

## **NEWS RELEASE**



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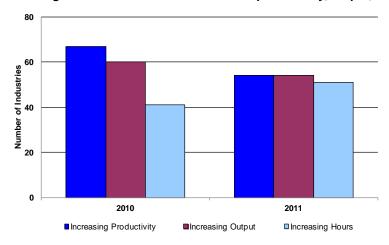
## PRODUCTIVITY AND COSTS BY INDUSTRY: MANUFACTURING INDUSTRIES, 2011

**Labor productivity** – defined as output per hour – rose in 63 percent of detailed manufacturing industries in 2011, the U.S. Bureau of Labor Statistics reported today. This was down from 78 percent in 2010. **Unit labor costs**, which reflect the total labor costs required to produce a unit of output, declined in 49 percent of the industries in 2011 compared to 71 percent in 2010. Two-thirds of the industries with productivity increases posted declines in unit labor costs.

Fewer industries recorded gains in output in 2011 than in the previous year, while more industries posted gains in hours. (See chart 1 and table 1.) Output rose in 54 of the 86 NAICS 4-digit manufacturing industries in 2011, down from 60 industries in 2010. Hours rose in 51 of the industries in 2011 compared to 41 in 2010. Hours rose in more industries in 2011 than in any year since 1997.

Almost 70 percent of industries with productivity growth had gains greater than 2.5 percent. Productivity rose 10 percent or more in 5 industries: audio and video equipment, accessories and other apparel, leather and hide tanning and finishing, textile furnishings mills, and electric lighting equipment.

Chart 1. Number of manufacturing industries with increases in labor productivity, output, and hours, 2010 and 2011



Industry labor productivity measures are updated and revised as new data become available. The latest industry productivity data for manufacturing industries and industries in other sectors are available on the BLS Industry Labor Productivity and Costs website at www.bls.gov/lpc/iprprodydata.htm.

A larger number of the detailed industries posted productivity gains over the 1987-2011 period than in 2011. Chart 2 contrasts the distribution of productivity changes over the long term with those in the most recent year. Between 1987 and 2011, labor productivity increased in 95 percent of the industries, with 86 percent recording gains from 0.1 to 4.0 percent. In 2011, industry productivity performance was more evenly distributed, with slightly over one-third of industries posting productivity declines.

Chart 2. Distribution of average annual percent change in labor productivity, 1987-2011 and 2010-2011

Labor productivity increased in 13 of the 21 NAICS 3-digit manufacturing industries in 2011, as output increased in 16 industries and hours fell in 10. Chart 3 shows the range of productivity and unit labor cost changes for all 21 industries. Productivity rose fastest in textile product mills, where output increased despite a drop in hours. Only 3 of the 21 industries registered greater productivity growth, or

**Annual Percent Change** 

**Average Annual Percent Change** 

smaller productivity declines, than in the previous year.

-8.0

-6.0

-4.0

-2.0

Percent change

0.0

2.0

Unit labor costs fell in 10 of the 21 NAICS 3-digit industries. Unit labor costs declined more frequently in industries where productivity rose, as productivity gains offset increases in hourly compensation. Unit labor costs fell in 9 of the 13 industries where productivity rose.

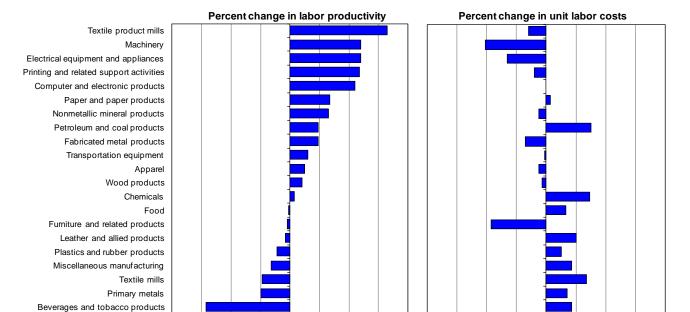


Chart 3. Percent change in labor productivity and unit labor costs in 3-digit NAICS manufacturing industries, 2010-2011

6.0

8.0 -8.0

-6.0

-4.0

-2.0

0.0

Percent change

2.0

4.0

6.0

8.0

4.0

The measures in this news release incorporate 2011 data and revisions to 2010 data from the Annual Survey of Manufactures (ASM) published by the Census Bureau and the annual benchmark revision of the BLS Current Employment Statistics (CES) survey published in February 2013. All of the measures for 2011 in this release are preliminary and subject to revision.

The industries included in this news release are classified according to the 2007 NAICS. While the rates of change reported by BLS in this release are rounded to one decimal place, all percent changes are calculated using index numbers rounded to three decimal places.

Year-to-year movements in industry productivity 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 trends tend to be more reliable indicators of industry performance than year-to-year changes.

More detailed data, including industry productivity and related indexes; rates of change; and levels of industry employment, hours, nominal value of production, and labor compensation are available on the BLS Labor Productivity and Costs website at www.bls.gov/lpc. Additional information can be obtained 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.

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## **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 (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 intraindustry 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.

Labor Hours: The primary source of industry employment and hours data 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 with data from the Current Population Survey (CPS) 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. CES and CPS data are supplemented or further disaggregated for some industries using data from the BLS Quarterly Census of Employment and Wages (QCEW), the Census Bureau, or other sources. 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 hourly compensation and labor productivity (real output per hour) and are an indicator of inflationary pressures on producers. Increases in hourly compensation increase unit labor costs; increases in labor productivity offset compensation increases and lower unit labor costs.

