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Date	Time	Release
Tuesday, May 01, 2012	10:00 AM	Quarterly Data Series on Business Employment Dynamics for Third Quarter 2011
Wednesday, May 02, 2012	10:00 AM	Metropolitan Area Employment and Unemployment for March 2012
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Thursday, May 10, 2012	8:30 AM	U.S. Import and Export Price Indexes for April 2012
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Tuesday, May 15, 2012	8:30 AM	Real Earnings for April 2012
Wednesday, May 16, 2012	10:00 AM	Extended Mass Layoffs for First Quarter 2012
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Thursday, May 24, 2012	10:00 AM	Labor Force Characteristics of Foreign-born Workers for 2011
Wednesday, May 30, 2012	10:00 AM	Metropolitan Area Employment and Unemployment for April 2012

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Women's employment, education, and the gender gap in 17 countries

Data from the Luxembourg Income Study show that, among married or cohabiting mothers, better educated women are more likely to be employed; gender inequality in annual earnings is thus less extreme among the well educated than among those with less education, driven largely by educated women's higher employment

Paula England, Janet Gornick, and Emily Fitzgibbons Shafer

One commonsense view of women's employment is that working-class women have always been more likely to work for pay than other women because of their families' need for their paycheck. But in fact, recent evidence shows higher levels of employment for highly educated women than for the less educated, despite the fact that well-educated women typically have higher earning husbands. This article uses data from a number of high- and middle-income countries to investigate how women's employment and hours worked, and the gender gap in annual and hourly earnings, vary by educational level. Focusing on commonalities across countries, the analyses presented are limited to adults 25 to 54 years of age who have a marital or cohabiting partner of the other gender and, for some considerations, to the subset of these adults who have children in the household. The countries examined are Austria, Brazil, Canada, the Czech Republic, Estonia, Germany, Greece, Guatemala, Ireland, Israel, Luxembourg, Mexico, the Netherlands, Spain, the United Kingdom (U.K.), the United States (U.S.), and Uruguay.[1]

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Education and women's employment

Recent research on both the United States and a number of European countries shows that women's employment is higher at higher educational levels.[2] In the United States, the pattern of well-educated women having higher employment than less educated women dates back to at least 1950.[3] Moreover, the positive effect of women's own education on their employment has increased steadily, while the negative effect of their husbands' earnings has declined.[4] A similar decline over time in the impact of husbands' earnings on wives' employment occurred in Sweden.[5] What is lacking, however, is an examination of whether the pattern of more educated women having higher employment levels holds across a large range of affluent countries.

What do theories tell us about whether more educated or less educated women would be expected to be employed at higher rates and about the effect of their husbands' earnings on women's employment? Economic theory offers two competing principles: income and price effects. Price effects are also called price-of-time effects or opportunity-cost effects. Women with more education have higher earning power; thus, the dollar value of what they would forego by staying home with a child is greater for them. On the basis of these higher opportunity costs, well-educated women are expected to have higher employment.[6] By contrast, the "income effect" refers to the fact that the more sources of income individuals have other than their own earnings, the less they will work for pay.[7] Income in the form of a spouse's earnings can be used to "buy" lei-

sure or homemaking time. Given marital homogamy—the tendency to marry persons of similar education and earning power[8]—these two effects operate at cross-purposes on any given woman. The highly educated woman typically has the higher earning husband, so her own education encourages her employment while his earnings discourage it. The less educated woman typically has the lower earning husband, so her own education discourages her employment while his low earnings increase her need to be employed. Thus, it is an empirical question which of the two effects predominates. When people say that working-class or poor women work for pay because their families need the money, they are saying, in lay language, that the income effect predominates over the opportunity-cost effect. Past research showing that better educated women are more likely to be employed is consistent with the opportunity-cost effect predominating.

Sociologists focus at least in part on nonmonetary motivations for employment, such as whether one can get an interesting, meaningful, or identity-enhancing job.[9] The strong cultural construction of motherhood as the responsibility of, and source of meaning for, women requires that paid work be meaningful in order to compete for women's focus.[10] If the only jobs one can get are demeaning, full-time child rearing may seem a more meaningful option if it can be afforded even minimally. This reasoning, too, would suggest that more highly educated women, who have access to more interesting and fulfilling jobs, have higher employment levels. Such reasoning is consistent with a broader opportunity-cost argument than is typically used by economists. In this broader view, what is foregone by staying home with children includes not only wages, but also identity and the satisfaction of having interesting, meaningful work.[11] In addition, sociologists have pointed out that education inculcates gender-egalitarian attitudes; thus, highly educated women are expected to have higher employment levels for this ideological reason as well.[12]

Another factor affecting which women are employed is the cost of childcare. If mothers, rather than fathers, are the ones responsible for care, then the benefits of a woman's job have to outweigh her childcare costs in order for it to make economic sense that she take the job. Given this cost–benefit analysis, highly educated women are more likely to be employed than less educated women because they can earn more, net of childcare costs. Note, however, that childcare costs cannot be the only factor affecting women's employment: if it were, we would not expect an educational gradient on employment in countries that provide large subsidies for childcare.

Education and the gender earnings gap

If nonearners are included in the analyses that follow (let their earnings be 0), then any group that has higher women's employment would be expected to have greater gender equality in annual earnings. But what about hourly earnings (i.e., wages)? On the one hand, past research shows that some, though surely not all, of the gender gap in wages flows from women's employment interruptions,[13] so if more educated women are employed more continuously relative to men, then the gender gap in wages among the employed should be less at high educational levels. On the other hand, demand-side gender discrimination against women as a whole or against mothers may be greater at higher educational levels, as is suggested by "glass ceiling" arguments. Moreover, the extra-hours demands of jobs at the top are more difficult to reconcile with mothering. Together, these two factors suggest a larger gender gap in wages or annual earnings at higher educational levels.

To date, the empirical literature has addressed the issue of education and the gender earnings gap only indirectly, by examining gender differences in rates of return to education. If the percentage by which wages go up for each increment of education is higher for men than women, then the gender pay gap at higher educational levels must be larger in percentage terms. By contrast, if rates of return to education are higher for women, then the gender gap in pay would be smaller at higher educational levels. The evidence is mixed in Europe, but most U.S. studies find that women receive a higher percent return for each year of education.[14] Of course, higher returns to education for women than for men do not imply that women earn higher wages than men at high education levels: when women's returns are higher, generally the finding is that men earn more than women at every educational level but the gap is smaller at higher educational levels.

Data and methods

The data that follow are from the Luxembourg Income Study (LIS), a compilation of microdata—primarily national probability samples of households—from 45 countries. LIS data are unique in that a team collects and harmonizes datasets from the various countries in order to facilitate cross-national research.[15] Each dataset provides household- and individual-level data and is rich in demographic, employment, and income information. The LIS datasets vary with regard to the definition of "employment": some define "employment" as "having any paid activity" (even if only 1 hour during the reference

period), whereas others define "employment" on the basis of whether it is the respondent's main activity (so that a woman who says that her main activity is homemaking, but who works for pay several hours a week, would not be said to have employment). LIS datasets also differ as to whether the reference period is the present, as opposed to a longer reference period, such as the previous year. Rates of employment will be higher when what is measured is employment in the previous year versus current employment, particularly for women. Thus, to maximize cross-national comparability, the subsequent analyses are limited to 17 high- and middle-income countries for which there are data on whether persons are currently employed (i.e., the reference period is the present), according to the standard of having *any paid* activity (rather than employment being the *main* activity). This measure is then used to define "employment." (Thus, persons classified as "not employed" include both the unemployed and those not in the labor force.) The analyses use the most recent LIS data available: data from 2004 and 2006 for the 17 countries examined. Individual adults are the units of analysis, and all results are weighted to be representative of the given country's population.

