2.5 | 1.8 |
| 3271 | Clay products and refractories | 1.3 | -1.1 | -2.4 | 0.2 | 1.4 |
| 3272 | Glass and glass products | 2.0 | 0.5 | -1.5 | 1.2 | 0.7 |
| 3273 | Cement and concrete products | 0.4 | 1.1 | 0.6 | 3.6 | 2.5 |
| 3274 | Lime and gypsum products | 1.0 | 0.0 | -1.0 | 3.1 | 3.1 |
| 3279 | Other nonmetallic mineral products | 1.7 | 1.5 | -0.2 | 3.2 | 1.6 |
| 331 | Primary metals | 2.6 | 0.5 | -2.1 | 1.2 | 0.7 |
| 3311 | Iron and steel mills and ferroalloy production | 5.2 | 2.5 | -2.6 | 0.6 | -1.8 |
| 3312 | Steel products from purchased steel | -0.9 | -1.6 | -0.7 | 1.7 | 3.4 |
| 3313 | Alumina and aluminum production | 2.5 | -0.1 | -2.5 | 1.1 | 1.1 |
| 3314 | Other nonferrous metal production | 1.5 | -0.9 | -2.3 | 2.3 | 3.3 |
| 3315 | Foundries | 2.0 | 0.1 | -1.9 | 1.2 | 1.2 |
| 332 | Fabricated metal products | 1.6 | 1.5 | -0.2 | 3.1 | 1.6 |
| 3321 | Forging and stamping | 2.9 | 1.8 | -1.0 | 2.6 | 0.8 |
| 3322 | Cutlery and hand tools | 1.4 | -0.9 | -2.3 | 1.5 | 2.5 |
| 3323 | Architectural and structural metals | 1.1 | 1.8 | 0.7 | 4.2 | 2.3 |
| 3324 | Boilers, tanks, and shipping containers | 0.8 | 0.3 | -0.5 | 2.3 | 2.0 |
| 3325 | Hardware | 1.3 | -2.6 | -3.8 | -0.9 | 1.7 |
| 3326 | Spring and wire products | 2.8 | 0.7 | -2.0 | 1.9 | 1.1 |
| 3327 | Machine shops and threaded products | 2.5 | 3.3 | 0.8 | 4.6 | 1.3 |
| 3328 | Coating, engraving, and heat treating metals | 3.0 | 3.4 | 0.3 | 3.7 | 0.4 |
| 3329 | Other fabricated metal products | 1.7 | 0.9 | -0.8 | 2.1 | 1.2 |
| 333 | Machinery | 2.5 | 1.9 | -0.6 | 2.5 | 0.6 |
| 3331 | Agriculture, construction, and mining machinery | 3.0 | 3.6 | 0.6 | 3.6 | -0.1 |
| 3332 | Industrial machinery | 2.5 | 1.6 | -0.9 | 2.6 | 1.0 |
| 3333 | Commercial and service industry machinery | 1.6 | -0.2 | -1.7 | 0.6 | 0.8 |
| 3334 | HVAC and commercial refrigeration equipment | 2.1 | 1.7 | -0.4 | 2.5 | 0.8 |
| 3335 | Metalworking machinery | 2.1 | 0.6 | -1.5 | 1.7 | 1.1 |
| 3336 | Turbine and power transmission equipment | 2.0 | 1.8 | -0.2 | 1.9 | 0.0 |
| 3339 | Other general purpose machinery | 2.6 | 1.9 | -0.7 | 3.0 | 1.1 |
| 334 | Computer and electronic products | 12.2 | 9.8 | -2.2 | 1.4 | -7.7 |
| 3341 | Computer and peripheral equipment | 24.8 | 20.1 | -3.8 | -2.1 | -18.5 |
| 3342 | Communications equipment | 7.4 | 4.5 | -2.7 | 0.8 | -3.5 |
| 3343 | Audio and video equipment | 3.9 | 0.3 | -3.5 | 0.6 | 0.3 |
| 3344 | Semiconductors and electronic components | 16.8 | 15.2 | -1.4 | 2.3 | -11.2 |
| 3345 | Electronic instruments | 4.4 | 2.5 | -1.8 | 2.2 | -0.3 |
| 3346 | Magnetic media manufacturing and reproduction | 3.5 | 2.0 | -1.5 | 1.2 | -0.8 |
| 335 | Electrical equipment and appliances | 2.7 | 0.5 | -2.1 | 1.6 | 1.1 |
| 3351 | Electric lighting equipment | 2.1 | 0.3 | -1.8 | 1.8 | 1.4 |
| 3352 | Household appliances | 4.0 | 0.9 | -3.0 | -0.1 | -1.0 |
| 3353 | Electrical equipment | 2.8 | 0.6 | -2.1 | 1.6 | 1.0 |
| 3359 | Other electrical equipment and components | 2.0 | 0.2 | -1.8 | 2.2 | 2.0 |
| 336 | Transportation equipment | 2.9 | 1.4 | -1.4 | 1.3 | -0.2 |