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 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.

Table 1. Percent change in output per hour, unit labor costs, and related data, 2010-2011

| NAICS code   Employment (thousands)   Dutput (tho | 1.3<br>5.7<br>7.9<br>2.7<br>0.8<br>1.4<br>-1.7<br>10.2<br>0.6<br>-0.2 |
|--|---|
| Food.         311         1,493.4         -0.1         -0.4         -0.3         0.8           Animal food.         3111         52.1         -7.1         -3.3         4.1         2.1           Grain and oilseed milling.         3112         59.4         -8.1         -6.3         2.0         1.1           Sugar and confectionery products.         3113         68.2         -7.0         -0.9         6.5         1.8           Fruit and vegetable preserving and specialty.         3114         172.8         2.5         -0.2         -2.6         0.6           Dairy products.         3115         133.9         -3.2         -0.5         2.7         0.9           Animal slaughtering and processing.         3116         493.1         3.2         1.6         -1.6         -0.1           Seafood product preparation and packaging.         3117         38.5         -2.7         -2.3         0.5         7.7           Bakeries and tortilla manufacturing.         3118         304.9         0.7         -0.4         -1.1         0.2           Other food products.         312         191.9         -5.7         1.2         7.4         2.9           Beverages and tobacco products.         312         191.9 <th>5.7<br/>7.9<br/>2.7<br/>0.8<br/>1.4<br/>-1.7<br/>10.2<br/>0.6<br/>-0.2</th>   | 5.7<br>7.9<br>2.7<br>0.8<br>1.4<br>-1.7<br>10.2<br>0.6<br>-0.2        |
| Food.         311         1,493.4         -0.1         -0.4         -0.3         0.8           Animal food.         3111         52.1         -7.1         -3.3         4.1         2.1           Grain and oilseed milling.         3112         59.4         -8.1         -6.3         2.0         1.1           Sugar and confectionery products.         3113         68.2         -7.0         -0.9         6.5         1.8           Fruit and vegetable preserving and specialty.         3114         172.8         2.5         -0.2         -2.6         0.6           Dairy products.         3115         133.9         -3.2         -0.5         2.7         0.9           Animal slaughtering and processing.         3116         493.1         3.2         1.6         -1.6         -0.1           Seafood product preparation and packaging.         3117         38.5         -2.7         -2.3         0.5         7.7           Bakeries and tortilla manufacturing.         3118         304.9         0.7         -0.4         -1.1         0.2           Other food products.         312         191.9         -5.7         1.2         7.4         2.9           Beverages and tobacco products.         312         191.9 <td>5.7<br/>7.9<br/>2.7<br/>0.8<br/>1.4<br/>-1.7<br/>10.2<br/>0.6<br/>-0.2</td>   | 5.7<br>7.9<br>2.7<br>0.8<br>1.4<br>-1.7<br>10.2<br>0.6<br>-0.2        |
| Animal food.       3111       52.1       -7.1       -3.3       4.1       2.1         Grain and oilseed milling.       3112       59.4       -8.1       -6.3       2.0       1.1         Sugar and confectionery products.       3113       68.2       -7.0       -0.9       6.5       1.8         Fruit and vegetable preserving and specialty.       3114       172.8       2.5       -0.2       -2.6       0.6         Dairy products.       3115       133.9       -3.2       -0.5       2.7       0.9         Animal slaughtering and processing.       3116       493.1       3.2       1.6       -1.6       -0.1         Seafood product preparation and packaging.       3117       38.5       -2.7       -2.3       0.5       7.7         Bakeries and tortilla manufacturing.       3118       304.9       0.7       -0.4       -1.1       0.2         Other food products.       3119       170.5       2.4       2.3       0.0       2.2         Beverages and tobacco products.       312       191.9       -5.7       1.2       7.4       2.9         Beverages.       312       15.7       -3.7       -4.7       -1.0       -2.7         Textile mills.  | 5.7<br>7.9<br>2.7<br>0.8<br>1.4<br>-1.7<br>10.2<br>0.6<br>-0.2        |
| Grain and oilseed milling.       3112       59.4       -8.1       -6.3       2.0       1.1         Sugar and confectionery products.       3113       68.2       -7.0       -0.9       6.5       1.8         Fruit and vegetable preserving and specialty.       3114       172.8       2.5       -0.2       -2.6       0.6         Dairy products.       3115       133.9       -3.2       -0.5       2.7       0.9         Animal slaughtering and processing.       3116       493.1       3.2       1.6       -1.6       -0.1         Seafood product preparation and packaging.       3117       38.5       -2.7       -2.3       0.5       7.7         Bakeries and tortilla manufacturing.       3118       304.9       0.7       -0.4       -1.1       0.2         Other food products.       3119       170.5       2.4       2.3       0.0       2.2         Beverages and tobacco products.       312       191.9       -5.7       1.2       7.4       2.9         Beverages.       3121       176.2       -4.1       3.7       8.2       3.9         Tobacco and tobacco products.       312       15.7       -3.7       -4.7       -1.0       -2.7         Textile  | 7.9<br>2.7<br>0.8<br>1.4<br>-1.7<br>10.2<br>0.6<br>-0.2               |
| Sugar and confectionery products.       3113       68.2       -7.0       -0.9       6.5       1.8         Fruit and vegetable preserving and specialty.       3114       172.8       2.5       -0.2       -2.6       0.6         Dairy products.       3115       133.9       -3.2       -0.5       2.7       0.9         Animal slaughtering and processing.       3116       493.1       3.2       1.6       -1.6       -0.1         Seafood product preparation and packaging.       3117       38.5       -2.7       -2.3       0.5       7.7         Bakeries and tortilla manufacturing.       3118       304.9       0.7       -0.4       -1.1       0.2         Other food products.       3119       170.5       2.4       2.3       0.0       2.2         Beverages and tobacco products.       312       191.9       -5.7       1.2       7.4       2.9         Beverages.       3121       176.2       -4.1       3.7       8.2       3.9         Tobacco and tobacco products.       312       15.7       -3.7       -4.7       -1.0       -2.7         Textile mills.       313       129.1       -1.9       -2.1       -0.1       0.6   | 2.7<br>0.8<br>1.4<br>-1.7<br>10.2<br>0.6<br>-0.2                      |