The aim of the analyses to be presented is to examine educational differences (or their absence) in women's employment rates, women's and men's hours worked per week, and gender inequality in both annual and hourly earnings. The sample comprises adults between the ages of 25 and 54 who are married or cohabiting. That age range was chosen because by 25 most individuals have finished schooling and by 54 few individuals have retired. The analyses are limited to married and cohabiting men and women (hereafter, often "husbands and wives," for brevity) because of the article's focus on women's employment and because it is largely among women with partners that there is some tradition of opting out of employment. Of course, opting out of employment is most common when women have young children. Thus, when descriptive statistics are presented, for each educational level, on the percentage of women who are employed, and on their hours worked, the sample is further delimited to only married or cohabiting parents who have at least one child younger than 7 in the household. This type of arrangement is most likely to have a breadwinner and a homemaker. Note, however, that the descriptive statistics examining the gender gap in annual and hourly earnings include all married and cohabiting individuals, because sample sizes for partnered individuals with a child under 7 and with hourly earnings are small in the lowest educational group in some countries. Similarly, the subsequent logistic regression analysis predicting women's employment uses all married and cohabiting women, but includes the age of the youngest child as a control variable in assessing the effects of education and the male partner's earnings on women's employment.[16]

Because, as just mentioned, the analyses that follow are limited to men and women with a marital or cohabiting partner of the other gender, the partners had to be identified in the data. Thus, household heads (with partners of the other gender) and the partners of heads were selected. This construction leaves some imprecision, failing to capture a small number of partners: adults who live with partners, but who are neither the head, nor the partner of the head, of their household (e.g., a married couple living with one of their parents who is the head of the household). In addition, as discussed earlier, some of the analyses to be presented are further limited to parents with a child under 7 in the household. The subsample for these analyses might include some partnered nonparents mistakenly identified as parents: household heads with partners, or partners of heads, living with children who are neither their nor their partner's children. However, in the vast majority of cases, it seems safe to assume that the persons identified as parents are either parents or stepparents. Of course, a number of male stepparents are undoubtedly in the sample, because women tend to retain coresidence with their children from previous relationships.

A number of the descriptive statistics to be presented focus on proportions or central tendencies for individuals of various educational levels. For each country examined, the percentage of women employed at each level of their own education is shown, as is the percentage of women employed at each level of their male partners' education. For those who are employed, the average number of hours usually worked per week is shown, by education, separately for women and men. How gender inequality in earnings varies by education is demonstrated in two ways. First, the ratio of women's to men's average annual earnings is computed, with those not employed for the entire year assigned the value 0. Second, to examine earnings inequality among just those who are currently employed, the ratio of women's to men's average hours-adjusted earnings—annual earnings divided by 48 (the typical number of weeks worked per year) and then divided by usual hours worked currently per week—is displayed. The latter is the closest number to an hourly wage rate obtainable from the LIS data; its limitation is that it captures differences in hourly earnings only to the extent that all workers worked the same number of weeks the previous year. To avoid thorny issues of how to render the currencies of various countries comparable (e.g., deciding between exchange rates

and purchasing parity), average annual earnings or wages are shown simply as ratios of women's to men's earnings or wages in some currency, not as separate amounts for men and women. The presentation of ratios goes directly to the article's concern with gender equality. These two types of male–female ratios—the ratio of women's to men's average annual earnings and the ratio of women's to men's average hours-adjusted earnings—are shown for each education level.

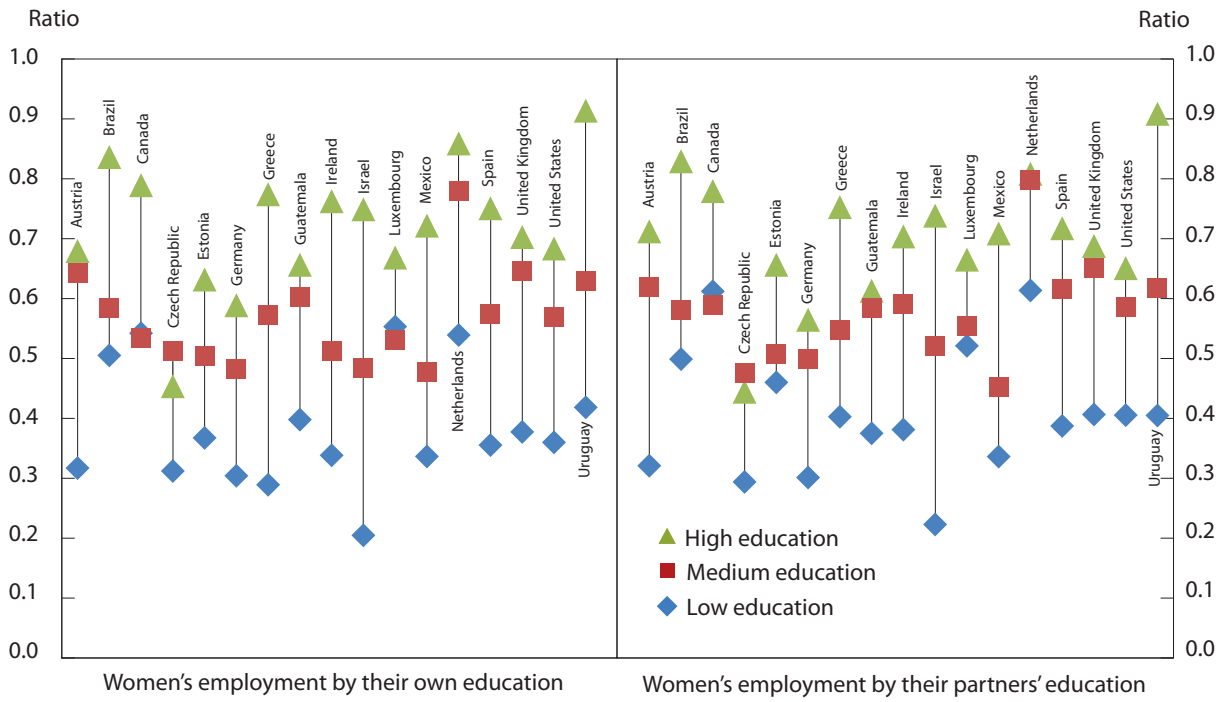
The descriptive analyses reveal higher women's employment with more education, but these are only bivariate relationships. Accordingly, logistic regression analyses are carried out to assess effects of women's education and their male partners' earnings on the women's employment, controlling for other variables. The earnings of male partners are divided into seven ordered categories, with all male partners given a score for the percentile into which their earnings fall within the distribution of the earnings of other male partners in their country's sample. Then the part of the 0–20th percentile made up of men with no earnings is separated out as one distinct category, followed by the remaining men in the 0–20th percentile, those in the 20th–39th percentile, the 40th–59th percentile (the reference category in the logistic regression), the 60th–79th percentile, the 80th–94th percentile, and, to capture the very top earners in each country, the 95th–100th percentile.

Educational attainment is measured as low, medium, or high on the basis of one of the standardized variables provided by LIS; persons of low educational attainment are those who have not completed upper secondary education (an international designation that corresponds roughly to what in the United States would be called high school), persons of medium educational attainment are those who have completed upper secondary education and/or some form of nonspecialized vocational education, and persons of high educational attainment are those who have completed any specialized vocational or postsecondary education, or more.[17]

Results: education and employment

Chart 1 shows, for each country and each of the three education groups examined, the percentage of partnered women with a child under 7 who are employed. In all the countries but one (the Czech Republic), the group of partnered mothers with high education has the highest percent employed, and in all but two countries (Canada and

Chart 1. Proportion employed among cohabiting or married 25- to 54-year-old women with a child younger than 7, by their own and their partners' education