| 3361 | Motor vehicles | 3.4 | 1.2 | -2.2 | 0.9 | -0.3 |
| 3362 | Motor vehicle bodies and trailers | 1.3 | 1.2 | 0.0 | 3.9 | 2.7 |
| 3363 | Motor vehicle parts | 2.9 | 2.0 | -0.8 | 1.2 | -0.8 |
| 3364 | Aerospace products and parts | 1.7 | -0.5 | -2.1 | 0.7 | 1.2 |
| 3365 | Railroad rolling stock | 5.2 | 5.9 | 0.7 | 4.2 | -1.6 |
| 3366 | Ship and boat building | 2.2 | 1.3 | -0.9 | 2.8 | 1.5 |
| 3369 | Other transportation equipment | 6.8 | 7.2 | 0.4 | 5.0 | -2.1 |
| 337 | Furniture and related products | 1.9 | 0.6 | -1.2 | 2.4 | 1.7 |
| 3371 | Household and institutional furniture | 1.8 | 0.3 | -1.5 | 2.2 | 1.9 |
| 3372 | Office furniture and fixtures | 1.8 | 0.9 | -0.9 | 2.5 | 1.6 |
| 3379 | Other furniture-related products | 2.3 | 1.8 | -0.5 | 2.8 | 1.0 |
| 339 | Miscellaneous manufacturing | 3.0 | 3.0 | 0.0 | 4.5 | 1.4 |
| 3391 | Medical equipment and supplies | 3.6 | 5.0 | 1.3 | 5.9 | 0.9 |
| 3399 | Other miscellaneous manufacturing | 2.2 | 1.3 | -0.9 | 3.2 | 1.9 |
|  | Transportation and Warehousing |  |  |  |  |  |
| 481 | Air transportation | 2.9 | 3.1 | 0.2 | 2.9 | -0.2 |
| 482111 | Line-haul railroads | 4.2 | 2.2 | -1.9 | 1.2 | -1.0 |
| 4841 | General freight trucking ${ }^{2 /}$ | 1.3 | 2.5 | 1.1 | 3.9 | 1.4 |
| 48411 | General freight trucking, local ${ }^{2 /}$ | 3.1 | 4.0 | 0.8 | 4.3 | 0.4 |
| 48412 | General freight trucking, long-distance | 1.3 | 2.8 | 1.5 | 3.0 | 0.2 |
| 48421 | Used household and office goods moving | -0.6 | -0.2 | 0.4 | 2.5 | 2.7 |
| 491 | Postal service | 0.9 | 0.7 | -0.2 | 4.1 | 3.3 |
| 4911 | Postal service | 0.9 | 0.7 | -0.2 | 4.1 | 3.3 |

Table 2. Average annual percent change in output per hour, output, hours, compensation, and unit labor costs, 1987-2008

| NAICS code | Industry | Average annual percent change, 1987-2008 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Output per hour | Output | Hours | Labor compensation | Unit labor costs |
| 492 | Couriers and messengers | -0.2 | 2.2 | 2.4 | 4.8 | 2.5 |
| 493 | Warehousing and storage ${ }^{1 /}$ | 2.7 | 6.1 | 3.4 | 6.1 | -0.1 |
| 4931 | Warehousing and storage ${ }^{1 /}$ | 2.7 | 6.1 | 3.4 | 6.1 | -0.1 |
| 49311 | General warehousing and storage ${ }^{1 /}$ | 5.0 | 8.5 | 3.3 | 6.7 | -1.6 |
| 49312 | Refrigerated warehousing and storage ${ }^{1 /}$ | -0.3 | 3.0 | 3.2 | 4.8 | 1.8 |
|  | Information |  |  |  |  |  |
| 511 | Publishing | 3.8 | 4.1 | 0.3 | 5.7 | 1.5 |
| 5111 | Newspaper, book, and directory publishers | 0.0 | -1.0 | -1.0 | 3.3 | 4.4 |
| 5112 | Software publishers | 14.4 | 21.9 | 6.5 | 12.3 | -7.9 |
| 51213 | Motion picture and video exhibition | 1.2 | 1.9 | 0.7 | 3.7 | 1.7 |
| 515 | Broadcasting, except internet | 1.6 | 2.7 | 1.1 | 5.0 | 2.2 |
| 5151 | Radio and television broadcasting | 0.4 | 0.6 | 0.1 | 4.0 | 3.4 |
| 5152 | Cable and other subscription programming | 3.6 | 8.3 | 4.5 | 10.4 | 2.0 |
| 5171 | Wired telecommunications carriers | 4.4 | 3.8 | -0.5 | 2.9 | -0.9 |
| 5172 | Wireless telecommunications carriers | 9.5 | 22.4 | 11.9 | 15.6 | -5.6 |