| Fruit and vegetable preserving and specialty.       3114       172.8       2.5       -0.2       -2.6       0.6         Dairy products.       3115       133.9       -3.2       -0.5       2.7       0.9         Animal slaughtering and processing.       3116       493.1       3.2       1.6       -1.6       -0.1         Seafood product preparation and packaging.       3117       38.5       -2.7       -2.3       0.5       7.7         Bakeries and tortilla manufacturing.       3118       304.9       0.7       -0.4       -1.1       0.2         Other food products.       3119       170.5       2.4       2.3       0.0       2.2         Beverages and tobacco products.       312       191.9       -5.7       1.2       7.4       2.9         Beverages.       3121       176.2       -4.1       3.7       8.2       3.9         Tobacco and tobacco products.       312       15.7       -3.7       -4.7       -1.0       -2.7         Textile mills.       313       129.1       -1.9       -2.1       -0.1       0.6   | 0.8<br>1.4<br>-1.7<br>10.2<br>0.6<br>-0.2                             |
| Dairy products.       3115       133.9       -3.2       -0.5       2.7       0.9         Animal slaughtering and processing.       3116       493.1       3.2       1.6       -1.6       -0.1         Seafood product preparation and packaging.       3117       38.5       -2.7       -2.3       0.5       7.7         Bakeries and tortilla manufacturing.       3118       304.9       0.7       -0.4       -1.1       0.2         Other food products.       3119       170.5       2.4       2.3       0.0       2.2         Beverages and tobacco products.       312       191.9       -5.7       1.2       7.4       2.9         Beverages.       3121       176.2       -4.1       3.7       8.2       3.9         Tobacco and tobacco products.       312       15.7       -3.7       -4.7       -1.0       -2.7         Textile mills.       313       129.1       -1.9       -2.1       -0.1       0.6  | -1.7<br>10.2<br>0.6<br>-0.2   |
| Seafood product preparation and packaging.       3117       38.5       -2.7       -2.3       0.5       7.7         Bakeries and tortilla manufacturing.       3118       304.9       0.7       -0.4       -1.1       0.2         Other food products.       3119       170.5       2.4       2.3       0.0       2.2         Beverages and tobacco products.       312       191.9       -5.7       1.2       7.4       2.9         Beverages.       3121       176.2       -4.1       3.7       8.2       3.9         Tobacco and tobacco products.       3122       15.7       -3.7       -4.7       -1.0       -2.7         Textile mills.       313       129.1       -1.9       -2.1       -0.1       0.6   | 10.2<br>0.6<br>-0.2   |
| Bakeries and tortilla manufacturing.       3118       304.9       0.7       -0.4       -1.1       0.2         Other food products.       3119       170.5       2.4       2.3       0.0       2.2         Beverages and tobacco products.       312       191.9       -5.7       1.2       7.4       2.9         Beverages.       3121       176.2       -4.1       3.7       8.2       3.9         Tobacco and tobacco products.       3122       15.7       -3.7       -4.7       -1.0       -2.7         Textile mills.       313       129.1       -1.9       -2.1       -0.1       0.6  | 0.6<br>-0.2   |
| Bakeries and tortilla manufacturing.       3118       304.9       0.7       -0.4       -1.1       0.2         Other food products.       3119       170.5       2.4       2.3       0.0       2.2         Beverages and tobacco products.       312       191.9       -5.7       1.2       7.4       2.9         Beverages.       3121       176.2       -4.1       3.7       8.2       3.9         Tobacco and tobacco products.       3122       15.7       -3.7       -4.7       -1.0       -2.7         Textile mills.       313       129.1       -1.9       -2.1       -0.1       0.6  | -0.2  |
| Beverages and tobacco products.       312       191.9       -5.7       1.2       7.4       2.9         Beverages.       3121       176.2       -4.1       3.7       8.2       3.9         Tobacco and tobacco products.       3122       15.7       -3.7       -4.7       -1.0       -2.7         Textile mills.       313       129.1       -1.9       -2.1       -0.1       0.6  |   |
| Beverages  |   |
| Beverages  | 1.7   |
| Tobacco and tobacco products.       3122       15.7       -3.7       -4.7       -1.0       -2.7         Textile mills.       313       129.1       -1.9       -2.1       -0.1       0.6  | 0.3   |
| Textile mills  | 2.0   |
|  |   |
|  | 2.7   |
|  | 5.2   |
| Fabric mills   | 2.2   |
| Textile and fabric finishing and coating mills   | 2.3   |
| Textile product mills  | -1.2  |
| Textile furnishings mills  | -4.3  |
| Other textile product mills  | 2.9   |
| Apparel  | -0.5  |
| Apparel knitting mills   | 8.2   |
| Cut and sew apparel.         3152         133.8         1.5         -0.4         -1.9         -2.7   | -2.4  |
| Accessories and other apparel  | 0.1   |
| Leather and allied products  | 2.0   |
| Leather and hide tanning and finishing   | -4.4  |
| Footwear   | 2.6   |
| Other leather products   | 6.0   |
|  | -0.3  |
| Wood products  | 3.1   |
| Plywood and engineered wood products. 3212 62.4 2.6 2.5 -0.1 -1.3  | -3.7  |
| Other wood products  | -0.8  |
|  |   |
| Paper and paper products   | 0.3   |
| Pulp, paper, and paperboard mills  | 0.6   |
| Converted paper products   | 0.1   |
| Printing and related support activities  | -0.8  |
| Printing and related support activities  | -0.8  |
| Petroleum and coal products  | 3.0   |
| Petroleum and coal products  | 3.0   |
| Chemicals  | 2.9   |
| Basic chemicals  | 7.7   |
| Resin, rubber, and artificial fibers   | 6.0   |
| Agricultural chemicals   | 7.4   |
| Pharmaceuticals and medicines  | -1.5  |
| Paints, coatings, and adhesives  | 0.0   |
| Soaps, cleaning compounds, and toiletries  | -1.6  |
| Other chemical products and preparations.         3259         85.5         0.3         -2.8         -3.1         2.8  | 5.7   |
| Plastics and rubber products   | 1.0   |
| Plastics and rubber products.       326       637.2       -0.9       1.8       2.7       2.9         Plastics products.       3261       510.2       -1.5       0.6       2.1       2.5  | 1.0   |
| Rubber products  | -2.5  |
|  |   |
| Nonmetallic mineral products   | -0.5  |
| Clay products and refractories   | 2.3   |
| Glass and glass products   | -2.2  |