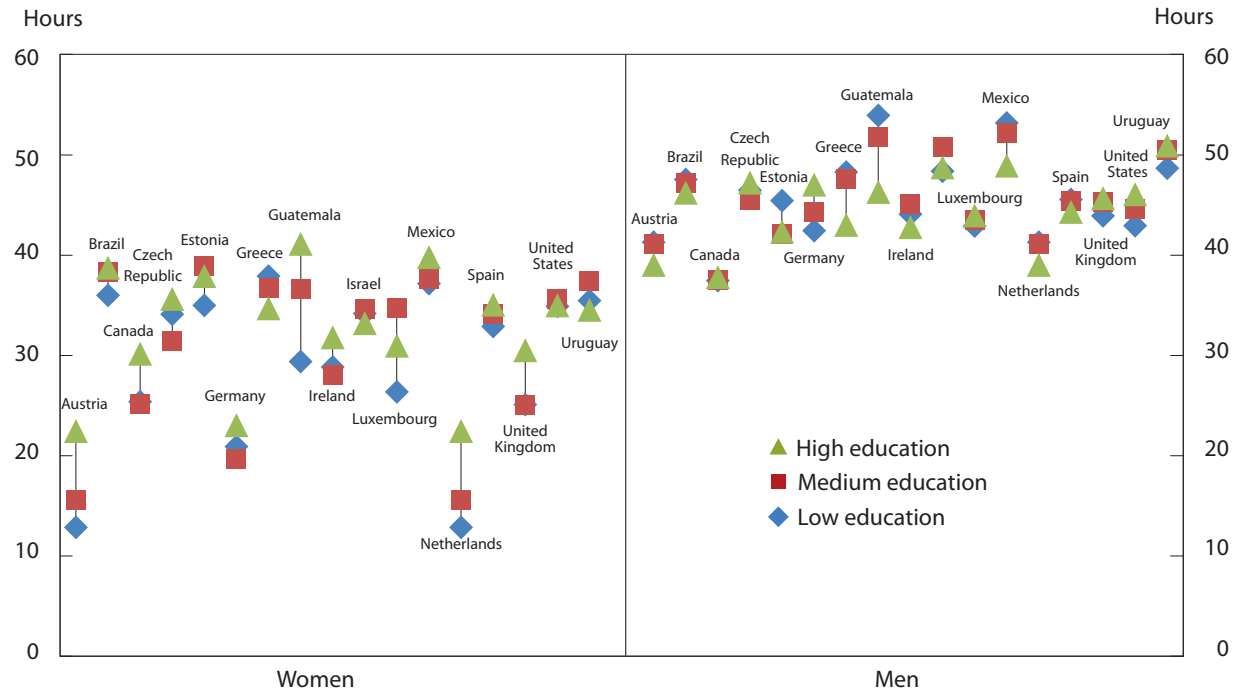
SOURCE: Luxembourg Income Study.

Luxembourg) those with the lowest education have the lowest percent employed (in the two exceptions, women with low and medium education do not differ much in employment). Arranging these mothers of young children by their husband's (or cohabiting partner's) education reveals a similar pattern: women are more likely to be employed if their partners have more education. This pattern is striking because male partners with more education generally have higher incomes; nonetheless, female partners of men with higher education are not any less likely to be employed, probably because of the strong correlation between the man's education and that of his female partner. (These results are, of course, limited to partnered women with a child under 7, but the same positive relationship between education and employment holds for all partnered women.) In sum, more educated women are more likely to be employed.

What about hours worked in the market for those who are employed? Clearly, from chart 1, well-educated women are more likely to be employed, but among the employed, do they work more hours per week? As chart 2 indicates, hours worked among the employed vary little by education for women or men, and the direction of whatever differences there are varies by country.[18] (The same absence of relationship between education and hours worked holds if the sample includes all men and women partnered to a member of the other gender, rather than just parents of young children.) One possible explanation for why more educated women would be employed at higher rates, but not work more hours if employed, is that people generally have more control over whether or not they are employed than they do over their hours. In some countries, there is limited demand for part-time or other reduced-hours work and almost none in more remunerative sectors.

Table 1 presents results obtained from regression analyses examining education–employment linkages while controlling for women's male partner's annual earnings, presence of children, and age of youngest child. As expected, the presence of young children deters women's employment.[19] The analyses show that, in every country, women in the medium education category are more likely than those in the lowest category to be employed. The odds ratios range from 1.24 in Luxembourg, indicating that a woman with a medium level of education has a 24-percent-higher likelihood of employment than a woman with low education, to 3.69 in Guatemala, indicating that the former is more than 3 times as likely to be employed as the latter. More dramatically, in every country, the most educated women are most likely to be employed, with the smallest odds ratio (for this group's

Chart 2. Mean weekly hours of paid work for employed 25- to 54-year-olds who are married or cohabiting and have a child younger than 7, by education, separately for women and men



SOURCE: Luxembourg Income Study.

Table 1. Odds ratios from logistic regression predicting the employment of married or cohabiting women[1]

Category	Austria	Brazil	Canada	Czech Republic	Estonia	Germany	Greece	Guatemala	Ireland
Education (reference category = low):									
Medium	2.64	1.78	1.50	2.70	1.42	2.29	1.97	3.69	2.43
High	4.33	8.52	3.17	4.47	2.40	2.67	8.37	5.40	6.04
Age of youngest child (reference category = no children):									
Younger than 6	.28	.62	.56	.12	.28	.20	.98	.54	.28
6–12	.68	.91	.86	.91	1.54	.62	1.42	[2].99	.46
12–18	.71	1.05	1.24	1.22	1.73	1.14	1.69	[2]1.03	.59
Partner's earnings[3] (reference category = 40th–59th percentile):									
No earnings	.82	.47	.68	.13	.58	.65	1.04	.57	.26
Below 20th percentile	1.24	.95	.79	.58	1.15	1.02	[4].98	1.17	.28
20th–39th percentile	1.32	1.09	1.06	1.11	1.03	.85	1.19	1.26	.81
60th–79th percentile	1.19	.84	.88	.63	1.86	.70	1.21	.94	.60
80th–94th percentile	.82	.55	.70	.78	.78	.90	.70	.66	.46
Above 94th percentile	.84	.35	.51	.63	.87	.51	.33	.42	.43

Category	Israel	Luxem-bourg	Mexico	Nether-lands	Spain	United Kingdom	United States	Uruguay
Education (reference category = low):								
Medium	3.54	1.24	2.13	2.66	2.73	2.51	2.80	2.50
High	10.03	2.99	6.67	5.61	6.36	3.80	5.63	17.59
Age of youngest child (reference category = no children)								
Younger than 6	.41	.51	.68	.48	.68	.24	.41	.59
6–12	.91	.70	.98	.53	.68	.60	.71	.78
12–18	1.14	.56	1.10	.82	.98	.81	1.08	1.13
Partner's earnings[1] (reference category = 40th–59th percentile):								
No earnings	.73	1.69	1.33	.34	.77	.16	1.28	1.33
Below 20th percentile[2]	([5])	3.39	1.19	1.05	[2]1.00	.65	.86	1.18
20th–39th percentile	.69	2.22	1.10	1.15	.96	.83	1.04	1.16
60th–79th percentile	1.38	.82	.87	.84	.89	.88	.75	[2]1.03
80th–94th percentile	1.10	[2].99	.68	.79	.78	.56	.43	.87
Above 94th percentile	1.14	.32	.62	.39	.50	.28	.25	.70

[1] All entries are statistically significant at $p < .001$, except where otherwise indicated.
[2] Not statistically significant.
[3] Percentiles of the distribution of annual earnings among the male cohabiting or married partners of the women in the analyses.
[4] Statistically significant at $p < .01$.
[5] Because of the low male employment-to-population ratio in Israel, men in the 0–20th percentile of earnings all have zero earnings and are captured in the zero-earnings category.
SOURCE: Luxembourg Income Study.

odds relative to the odds of those with low education) being Estonia's 2.40 and seven countries having odds ratios greater than 6. In other words, in all countries women in the high education category are more than 2 times as likely to be employed as women in the lowest education category, and in some countries they are more than 6 times as likely.

Net of other variables, are women with male partners more likely to be homemakers (or not employed for other reasons) if their male partners earn more relative to other male partners in their country? The logistic regressions in table 1 show that the effect of male partners' earnings is *nonmonotonic*, changing direction across the range of men's earnings. (All of the odds ratios presented show effects of being in the category in question relative to having a husband whose earnings are in the middle of the distribution: between the 40th and 59th percentile of

married or cohabiting men's earnings for the country.) In 12 out of the 17 countries examined (the exceptions being Greece, Luxembourg, Mexico, the United States, and Uruguay), women are less likely to be employed if their husband was not employed all year (and thus had earnings of 0). Odds ratios for these 12 countries with negative effects range from .16 to .82, indicating that women's odds of employment if their partners had no earnings during the previous year are between 16 percent and 82 percent of what the odds are (or, equivalently, between 84 percent and 18 percent less) for women with partners in the middle income category.

These findings for couples with men at the bottom of the income distribution are counterintuitive and not predicted by any theory. It would seem more plausible that, in households where the man has no or extremely low earnings, the woman would feel more of a need to seek employment, but these women actually have unusually low employment rates. Possibly, this finding results from the effects of some unmeasured variables on which partners are similar. For example, geographically specific recessions will create pockets where both spouses are unemployed. Or it may be that persons who are unable to work because of disability may disproportionately cohabit with or marry each other, sometimes producing two nonemployed persons supported by means-tested income maintenance programs or extended family assistance.