| 52211 | Finance and Insurance Commercial banking | 3.5 | 3.5 | 0.0 | 5.5 | 1.9 |
|  | Real Estate and Rental and Leasing |  |  |  |  |  |
| 532111 | Passenger car rental | 1.8 | 2.9 | 1.1 | 5.7 | 2.8 |
| 53212 | Truck, trailer, and RV rental and leasing | 3.7 | 2.9 | -0.8 | 3.6 | 0.6 |
| 53223 | Video tape and disc rental | 4.2 | 4.4 | 0.2 | 3.0 | -1.3 |
|  | Professional and Technical Services |  |  |  |  |  |
| 541213 | Tax preparation services | 0.7 | 3.3 | 2.6 | 4.7 | 1.3 |
| 54131 | Architectural services | 1.5 | 3.9 | 2.3 | 6.0 | 2.1 |
| 54133 | Engineering services | 1.8 | 4.0 | 2.2 | 6.9 | 2.7 |
| 54181 | Advertising agencies | 2.0 | 2.4 | 0.4 | 4.9 | 2.5 |
| 541921 | Photography studios, portrait | 0.1 | 2.3 | 2.2 | 4.7 | 2.3 |
|  | Administrative and Waste Services |  |  |  |  |  |
| 561311 | Employment placement agencies ${ }^{2 /}$ | 7.6 | 8.9 | 1.2 | 7.3 | -1.5 |
| 56151 | Travel agencies | 6.2 | 5.1 | -1.0 | 4.1 | -1.0 |
| 56172 | Janitorial services | 2.2 | 4.2 | 2.0 | 6.0 | 1.7 |
|  | Health Care and Social Assistance |  |  |  |  |  |
| 6215 | Medical and diagnostic laboratories ${ }^{2 /}$ | 4.3 | 7.4 | 3.0 | 6.1 | -1.2 |
| 621511 | Medical laboratories ${ }^{2 /}$ | 3.6 | 6.1 | 2.4 | 5.4 | -0.7 |
| 621512 | Diagnostic imaging centers ${ }^{2 /}$ | 5.0 | 9.4 | 4.2 | 7.8 | -1.5 |
|  | Arts, Entertainment, and Recreation |  |  |  |  |  |
| 71311 | Amusement and theme parks | 0.1 | 3.0 | 2.9 | 6.6 | 3.5 |
| 71395 | Bowling centers | 0.4 | -1.5 | -1.9 | 1.3 | 2.8 |
|  | Accommodation and Food Services |  |  |  |  |  |
| 72 | Accommodation and food services | 0.9 | 2.4 | 1.5 | 5.5 | 3.0 |
| 721 | Accommodation | 1.7 | 2.9 | 1.2 | 5.3 | 2.4 |
| 7211 | Traveler accommodation | 1.7 | 2.9 | 1.2 | 5.3 | 2.3 |
| 722 | Food services and drinking places | 0.6 | 2.3 | 1.6 | 5.5 | 3.2 |
| 7221 | Full-service restaurants | 0.6 | 2.3 | 1.7 | 6.4 | 4.0 |
| 7222 | Limited-service eating places | 0.6 | 2.5 | 1.8 | 5.3 | 2.8 |
| 7223 | Special food services | 1.7 | 2.9 | 1.1 | 4.1 | 1.2 |
| 7224 | Drinking places (alcoholic beverages) | -0.4 | -0.6 | -0.1 | 2.4 | 2.9 |
|  | Other Services |  |  |  |  |  |
| 8111 | Automotive repair and maintenance | 1.0 | 1.6 | 0.6 | 4.0 | 2.4 |
| 81142 | Reupholstery and furniture repair | -0.2 | -2.0 | -1.8 | 1.1 | 3.2 |
| 81211 | Hair, nail, and skin care services | 2.3 | 3.1 | 0.8 | 5.3 | 2.1 |
| 81221 | Funeral homes and funeral services | -0.5 | -0.2 | 0.4 | 4.3 | 4.5 |
| 8123 | Drycleaning and laundry services | 0.9 | 0.6 | -0.3 | 3.1 | 2.5 |
| 812310 | Coin-operated laundries and drycleaners | 1.9 | 0.7 | -1.2 | 3.1 | 2.5 |
| 812320 | Drycleaning and laundry services | 0.6 | -0.6 | -1.2 | 1.8 | 2.4 |
| 81233 | Linen and uniform supply | 0.3 | 1.7 | 1.3 | 4.6 | 2.8 |
| 81292 | Photofinishing | 0.7 | -4.8 | -5.4 | -2.3 | 2.6 |

[^0]
[^0]:    ${ }^{1 /}$ For NAICS industries 493, 4931, 49311, and 49312, average annual percent changes are for 1992-2008.
    ${ }^{2 /}$ For NAICS industries 4841, 48411, 561311, 6215, 621511, and 621512, average annual percent changes are for 1994-2008.