Table 1. Percent change in output per hour, unit labor costs, and related data, 2010-2011 — Continued

|   | 101 0030     |                    | Percent change, 2010-2011 |              |              |              |              |  |
|---|--------------|--------------------|---------------------------|--------------|--------------|--------------|--------------|--|
| Industry  | NAICS        | 2011<br>Employment | Output                    | _            |              | Labor        | Unit labor   |  |
| •   | code         | (thousands)        | per hour                  | Output       | Hours        | compensation | costs        |  |
| Cement and concrete products                                    | 3273         | 165.5              | 1.4                       | -0.5         | -1.8         | -0.4         | 0.0          |  |
| Lime and gypsum products  | 3274         | 13.6               | 7.1                       | 4.4          | -2.5         | 0.7          | -3.5         |  |
| Other nonmetallic mineral products                              | 3279         | 68.8               | 0.3                       | 2.1          | 1.8          | 2.6          | 0.4          |  |
| Primary metals  | 331          | 391.1              | -2.0                      | 7.5          | 9.7          | 9.0          | 1.4          |  |
| Iron and steel mills and ferroalloy production                  |              | 92.8               | -0.1                      | 9.5          | 9.7          | 11.2         | 1.5          |  |
| Steel products from purchased steel                             | 3312         | 57.0               | -7.6                      | 6.9          | 15.7         | 7.7          | 0.7          |  |
| Alumina and aluminum production                                 | 3313         | 56.6               | 5.7                       | 6.1          | 0.4          | 7.5          | 1.3          |  |
| Other nonferrous metal production                               | 3314         | 61.7               | 1.3                       | 1.7          | 0.4          | 4.9          | 3.1          |  |
| Foundries   | 3315         | 123.0              | -6.0                      | 10.1         | 17.1         | 9.8          | -0.3         |  |
| Fabricated metal products                                       | 332          | 1,373.2            | 1.9                       | 7.9          | 5.9          | 6.4          | -1.4         |  |
| Forging and stamping  | 3321         | 95.4               | 1.5                       | 10.2         | 8.5          | 5.6          | -4.1         |  |
| Cutlery and hand tools  | 3322         | 40.9               | 3.3                       | -0.1         | -3.2         | 3.1          | 3.1          |  |
| Architectural and structural metals                             | 3323         | 336.7              | -2.8                      | 3.0          | 5.9          | 2.5          | -0.5         |  |
| Boilers, tanks, and shipping containers                         | 3324         | 90.4               | 0.8                       | 10.8         | 9.9          | 6.5          | -3.9         |  |
| Hardware  | 3325         | 23.9               | -1.5                      | -0.5         | 1.0          | -0.7         | -0.2         |  |
| Spring and wire products  |              | 41.9               | 5.6                       | 3.3          | -2.1         | 3.1          | -0.2         |  |
| Machine shops and threaded products                             |              | 353.9              | 3.5                       | 13.6         | 9.7          | 11.4         | -1.9         |  |
| Coating, engraving, and heat treating metals                    | 1            | 131.6              | 3.6                       | 10.2         | 6.4          | 9.1          | -1.0         |  |
| Other fabricated metal products                                 | 3329         | 258.5              | 6.3                       | 7.9          | 1.5          | 5.4          | -2.4         |  |
| Machinery   | 1            | 1,068.9            | 4.8                       | 12.8         | 7.6          | 8.2          | -4.1         |  |
| Agriculture, construction, and mining machinery                 |              | 228.2              | 6.9                       | 17.5         | 9.9          | 13.6         | -3.4         |  |
| Industrial machinery  |              | 104.4              | 6.4                       | 13.1         | 6.3          | 7.7          | -4.8         |  |
| Commercial and service industry machinery                       | 1            | 93.1               | 3.3                       | 4.3          | 1.0          | 3.1          | -1.1         |  |
| HVAC and commercial refrigeration equipment                     |              | 130.3              | -2.2                      | 3.5          | 5.8          | 1.5          | -1.9         |  |
| Metalworking machinery  | 3335         | 172.6              | 7.8                       | 18.2         | 9.6          | 10.5         | -6.6         |  |