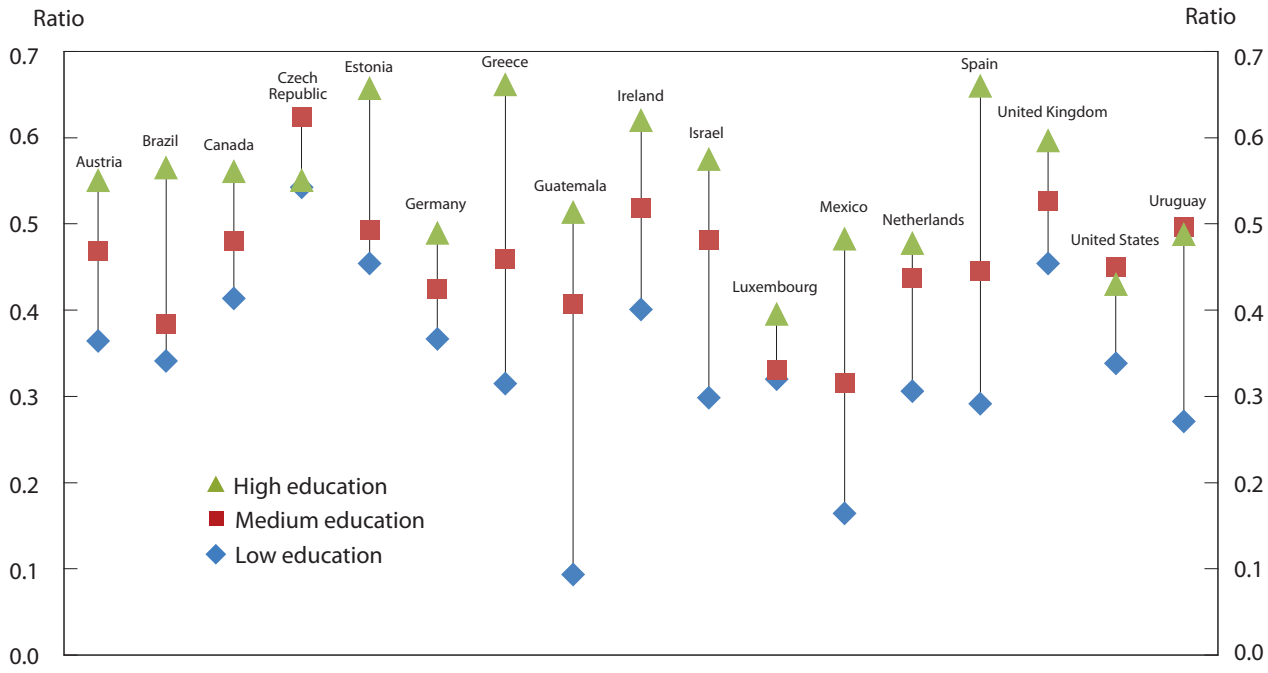
The group of countries examined is split about half and half as to whether the men in the bottom 20th percentile of earnings—but who have some earnings—have female partners with lower or higher employment than do men in the middle of the earnings distribution. Above the middle, the findings are largely what would be expected from the income effect: in most countries, the higher men's incomes above the middle of the distribution, the less likely their female partners are to be employed (controlling for women's own education). The only exception is Israel, where women with male partners earning in the top three categories (above the 94th, from the 80th to the 94th, and from the 60th to the 79th percentiles) are more likely to be employed than women whose partners are in the middle of the male earnings distribution. In sum, women are less likely to be employed as their partner's earnings go up, but with two large exceptions: women whose partners have no (or, in about half the countries, extremely low) earnings and women with high-earning partners in Israel.

Results: education and the earnings gap

Chart 3 shows the ratio of women's to men's annual earnings, with those without earnings assigned 0 in the averages, for all partnered individuals. With three exceptions (the Czech Republic, the United States, and Uruguay), women's median annual earnings relative to men's are higher for the higher education groups. However, chart 4 makes it clear that this educational differential comes mostly from highly educated women being more likely to be employed relative to men at the same level of education, not from a lower gender hourly earnings gap among those with high education. To approximate a wage rate, annual earnings are divided by 48 weeks and then divided by usual hours currently worked per week, limiting the analysis at this point to the employed.[20] Chart 4 shows the ratio of women's to men's hours-adjusted earnings for the employed. There is no clear pattern: out of 17 countries, in 8 the ratio of partnered women's to men's wages is highest among the highly educated group, but in 7 countries (Austria, Brazil, Germany, Mexico, the Netherlands, the United States, and Uruguay) this female-to-male ratio is lowest for the highly educated. Moreover, in many countries, including the United States, the gap does not differ much by education. So, why does the more continuous employment of highly educated women not translate into hourly earnings that are higher relative to those of men in the same education group, given past findings[21] showing that employment experience is an important component of the gender pay gap? One possibility is that there is a counteracting factor such that the right-hand tail of the earnings distribution is more extreme among men than among women. Or, in more familiar language, highly educated women are the ones most likely to encounter the glass ceiling.

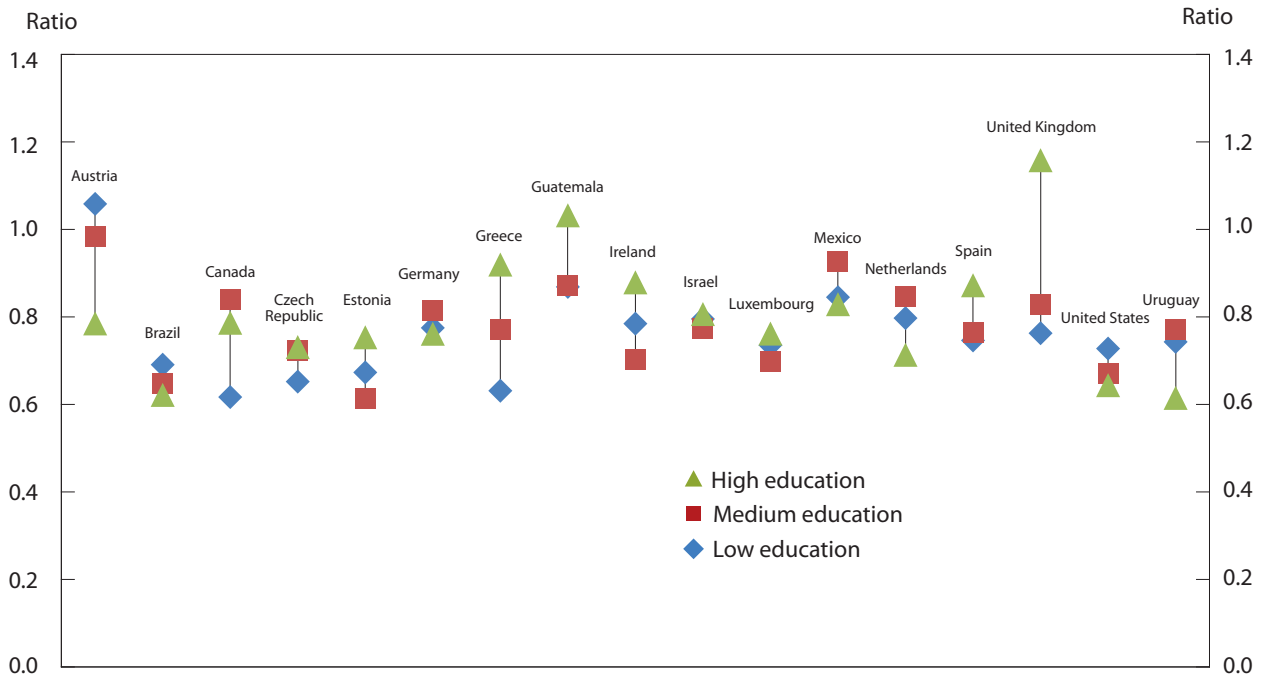
IN EACH OF THE 17 HIGH- AND MIDDLE-INCOME countries examined in this article, women with more education are more likely to be employed than women with less education. Effects of men's earnings on the employment of their female partners vary by country and are not consistently negative across the range of men's earnings. Although gender inequality in wage rates varies little by education, when those who are not employed are included in the analysis, gender inequality in annual earnings is seen to be smaller among those with higher education, largely because more of the women with high education are employed. □

Chart 3. **Female-to-male ratio of mean annual earnings for cohabiting or married 25- to 54-year-olds (including the nonemployed)**



SOURCE: Luxembourg Income Study.

Chart 4. **Female-to-male ratio of wages of cohabiting or married 25- to 54-year-olds who are employed**



SOURCE: Luxembourg Income Study.

Notes

[1] The article studies "high" and "middle" income countries, as indicated by the World Bank classification system, which is based on per capita gross national income. At the time the datasets were constructed, 13 of the 17 countries examined were considered high-income countries and 4—Brazil, Guatemala, Mexico, and Uruguay—were classified as middle-income countries. In what follows, the term "affluent" encompasses both high- and middle-income (as opposed to low-income) countries.

[2] See Paula England, Carmen Garcia-Beaulieu, and Mary Ross, "Women's Employment among Blacks, Whites, and Three Groups of Latinas: Do More Privileged Women Have Higher Employment?" *Gender & Society*, August 2004, pp. 494–509; Marie Evertsson, Paula England, Irma Mooi-Reci, Joan Hermsen, Jean de Bruijn, and David Cotter, "Is Gender Inequality Greater at Lower or Higher Educational Levels? Common Patterns in the Netherlands, Sweden, and the United States," *Social Politics*, summer 2009, pp. 210–241; Jill Rubery, Mark Smith, and Collette Fagan, eds., *Women's Employment in Europe: Trends and Prospects* (New York, Routledge, 1999); Chinhui Juhn and Kevin M. Murphy, "Wage Inequality and Family Labor Supply," *Journal of Labor Economics*, January 1997, pp. 72–97; and "Women at Work: Who are They and How are They Faring?", Chapter 2 in *OECD Employment Outlook 2002 (*Paris, OECD, 2002), pp. 74, 80, 84.

[3] David A. Cotter, Joan M. Hermsen, and Reeve Vanneman, *Gender Inequality at Work* (Washington, DC, Population Reference Bureau, 2004), see especially Table 4, p. 9.

[4] Philip N. Cohen and Suzanne M. Bianchi, "Marriage, children, and women's employment: what do we know?" *Monthly Labor Review* December 1999, pp. 22–31.

[5] Ursula Henz and Marianne Sundström, "Partner Choice and Women's Paid Work in Sweden: The Role of Earnings," *European Sociological Review*, September 2001, pp. 295–316.

[6] See, for example, Claudia Goldin, *Understanding the Gender Gap: An Economic History of American Women* (New York, Oxford University Press, 1990), pp. 119–158; and James P. Smith and Michael P. Ward, "Time-Series Growth in the Female Labor Force," *Journal of Labor Economics*, January 1985, pp. S59–S90.

[7] Goldin, *Understanding the Gender Gap*.

[8] For discussions of this phenomenon, see Robert D. Mare, "Five Decades of Educational Assortative Mating," *American Sociological Review*, February 1991, pp. 15–32; Michael Rosenfeld, "Racial, educational and religious endogamy in the United States: A comparative historical perspective," *Social Forces*, September 2008, pp. 1–31; Christine R. Schwartz and Robert D. Mare, "Trends in Educational Assortative Marriage from 1940 to 2003," *Demography*, November 2005, pp. 621–646; Jeroen Smits, "Social Closure Among the Higher Educated: Trends in Educational Homogamy in 55 Countries," *Social Science Research*, June 2003, pp. 251–277; Jeroen Smits, Wout Ultee, and Jan Lammers, "Educational Homogamy in 65 Countries: An Explanation of Differences in Openness Using Country-Level Explanatory Variables," *American Sociological Review*, April 1998, pp. 264–285.

[9] Kathleen Gerson, *Hard Choices: How Women Decide About Work, Career, and Motherhood* (Berkeley, CA, University of California Press, 1985).

[10] Sharon Hays, *The Cultural Contradictions of Motherhood* (New Haven, CT, Yale University Press, 1996).

[11] Although economists generally ignore nonpecuniary features of jobs when discussing opportunity costs, their theory of "compensating differentials" also entails a claim that jobs are chosen for both pecuniary and nonpecuniary reasons. (On compensating differentials, see, e.g., Paula England, *Comparable Worth: Theories and Evidence* (New York, Aldine de Gruyter, 1992), chapter 2.)

[12] Often, studies measure egalitarian gender ideology in part by how favorable respondents are to the—once controversial—notion that women's having employment is appropriate. The idea is that a favorable attitude indicates a rejection of the traditional notion that only men should be breadwinners and only women should be homemakers. (See Karin L. Brewster and Irene Padavic, "Change in Gender-Ideology, 1977–1996: The Contributions of Intracohort Change and Population Turnover," *Journal of Marriage and the Family*, May 2000, pp. 477–487; Pi-Ling Fan and Margaret Mooney Marini, "Influences on Gender-Role Attitudes during the Transition to Adulthood," *Social Science Research*, June 2000, pp. 258–283; Matthijs Kalmijn and Gerbert Kraaykamp, "Social Stratification and Attitudes: A Comparative Analysis of the Effects of Class and Education in Europe," *British Journal of Sociology*, December 2007, pp. 547–576; and Knud Knudsen and Kari Waerness, "National Context, Individual Characteristics and Attitudes on Mothers' Employment: A Comparative Analysis of Great Britain, Sweden and Norway," *Acta Sociologica*, January 2001, pp. 67–79.)

[13] Alison J. Wellington, "Accounting for the Male/Female Wage Gap Among Whites: 1976 and 1985," *American Sociological Review*, December 1994, pp. 839–884.

[14] See, for example, Colm Harmon, Ian Walker, and Niels Westergaard-Nielsen, eds., *Education and Earnings in Europe: A Cross-Country Analysis of the Returns to Education* (Cheltenham, U.K., Edward Elgar, 2001), Table 1.2; and Christopher Dougherty, "Why are the Returns to Schooling Higher for Women than for Men?" *Journal of Human Resources*, fall 2005, 969–988.

[15] See "Assessing Income Inequality, Measuring Poverty, Comparing Employment Outcomes, Analysing Assets & Debt, Researching Policy Impacts" (Luxembourg City, Luxembourg, Cross-National Data Center, 2010–2012), **http://www.lisproject.org**.

[16] All the descriptive and regression analyses undertaken in this article exclude individuals who are in the military, those engaged in agriculture, and the self-employed; the reason is that in these groups there is substantial "noise" in reports of hours worked.

[17] The educational attainment recode provided by LIS is based on the International Standard Classification of Education, known as ISCED97. One challenge that comparative researchers often grapple with is the placement of vocational education programs, because the distinction between nonspecialized and specialized vocational education is not always straightforward and because many surveys do not distinguish between the two. In fact, the U.S. survey that is the source of the U.S. data in LIS, the Current Population Survey (CPS), is an example of the latter. The 2004 CPS has only one category that refers to vocational education, and it is labeled "associate degree, occupational." In accordance with the ISCED97 guidelines, the category is classified as "high" in the LIS recode. In other countries' surveys, there are vocational education categories that correspond to "basic" or "secondary" vocational education; ISCED97 would code these categories as "medium" educational attainment.

[18] One striking finding that emerges from chart 2 is that married or cohabiting men with children report exceedingly long weekly hours in most of the countries examined. Nearly everywhere, these fathers' mean weekly hours are well above 40 per week and, in some cases, above 50 per week. This level of worktime exceeds the normal workweek in most of these countries, suggesting that fathers often work overtime and/or hold multiple jobs. Such a finding indicates

that the widespread gaps in work hours between employed men and women are shaped both by mothers' short hours (their mean hours are mostly below 40 per week) and by fathers' long hours (usually 40 and above). That said, as noted earlier, there is a weak relationship between employed persons' hours and their educational attainment, so men's remarkably long workweeks contribute to the gender gap in hours across the educational spectrum.

[19] For an examination of how the relationship between children and women's employment has changed differentially between single and married women in recent years in the United States, see Saul D. Hoffman, "The changing impact of marriage and children on women's labor force participation," *Monthly Labor Review,* February 2009, pp. 3–14, **http://www.bls.gov/opub/mlr/2009/02/art1full.pdf**.