| Turbine and power transmission equipment                        | 3336         | 98.4               | 7.9                       | 19.6         | 10.8         | 9.3          | -8.6         |  |
| Other general purpose machinery                                 | 3339         | 241.9              | 3.1                       | 10.0         | 6.7          | 7.7          | -2.1         |  |
| Computer and electronic products                                |              | 1,111.3            | 4.4                       | 4.0          | -0.4         | 4.0          | 0.0          |  |
| Computer and peripheral equipment                               | 1            | 157.6              | -22.9                     | -28.5        | -7.3         | -5.4         | 32.4         |  |
| Communications equipment  |              | 115.6              | 5.3                       | 5.7          | 0.4          | 11.8         | 5.8          |  |
| Audio and video equipment                                       |              | 20.2               | 19.7                      | 16.5         | -2.7         | 12.6         | -3.4         |  |
| Semiconductors and electronic components                        |              | 387.4              | 8.5                       | 14.8         | 5.8          | 4.0<br>3.4   | -9.4<br>0.2  |  |
| Electronic instruments  | 3345         | 406.0<br>24.5      | 6.4<br>-2.4               | 3.2<br>-9.0  | -3.0<br>-6.7 | -5.0         | 4.4          |  |
|   |              |                    |                           |              |              |              |              |  |
| Electrical equipment and appliances                             | 1            | 368.3              | 4.8                       | 5.8          | 1.0          | 3.1          | -2.6         |  |
| Electric lighting equipment                                     | 3351         | 46.0               | 10.0                      | 6.2          | -3.5         | 1.4          | -4.6         |  |
| Household appliances  |              | 56.9               | -0.5                      | -2.1         | -1.6         | -5.9<br>2.5  | -3.9         |  |
| Electrical equipment  Other electrical equipment and components |              | 139.7<br>125.7     | 5.1<br>4.3                | 6.0<br>8.7   | 0.8<br>4.2   | 7.0          | -3.3<br>-1.5 |  |
|   |              |                    |                           |              |              |              |              |  |
| Transportation equipment  | 1            | 1,398.0            | 1.2                       | 5.6          | 4.4          | 5.5          | -0.1         |  |
| Motor vehicles  | 3361         | 158.8              | 7.4                       | 11.6         | 3.9          | 9.3          | -2.1         |  |
| Motor vehicle bodies and trailers                               | 3362         | 117.3              | 1.6                       | 9.6          | 7.9          | 8.5          | -1.0         |  |
| Motor vehicle parts   | 3363         | 454.6              | 1.3                       | 7.2          | 5.9          | 6.2          | -1.0         |  |
| Aerospace products and parts                                    | 3364<br>3365 | 488.2<br>21.3      | -4.2<br>5.2               | -1.4<br>17.0 | 2.9<br>11.1  | 4.5<br>6.9   | 6.0<br>-8.6  |  |
| Railroad rolling stockShip and boat building                    | 3366         | 122.9              | -1.3                      | 0.5          | 1.8          | 3.1          | 2.5          |  |
| Other transportation equipment                                  |              | 34.9               | -7.8                      | -6.4         | 1.5          | -1.6         | 5.1          |  |
|   |              |                    |                           |              |              |              |              |  |
| Furniture and related products.                                 | 1            | 375.8              | -0.2                      | 2.8          | 3.0          | -1.0         | -3.7         |  |
| Household and institutional furniture.                          |              | 237.8              | -5.1                      | -2.5         | 2.7          | -2.4         | 0.1          |  |
| Office furniture and fixtures                                   |              | 101.4<br>36.6      | 4.1<br>9.9                | 10.8<br>5.2  | 6.4<br>-4.3  | 0.9<br>1.0   | -9.0<br>-4.0 |  |
| Other furniture-related products                                |              |                    |                           |              |              |              |              |  |
| Miscellaneous manufacturing                                     | 339          | 625.6              | -1.3                      | 1.0          | 2.3          | 2.8          | 1.7          |  |
| Medical equipment and supplies                                  | 3391         | 311.2              | -2.4                      | -1.6         | 0.8          | 2.2          | 3.9          |  |
| Other miscellaneous manufacturing                               | 3399         | 314.4              | 0.6                       | 4.6          | 4.0          | 3.5          | -1.1         |  |

Table 2. Average annual percent change in output per hour, unit labor costs, and related data, 1987-2011

| Table 2. Average annual percent change in output per nour, un | it labor |  |            |              |              |            |  |  |
|---|----------|--|------------|--------------|--------------|------------|--|--|
|   | NAICS    | Average annual percent change, 1987-2011 |            |              |              |            |  |  |
| Industry  | code     | Output                                   | Output     | Hours        | Labor        | Unit labor |  |  |
|   |          | per hour                                 | - Catpat   |              | compensation | costs      |  |  |
| Manufacturing   |          |  |            |              |              |            |  |  |
| Food  | 311      | 1.0                                      | 1.2        | 0.2          | 2.9          | 1.7        |  |  |
| Animal food.  | 3111     | 2.3                                      | 1.7        | -0.5         | 3.2          | 1.4        |  |  |
| Grain and oilseed milling.                                    | 3112     | 1.7                                      | 1.0        | -0.7         | 2.1          | 1.2        |  |  |
| Sugar and confectionery products.                             |          | 1.0                                      | -0.1       | -1.1         | 2.1          | 2.1        |  |  |
| Fruit and vegetable preserving and specialty.                 | 3114     | 1.0                                      | 0.9        | -0.1         | 2.7          | 1.8        |  |  |
| Dairy products  |          | 1.6                                      | 1.0        | -0.1         | 3.2          | 2.1        |  |  |
|   | 3116     | 1.0                                      | 2.0        | 1.0          | 3.4          | 1.3        |  |  |
| Animal slaughtering and processing.                           |          |  |            |              |              |            |  |  |
| Seafood product preparation and packaging.                    | 3118     | 0.8<br>0.5                               | -0.1       | -0.8<br>-0.3 | 2.6<br>2.0   | 2.6<br>1.8 |  |  |
| Bakeries and tortilla manufacturing.                          |          |  | 0.2        |              |              |            |  |  |
| Other food products   | 3119     | 0.7                                      | 2.0        | 1.3          | 4.0          | 2.0        |  |  |
| Beverages and tobacco products                                | 312      | 0.6                                      | -0.3       | -0.9         | 1.3          | 1.6        |  |  |
| Beverages   | 3121     | 1.7                                      | 1.4        | -0.3         | 1.9          | 0.5        |  |  |
| Tobacco and tobacco products                                  | 3122     | 1.6                                      | -3.3       | -4.7         | -1.1         | 2.2        |  |  |
| Textile mills   | 313      | 3.4                                      | -2.7       | -5.8         | -3.1         | -0.5       |  |  |
| Fiber, yarn, and thread mills.                                | 3131     | 2.6                                      | -2.7       | -5.2         | -3.2         | -0.5       |  |  |
| Fabric mills.   |          | 4.4                                      | -2.6       | -6.6         | -3.2         | -0.7       |  |  |
| Textile and fabric finishing and coating mills.               | 3133     | 1.8                                      | -3.2       | -4.9         | -2.9         | 0.3        |  |  |
|   |          |  |            |              |              |            |  |  |
| Textile product mills   | 314      | 1.0                                      | -1.9       | -2.9         | 0.1          | 2.1        |  |  |
| Textile furnishings mills                                     |          | 0.6                                      | -2.7       | -3.2         | -0.7         | 2.0        |  |  |
| Other textile product mills                                   | 3149     | 2.1                                      | -0.6       | -2.6         | 1.2          | 1.7        |  |  |
| Apparel   | 315      | -1.0                                     | -7.8       | -6.9         | -6.0         | 2.0        |  |  |
| Apparel knitting mills  | 3151     | -0.3                                     | -7.6       | -7.3         | -6.5         | 1.2        |  |  |
| Cut and sew apparel   | 3152     | -1.1                                     | -7.9       | -7.0         | -6.0         | 2.1        |  |  |
| Accessories and other apparel                                 | 3159     | -1.4                                     | -6.8       | -5.5         | -4.6         | 2.4        |  |  |
| • •   | 246      | 2.0                                      | 4.0        | 6.0          | 2.0          | 4.4        |  |  |