[20] Although the LIS data include the number of weeks worked in the previous year for some countries, that variable is not available for all of the countries examined. Thus, in reporting gender gaps in wage, it is assumed that women and men worked the same number of weeks that year—an assumption that is understood to be problematic. In many countries, workers have the option to take off substantial time for vacation and family leave. In most cases, these days or weeks are paid (by social insurance), so the fact that women and men utilize the programs involved at different rates is likely to introduce limited bias into the results obtained. Of more concern is that, on average, women are employed fewer weeks per year, in part because women are more likely than men to have just entered employment. Thus, the gender differential in wages is undoubtedly overstated, more in some countries than in others. The situation is mitigated somewhat by the absence of a clear relationship between education and the gender gap in wages.

[21] Wellington, "Accounting for the Male/Female Wage Gap."

Employment projections through the lens of education and training

The new BLS education and training categories provide information on the typical path to enter and how to become competent in occupations; they not only are a useful resource for career exploration but also provide insight into the expected demand for workers by education level and other types of career preparation

Dixie Sommers
and
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Students and career changers want to know what preparation is needed for entry into various careers or, alternatively, what types of career opportunities may be available for a given level of preparation. The counselors, teachers, parents, and others who assist the students also need this information. To better meet this need, the Bureau of Labor Statistics (BLS) has introduced a new set of education and training categories to depict the preparation that individuals need to enter and to become competent in specific occupations.

While these categories were developed specifically for users interested in career exploration and guidance, other data users are interested in this information as well. To help them make decisions on investments and human resource planning, policy makers, businesses, and others want to know what the expected demand may be for workers with various levels of education attainment and other preparation. While not directly depicting demand by education attainment, the BLS education and training categories provide insight into the expected demand.

This article examines the 2010–2020 employment projections through the lens of the new education and training categories. The results indicate, for example, that the fastest projected employment growth, 21.7 percent over the decade, is among occupations with a master's degree as the typical entry-level education needed, while the largest number of projected new jobs, 7.6 million, is among occupations with a high school or equivalent as the typical entry-level needed.

This article begins by discussing what the new categories are, why BLS changed from the previous categories, and how BLS assigned the new categories. Next, it examines how the assignments are distributed across major occupation groups and across the intersections of the three dimensions of the new system. Then summary results are presented using the 2010–2020 employment projections, as well as wage information from the Occupational Employment Statistics program. In addition, the article discusses the projections for the entry-level education categories, exploring the results by the on-the-job training (OJT) and related work experience dimensions.

In this exercise, BLS presents its approach to a problem that labor market analysts across the globe face. All analysts need a way to generalize and summarize employment trends by education and other preparation—a way that requires developing some construct to represent the complexities of how labor markets intersect with education and other preparation for work. The article concludes with a brief review of how other analysts, including those in Canada and Europe, are addressing this problem.

What the new categories are

The path for entry and competency. Some occupations have several paths by which a prospective worker can enter, while others have a single

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distinct path. An important part of the path is the education that one needs to enter the occupation. For some occupations, a certain level of education is universally required, while for others, it is not as clear-cut. Consider two legal occupations: lawyers and paralegals. Prospective lawyers need to graduate from law school after completing a bachelor's degree. Paralegals, however, can enter the occupation with one of three formal education levels—a postsecondary nondegree award, an associate's degree, or a bachelor's degree.

Another part of the path is whether prior work experience is needed for entry. Such work experience is related to the current occupation a worker is entering, rather than general work experience through which the individual may develop more general skills or work habits. Many of the occupations with a work experience requirement are first-line supervisors or managers who need to have experience in the field that they are supervising or managing. Entrants to some nonmanagerial occupations may also need related work experience.

For some occupations, education can be substituted for work experience and vice versa. An example is the occupation chefs and head cooks. A prospective chef or head cook could enter the occupation with a degree from a culinary school and no prior work experience, or in lieu of formal education, he or she could enter with years of work experience as a lower-level cook.

OJT is also an important part of the path. Such training is needed in many occupations for a person to become competent at performing the occupation. To be "competent" means that someone is qualified to perform the occupation independently. OJT is normally attained after one is employed in an occupation. It can be an apprenticeship, which is a formal relationship between a worker and a sponsor. Apprenticeships are most common in construction occupations, such as electricians, stonemasons, or carpenters. In other occupations, entrants need to complete an internship or residency. Each is found mainly in teaching and medical occupations and may be required for state licensure or certification. In addition, in some occupations, workers need less formal types of OJT to become competent.

BLS sought the best way to depict these requirements and devised the new education and training categories that are being used for the first time with the projections of employment from 2010 to 2020. The new categories include assignments in three different dimensions that make up a path: (1) typical education needed for entry, (2) work experience in a related occupation, and (3) typical OJT needed to attain competency.[1] The BLS data show the projected demand for occupations, and the categories indicate the education and training characteristics for occupations in the base year of 2010. The data presented in this article summarize the projected employment trends from the 2010–2020 National Employment Matrix by category and by path. Thus, the data represent the trend for occupations assigned to each category or path. The data do not specifically indicate the demand for workers by education attainment, such as demand for college graduates, nor do they indicate or project the educational attainment of the workforce.

The education and training assignments represent a typical path. The assignments in the education and training system are given to each of the 749 detailed occupations for which BLS publishes employment projections. The assignments for entry-level education, work experience in a related occupation, and OJT go together, in that they represent the typical path to enter an occupation and become competent at performing it. BLS analysts decide the "typical path" after reviewing and analyzing various data sources and qualitative information, as described in the section on how the categories were assigned (page 16).

Typical entry-level education and work experience in a related occupation are "preemployment" qualifications, while typical OJT usually occurs after one is employed. Although some occupations may have more than one path for entry, only one path is assigned in the system. The "typical path" holds even for those occupations, such as the chefs and head cooks example mentioned earlier, in which formal education and work experience may be substituted for each other. If an occupation has multiple paths for entry, they are discussed in the narratives in the *Occupational Outlook Handbook*.

Preemployment requirements: education and work experience. The first category in the path is the typical education level needed for one to enter an occupation. The assignments include five postsecondary levels (doctoral or professional degree, master's degree, bachelor's degree, associate's degree, and postsecondary nondegree award). Other assignments are some college, no degree; high school diploma or equivalent; and less than high school.[2] Note that the education level assigned to an occupation is the typical level most workers need to enter. (BLS economists arrived at the typical level by analyzing data and other research; see the section on page 16 on how the categories were assigned for more information.) In the paralegals example mentioned earlier, several education levels are possible for entry. The education assignment for paralegals is "associ-

ate's degree," because BLS economists determined it to be the typical education needed for entry. Lawyers are assigned "doctoral or professional degree."

The second preemployment category is work experience in a related occupation. This metric captures work experience that employers commonly consider necessary or commonly accept as a substitute for more formal types of training or education. The work experience is occupation specific; that is, it is in a related occupation that provides experience related to the current occupation that a worker is entering and can be transferred to another job in the same occupation. Specific work experience is distinct from general work experience, through which the individual may develop more general skills or work habits. The assignments are a measure of time (more than 5 years, 1–5 years, less than 1 year, or none). As just noted, many occupations for which work experience in a related occupation is needed are first-line supervisors and managers, who need experience in the occupations they will supervise. For example, architectural and engineering managers typically have more than 5 years work experience in architectural or engineering occupations before becoming managers. Some nonmanagement occupations require work experience in a related occupation; real estate brokers, for example, typically need between 1 and 3 years of work experience as a licensed real estate agent.

Postemployment requirement: on-the-job training. Occupations also receive an assignment that represents the typical OJT needed for a worker to attain competency in the occupation. This training is occupation specific; it is not job specific. Occupation-specific training can be transferred to another job in the same occupation. For example, the training an electrician receives through an apprenticeship can be transferred to another electrician job. Internship-residency is another assignment for this category, although it is not strictly a postemployment requirement but tends to come before one is employed. For example, after completing their doctorate program, podiatrists must complete a residency program that lasts 3 years. In most states, the residency is required before a podiatrist can be licensed to practice.

Other assignments for this category include long-term OJT (more than 1 year), moderate-term OJT (1–12 months), short-term OJT (1 month or less), and none. For example, real estate sales agents typically enter the occupation with a high school diploma and learn their occupation through long-term OJT. Insurance underwriters are assigned "moderate-term OJT" in the system—even though they typically need a bachelor's degree for entry, they receive OJT as a trainee supervised by a senior underwriter. A fast-food cook is an example of an occupation in which one undergoes short-term OJT.