| Leather and allied products.                                  |          | 2.0                                      | -4.3       | -6.2         | -3.0         | 1.4        |  |  |
| Leather and hide tanning and finishing                        | 3161     | 1.8                                      | -3.4       | -5.1         | -3.3         | 0.1        |  |  |
| Footwear  | 3162     | 2.3                                      | -5.6       | -7.7         | -4.0         | 1.7        |  |  |
| Other leather products  | 3169     | 0.5                                      | -3.8       | -4.2         | -1.5         | 2.4        |  |  |
| Wood products   | 321      | 1.3                                      | -0.9       | -2.2         | 1.1          | 2.0        |  |  |
| Sawmills and wood preservation                                | 3211     | 2.1                                      | -0.3       | -2.4         | 0.6          | 0.9        |  |  |
| Plywood and engineered wood products                          | 3212     | 1.0                                      | -1.2       | -2.2         | 0.5          | 1.6        |  |  |
| Other wood products   | 3219     | 1.0                                      | -1.0       | -2.0         | 1.5          | 2.5        |  |  |
| Paper and paper products                                      | 322      | 1.9                                      | -0.2       | -2.0         | 1.1          | 1.3        |  |  |
| Pulp, paper, and paperboard mills.                            | 3221     | 2.9                                      | -0.4       | -3.2         | 0.4          | 0.8        |  |  |
| Converted paper products                                      | 3222     | 1.4                                      | 0.0        | -1.4         | 1.7          | 1.7        |  |  |
|   |          |  |            |              |              |            |  |  |
| Printing and related support activities                       | 323      | 1.4                                      | -0.7       | -2.1         | 0.5          | 1.2        |  |  |
| Printing and related support activities                       | 3231     | 1.4                                      | -0.7       | -2.1         | 0.5          | 1.2        |  |  |
| Petroleum and coal products                                   | 324      | 2.7                                      | 1.2        | -1.4         | 3.7          | 2.5        |  |  |
| Petroleum and coal products                                   | 3241     | 2.7                                      | 1.2        | -1.4         | 3.7          | 2.5        |  |  |
| Chemicals   | 225      | 1.5                                      | 0.7        | -0.9         | 2.9          | 2.2        |  |  |
| Basic chemicals.  | 3251     | 2.4                                      | 0.7        | -0.9<br>-2.1 | 2.9          | 1.7        |  |  |
| Resin, rubber, and artificial fibers.                         | 3252     | 2.4                                      | 0.3        | -2.1<br>-1.9 | 1.8          | 1.7        |  |  |
|   | I        | 2.4                                      |            | -1.9         | 1.9          | 1.5        |  |  |
| Agricultural chemicals  | 3253     | 0.2                                      | 0.3<br>2.1 | 1.9          | 5.6          | 3.4        |  |  |
| Pharmaceuticals and medicines                                 | 3254     | 1.3                                      | -0.7       | -1.9         | 1.9          | 2.6        |  |  |
|   |          |  |            |              |              |            |  |  |
| Soaps, cleaning compounds, and toiletries                     | 3256     | 2.5<br>2.4                               | 1.8<br>0.0 | -0.7<br>-2.3 | 2.4<br>1.3   | 0.6<br>1.3 |  |  |
| Outer electrical products and preparations                    |          |  |            |              |              |            |  |  |
| Plastics and rubber products                                  | 326      | 1.9                                      | 1.2        | -0.8         | 2.3          | 1.1        |  |  |
| Plastics products   | 3261     | 1.8                                      | 1.3        | -0.4         | 2.7          | 1.3        |  |  |
| Rubber products   | 3262     | 2.4                                      | 0.4        | -1.9         | 1.1          | 0.7        |  |  |
| Nonmetallic mineral products.                                 | 327      | 1.1                                      | -0.3       | -1.4         | 1.3          | 1.6        |  |  |
| Clay products and refractories                                | 3271     | 0.8                                      | -1.8       | -2.6         | -0.6         | 1.2        |  |  |
| Glass and glass products                                      | 3272     | 2.4                                      | 0.1        | -2.2         | 0.7          | 0.6        |  |  |
|   |          |  |            |              |              |            |  |  |