Why BLS developed the new categories

BLS used an earlier education and training category system from 1995 (with the publication of 1994–2005 projections) through the 2009 publication of the 2008–2018 projections.[3] The earlier system assigned 1 of 11 categories to each occupation that represented the "most significant source" of education or training. The 11 categories combined education, work experience, and OJT, and BLS analysts could choose only one category to assign to an occupation. The previous categories included postsecondary education levels ranging from first professional degree to postsecondary vocational award; two categories with work experience—bachelor's or higher degree, plus work experience and work experience in a related occupation; and three OJT categories denoting long-term, moderate-term, and short-term OJT.

The previous system was replaced for a number of reasons. One is that since each occupation received just a single assignment to cover education, work experience, and training, it did not provide enough information on the path that a person typically needs to follow to enter an occupation and become competent at performing it. Except for the "bachelor's or higher degree plus work experience" item, the system did not show whether an occupation needed combinations of education, work experience, and training (for example, postsecondary education and some period of OJT), since only one assignment could be made. Only postsecondary education levels were included; no assignments could be made for the high school level and below. In addition, the former categories could be misinterpreted. For example, some users assumed that all occupations assigned an OJT category were high school or less than high school occupations, although this was not the case. Another drawback of the system was that the term *most significant source* was not defined.

How the new categories were developed

The new education and training system is the result of work by BLS economists, with input from data users. BLS staff reviewed the drawbacks of the prior system and developed ways to better represent the typical path of entry and competency. Two rounds of public comment occurred, in November 2008 and September 2010. The latter round included an experimental dataset of about 100

occupations. The BLS received many helpful comments from the public and considered these when devising the final system.

BLS originally proposed adding a licensing category. However, further testing and refinement of the licensing definition revealed some problems, such as how to capture occupations in which a subset requires licensure either in all states or some states. An additional issue is that states also regulate occupations through less-restrictive forms, known as registration and statutory certification, in which a state grants "title" protection to an individual with a certification. These forms of regulation are sometimes referred to as "licenses." BLS found this information proved too complex to represent accurately, without extensive additional research.

BLS also studied certification as a possible category to include in the classification system. Certification does not fit into the overall concept of the system, however, which is to provide information on what is needed to enter and to attain competency in an occupation. Certification is normally voluntary and is a recognition that a nongovernmental body provides. It can demonstrate competence in occupation-specific skills, job-specific skills, or advanced practice skills. Therefore, certification is generally obtained for a person to advance within an occupation, either to a higher level or to move to a specialized area. In addition, the term *certification* is often confused with academic certificates received from postsecondary institutions. For these reasons, certification is not included in the education and training classification system. Certification, however, is discussed in the narratives of occupational profiles in the *Occupational Outlook Handbook* if it is important for the occupation.

BLS published the final categories on the BLS website in fall 2011, followed by the occupational assignments in December 2011. The 2010–2020 employment projections released on February 1, 2012, were the first to incorporate the new system.

Users should not compare results from the new education and training categories with the previous system. The major difference is that the concepts are not the same. The previous system assigned a single category that represented the "most significant source" of education or training. The concepts for the new system are more clearly defined. The education assignment represents the typical entry-level education, and the assignment in the current system could be different from what was assigned in the past. In addition, occupations could not receive education assignments below the postsecondary level in the previous system. The 2010–2020 projections also are the first to incorporate the 2010 Standard Occupational Classification (SOC) system, and some occupations are new and will not have prior assignments.

How the categories were assigned

BLS economists assigned occupations to categories on the basis of analyses of qualitative and quantitative information. Sources of quantitative data included educational attainment data from the American Community Survey (ACS) and the Occupational Information Network (O*NET).

American Community Survey data. The Census Bureau's ACS collects data on educational attainment, as well as employment by occupation. The BLS published educational attainment data on its website that are based on the ACS microdata files for 2005 through 2009.[4] These data show the percent distribution of workers 25 years and older employed in an occupation by their highest level of education attained.[5] The data are particularly useful in analyzing occupations with multiple entry-level education possibilities.

Like any sample survey, the ACS is a household sample survey and is subject to response and coding error, as well as sampling error. The ACS data therefore must be carefully evaluated. In addition, although the Census Bureau's occupational classification system also is based on the SOC, it does not provide the same level of detail as the BLS shows in the National Employment Matrix. As a result, some detailed SOC occupations shown in the BLS data have the same educational attainment data because they are combined in the Census Bureau's occupational classification system.

These data show the highest level of educational attainment of individuals working in the occupation. Thus, the data may show higher or lower educational attainment than the assignment given in the classification system for typical entry education. For example, the ACS data show that a majority of advertising sales agents have a bachelor's degree, but the education category assignment for the occupation is "high school diploma or equivalent," because workers typically enter the occupation with the lower level of education. In other cases, the category assignment reflects a higher level of education than the attainment data show. For example, occupational therapists are assigned to the master's degree category, but more than half have only a bachelor's degree according to the ACS data. The entry requirements for occupational therapists have changed over time, and current entrants typically need a master's degree.

In some cases, the ACS data may show workers with educational attainment much higher than is needed for their occupation. In fact, the ACS data show that every occupation has some share of workers with a bachelor's degree. For example, according to the ACS data for 2005 through 2009, among workers 25 years and older, 12.5 percent of waiters and waitresses and 13.0 percent of bank tellers had bachelor's degrees as their highest level of education attainment, although these occupations have education assignments of less than high school and high school diploma in the BLS category system, respectively.[6] Some of these results may be response or coding error, or college-educated workers may in fact be in every occupation, even those in which most workers have less than a high school diploma. Some workers choose occupations that do not necessarily mesh with their educational attainment. For example, they may have family responsibilities that cause them to choose an occupation for which they are over qualified because it has flexible hours. In addition, college-educated workers may not be able to find a job that uses the education they possess, sometimes referred to as "mal-employment," which can be more likely during recessions.[7] Even if workers have the right level of degree, they may also experience mismatches between the field of their degree and the fields of degrees required in the jobs available. In other cases, workers simply choose occupations below their education level because they prefer them or they may be working in them while pursuing other options.

When assigning education categories, BLS economists reviewed ACS 2005–2009 educational attainment distributions for occupations by two age breakouts: ages 18 to 29 and 30 and older. For most occupations, the younger age group was considered to better represent the education level needed by workers who are entering the occupation; for occupations requiring a doctoral or professional degree, the older cohort was more appropriate given the time required to attain advanced degrees.

Other resources used to assign categories. BLS economists also analyzed data from the O*NET, a product of the Employment and Training Administration of the U.S. Department of Labor. O*NET's data on education, work experience, and training requirements for occupations come from a survey of workers in the occupation and of occupational experts and analysts. A limitation of the O*NET data was the small sample sizes for some of the occupations surveyed.

Economists at BLS also used qualitative information to assign categories. They interviewed persons who were knowledgable about education and training requirements for the occupations. They obtained information from employers, workers in the occupation, training experts, and representatives of professional and trade associations and unions, among others. BLS economists also reviewed information from regulatory authorities (if they existed for an occupation) and actual job postings for the occupations.

A summary look at the assignments

Education categories by major occupation group. How are the education and training categories distributed across major occupation groups? The SOC system groups occupations according to the type of work performed and not according to education or skill level. Thus, finding a range of typical entry-level education categories within any of the 22 SOC major occupation groups is not surprising. These distributions indicate that analysis of occupations by the education categories is best done at the detailed occupation level, rather than at the major group level.

Four major groups had six education categories represented: education, training, and library occupations; healthcare practitioners and technical occupations; personal care and service occupations; and transportation and material moving occupations. Two major groups with the least dispersion across education categories had only two categories represented: building and grounds cleaning and maintenance occupations and construction and extraction occupations, in which only the high school diploma and less than high school education categories occurred. (See table 1.)

Conversely, each education category is found across multiple major occupation groups, with the high school diploma or equivalent assignment found in 20 of the 22 major groups (all but computer and mathematical occupations and life, physical, and social science occupations). The bachelor's degree assignment appears in 15 major groups and the associate's degree in 13 major groups. The least dispersion across major groups is for the doctoral or professional degree (5 groups), master's degree (6 groups), and some college, no degree (6 groups). (See table 1.)