Table 2. Average annual percent change in output per hour, unit labor costs, and related data, 1987-2011 — Continued

| Industry   | NAICS | Average annual percent change, 1987-2011 |            |             |                    |                  |  |
|--|-------|--|------------|-------------|--------------------|------------------|--|
|  | code  | Output<br>per hour                       | Output     | Hours       | Labor compensation | Unit labor costs |  |
| Cement and concrete products                                       | 3273  | 0.1                                      | -0.5       | -0.6        | 1.9                | 2.4              |  |
| Lime and gypsum products   | 3274  | 1.2                                      | -0.9       | -2.1        | 1.7                | 2.7              |  |
| Other nonmetallic mineral products                                 | 1     | 1.7                                      | 0.8        | -0.9        | 2.1                | 1.3              |  |
| Primary metals.  | 331   | 2.3                                      | 0.2        | -2.1        | 0.9                | 0.7              |  |
| Iron and steel mills and ferroalloy production.                    |       | 4.3                                      | 1.8        | -2.3        | 0.6                | -1.2             |  |
| Steel products from purchased steel                                | 1     | -0.7                                     | -1.1       | -0.5        | 1.5                | 2.7              |  |
| Alumina and aluminum production                                    | 1     | 2.7                                      | 0.0        | -2.6        | 0.7                | 0.7              |  |
| Other nonferrous metal production                                  | 1     | 1.1                                      | -1.2       | -2.2        | 2.1                | 3.3              |  |
| Foundries  | 3315  | 2.0                                      | -0.2       | -2.2        | 0.7                | 0.9              |  |
| Fabricated metal products.   | 332   | 1.4                                      | 0.8        | -0.6        | 2.3                | 1.6              |  |
| Forging and stamping   | 1     | 2.7                                      | 1.3        | -1.4        | 1.8                | 0.4              |  |
| Cutlery and hand tools   |       | 2.2                                      | -0.6       | -2.7        | 0.5                | 1.1              |  |
| Architectural and structural metals                                | 3323  | 0.6                                      | 0.5        | -0.1        | 2.8                | 2.3              |  |
| Boilers, tanks, and shipping containers                            | 3324  | 0.7                                      | 0.0        | -0.7        | 1.6                | 1.6              |  |
| Hardware   | 3325  | 0.5                                      | -3.5       | -4.0        | -1.9               | 1.6              |  |
| Spring and wire products   | 3326  | 2.8                                      | 0.0        | -2.7        | 1.2                | 1.2              |  |
| Machine shops and threaded products                                | 3327  | 2.0                                      | 2.7        | 0.7         | 3.9                | 1.1              |  |
| Coating, engraving, and heat treating metals                       | 3328  | 2.8                                      | 2.7        | -0.2        | 3.0                | 0.3              |  |
| Other fabricated metal products                                    | 3329  | 1.4                                      | 0.3        | -1.1        | 1.7                | 1.4              |  |
| Machinery  | 333   | 2.5                                      | 1.5        | -1.0        | 1.9                | 0.4              |  |
| Agriculture, construction, and mining machinery                    |       | 2.8                                      | 3.2        | 0.4         | 3.0                | -0.2             |  |
| Industrial machinery   |       | 2.6                                      | 1.3        | -1.3        | 1.9                | 0.6              |  |
| Commercial and service industry machinery                          |       | 1.6                                      | -0.5       | -2.0        | 0.6                | 1.1              |  |
| HVAC and commercial refrigeration equipment                        | 1     | 2.0                                      | 1.1        | -1.0        | 1.9                | 0.8              |  |
| Metalworking machinery   | 3335  | 2.2                                      | 0.4        | -1.8        | 1.1                | 0.7              |  |
| Turbine and power transmission equipment                           | 3336  | 1.9                                      | 1.5        | -0.4        | 1.4                | -0.1             |  |
| Other general purpose machinery                                    | 3339  | 2.7                                      | 1.6        | -1.1        | 2.5                | 1.0              |  |
| Computer and electronic products                                   | 334   | 10.7                                     | 8.0        | -2.5        | 0.9                | -6.6             |  |
| Computer and peripheral equipment                                  | 1     | 18.4                                     | 13.4       | -4.3        | -3.3               | -14.7            |  |
| Communications equipment   | 1     | 5.3                                      | 2.3        | -2.8        | 0.6                | -1.6             |  |
| Audio and video equipment  | 3343  | 2.3                                      | -2.4       | -4.6        | -1.6               | 0.8              |  |
| Semiconductors and electronic components                           | 3344  | 16.1                                     | 14.2       | -1.6        | 1.2                | -11.4            |  |
| Electronic instruments   | 3345  | 4.1                                      | 1.8        | -2.1        | 2.0                | 0.2              |  |
| Magnetic media manufacturing and reproduction                      | 3346  | 1.3                                      | -0.8       | -2.1        | -1.8               | -1.0             |  |
| Electrical equipment and appliances.                               | 335   | 2.5                                      | -0.1       | -2.5        | 0.9                | 1.0              |  |
| Electric lighting equipment  | 1     | 2.2                                      | -0.5       | -2.6        | 0.9                | 1.4              |  |
| Household appliances   | 3352  | 3.4                                      | -0.2       | -3.5        | -1.1               | -0.9             |  |
| Electrical equipment   | 3353  | 2.2                                      | -0.3       | -2.4        | 0.8                | 1.1              |  |
| Other electrical equipment and components                          | 3359  | 2.2                                      | 0.0        | -2.1        | 1.7                | 1.6              |  |
| Transportation equipment   | 336   | 3.1                                      | 1.3        | -1.7        | 0.9                | -0.4             |  |
| Motor vehicles.  |       | 4.0                                      | 1.3        | -2.6        | 0.1                | -1.2             |  |
| Motor vehicle bodies and trailers.                                 | 3362  | 1.0                                      | 0.5        | -0.5        | 2.8                | 2.3              |  |
| Motor vehicle parts  | 3363  | 3.3                                      | 1.9        | -1.3        | 0.2                | -1.6             |  |
| Aerospace products and parts                                       | 1     | 1.8                                      | -0.3       | -2.1        | 1.0                | 1.3              |  |
| Railroad rolling stock   | 1     | 5.2                                      | 4.1        | -1.0        | 3.5                | -0.6             |  |
| Ship and boat building   | 1     | 2.3                                      | 0.6        | -1.7        | 2.4                | 1.9              |  |
|  | 3369  | 5.4                                      | 5.0        | -0.4        | 4.1                | -0.8             |  |
| Furniture and related products.                                    | 337   | 1.5                                      | -0.7       | -2.2        | 0.8                | 1.5              |  |
| Household and institutional furniture.                             |       | 1.3                                      | -1.3       | -2.5        | 0.4                | 1.7              |  |
| Office furniture and fixtures.                                     | 3372  | 1.2                                      | -0.3       | -1.6        | 1.2                | 1.5              |  |
|  | 3379  | 2.4                                      | 1.2        | -1.2        | 1.8                | 0.6              |  |
| ·  |       |  |            |             |                    |                  |  |
| Miscellaneous manufacturing  | 1     | 2.9                                      | 2.4        | -0.5        | 3.8                | 1.4              |  |
| Medical equipment and supplies.  Other miscellaneous manufacturing | 3391  | 3.3<br>2.3                               | 4.3<br>0.7 | 0.9<br>-1.6 | 5.4<br>2.3         | 1.0<br>1.6       |  |
| Other miscellaneous manufacturing                                  | 3333  | 2.3                                      | 0.7        | -1.0        | 2.3                | 1.0              |  |