Multiple dimensions of occupational preparation. An advantage of the new BLS education and training categories is that it helps data users examine paths to entry and competence, that is, the intersection of education, related work experience, and OJT. Educational attainment is an important preparation for entry into many occupations but often does not tell the whole story. Individuals making career decisions, counselors and others who assist these individuals, and those planning and funding workforce development activities need to understand the training

Table 1. Number of occupations assigned to education categories, by major occupation group

SOC	Major occupation group	Typical education needed for entry									
		Total, all occupations	Doctoral or professional degree	Master's degree	Bachelor's degree	Associate's degree	Postsecondary nondegree award	Some college, no degree	High school diploma or equivalent	Less than high school	Number of education categories represented
00	Total, all occupations	749	25	29	154	47	42	6	350	96	8
11	Management	33	—	2	20	2	—	1	8	—	—
13	Business and financial operations	30	—	—	20	—	1	—	8	1	4
15	Computer and mathematical	16	1	2	12	—	—	1	—	—	4
17	Architecture and engineering	35	—	—	22	12	—	—	1	—	3
19	Life, physical, and social science	43	7	9	19	8	—	—	—	—	4
21	Community and social service	17	—	6	9	—	—	—	2	—	3
23	Legal	9	3	—	2	1	1	—	2	—	5
25	Education, training, and library	24	1	4	15	1	1	—	2	—	6
27	Arts, design, entertainment, sports, and media	41	—	—	19	1	2	1	18	—	5
29	Healthcare practitioners and technical	46	13	6	6	11	6	—	4	—	6
31	Healthcare support	15	—	—	—	2	4	—	8	1	4
33	Protective service	22	—	—	—	—	2	1	19	—	3
35	Food preparation and serving related	18	—	—	—	—	1	—	2	15	3
37	Building and grounds cleaning and maintenance	10	—	—	—	—	—	—	6	4	2
39	Personal care and service	33	—	—	1	1	6	1	18	6	6
41	Sales and related	22	—	—	3	—	—	—	13	6	3
43	Office and administrative support	55	—	—	2	2	—	—	50	1	4
45	Farming, fishing, and forestry	11	—	—	1	—	—	—	7	3	3
47	Construction and extraction	59	—	—	—	—	—	—	39	20	2
49	Installation, maintenance, and repair	51	—	—	—	4	15	—	31	1	4
51	Production	107	—	—	—	1	2	—	90	14	4
53	Transportation and material moving	52	—	—	3	1	1	1	22	24	6
Number of major occupation groups represented		22	5	6	15	13	12	6	20	12	[1]

[1] Data not applicable.

SOURCE: U.S. Bureau of Labor Statistics.

and related work experience dimensions in addition to educational attainment. The following discussion examines how detailed occupations are distributed across these multiple dimensions.

While high school completion is the typical entry-level education in 350 occupations, a high school diploma alone is not sufficient. Individuals preparing for these occupations can expect to face additional training requirements, often of significant length. Among the 350 high school occupations, only 28 do not typically require OJT to attain competency. Of the occupations with an OJT assignment, the largest numbers are in the moderate-term OJT category (159 occupations) and in the short-term OJT category (100 occupations). Another 49 are in the long-term OJT category, and 14 are assigned to the apprenticeship category. Only one high school occupation has no OJT or related work experience required.[8] (See table 2.)

Concerning work experience in a related occupation,

651 of the 749 occupations typically have no such requirement for entry. Of the 98 occupations with a work experience assignment other than "none," 58 are manager or supervisor occupations in which experience in the type of work managed or supervised is typically needed for entry or may be substituted for other entry requirements.[9] The largest numbers of occupations with a related work experience assignment other than "none" have an entry-level education assignment of bachelor's degree (38 occupations) and high school diploma or equivalent (42 occupations). (See table 2.)

Most occupations with a related work experience assignment do not also have an OJT assignment. Of the 98 occupations with a related work experience assignment other than "none," only 31 have an OJT assignment other than "none." (See table 2.) These 31 occupations are a diverse list, representing 12 of the 22 major occupation groups and 5 of the 8 education categories.

Results for the 2010–2020 projections

Summary results. In their analysis of the 2010–2020 occupational projections, Lockard and Wolf presented summary data for each of the three dimensions of education, training, and related work experience.[10] (See table 3.) These data are totals for all occupations assigned to each category. For example, employment in 2010 for the bachelor's degree education category was 22.2 million and is projected to grow by 16.5 percent to 25.8 million by 2020. These numbers represent the sum of employment in all 154 occupations assigned bachelor's degree as the typical entry-level education. Note that these data do *not* represent the number of workers with bachelor's degrees in 2010 or projected to have such degrees in 2020.

The summary information in Lockard and Wolf shows what the BLS projections indicate about the changing demand for entry-level workers with various types of educational preparation. The fastest projected growth is among occupations with master's degree and doctoral or professional degree as the typically entry-level education needed, while the slowest growth is among occupations with high school diploma or equivalent. These data are useful because demand for workers with particular levels of education attainment is largely driven by growth or decline in employment in the occupations in which such attainment is typically required for entry. The BLS projections depict the demand by occupation. Actual labor market activity may be somewhat different. Given the complexity of entry paths in certain occupations, some employers may require or prefer different education entry levels than the "typical" levels identified by BLS, and employers may adjust entry requirements in times of high or low unemployment. Also, within an education attainment level, demand may vary by the field of study related to the occupation. Indeed, the BLS projections indicate, for example, that bachelor's degree occupations in the computer and mathematical occupations group are projected to grow by 22.9 percent between 2010 and 2020, much faster than the 13.7 percent growth projected for bachelor's degree occupations in the education, training, and library group.

For the OJT dimension, Lockard and Wolf show that the fastest growth is projected for occupations assigned to the apprenticeship category, at 22.5 percent compared with 14.3 percent for all occupations. This category includes mainly construction occupations, which are projected to grow at above average rates but are not expected to regain all the jobs lost during the 2007–2009 recession. For the work experience in a related-occupation dimension, the fastest projected growth is among occupations in which no such experience is typically required. Among occupations with a work experience assignment other than "none," the most rapid projected growth is a below-average 13.0 percent change over the decade for the less than 1-year group. (See table 3.)

Education and training requirements and wages. How do wages vary across the education and training categories? Table 3 and chart 1 show the May 2010 median annual wages for the occupations assigned to the various education, work experience, and OJT categories. These summary-level data from the BLS Occupational Employment Statistics program indicate the wage variation. The OES data are medians for all workers, including both entry-level and experienced workers, while the education and training assignments are for entry-level preparation. How wages vary when education, work experience, and OJT are combined to show paths of entry and preparation is discussed in the following paragraphs.

Across the education categories, the wage patterns approximate what would be expected from other information: wages are generally higher as the typical entry-level education rises.[11] The results differ somewhat from this expectation, however, because other characteristics affect wages, including related work experience, OJT, and the field of study related to the occupation.

The highest median annual wages, at $87,500, are for occupations in the doctoral or professional degree category—more than twice the $33,840 median for all occupations. Median annual wages are similar for the three next-highest education categories: master's degree at $60,240,

Table 2. Number of occupations assigned to education, on-the-job training, and previous work experience categories

Typical entry-level education and work experience in a related occupation	Typical on-the-job training						
	Total, all occupations	Internship-residency	Apprentice-ship	Long-term on-the-job training	Moderate-term on-the-job training	Short-term on-the-job training	None
Total, all occupations	749	25	15	70	221	177	241
More than 5 years	18	—	—	1	3	1	13
1 to 5 years	70	2	—	2	10	3	53
Less than 1 year	10	—	—	1	3	5	1
None	651	23	15	66	205	168	174
Doctoral or professional degree	25	8	—	—	—	1	16
More than 5 years	1	—	—	—	—	1	—
1 to 5 years	—	—	—	—	—	—	—
Less than 1 year	—	—	—	—	—	—	—
None	24	8	—	—	—	—	16
Master's degree	29	4	—	—	—	—	25
More than 5 years	1	—	—	—	—	—	1
1 to 5 years	2	—	—	—	—	—	2
Less than 1 year	—	—	—	—	—	—	—
None	26	4	—	—	—	—	22
Bachelor's degree	154	13	—	4	20	2	115
More than 5 years	6	—	—	—	—	—	6
1 to 5 years	31	2	—	1	3	1	24
Less than 1 year	1	—	—	—	—	—	1
None	116	11	—	3	17	1	84
Associate's degree	47	—	1	3	10	2	31
More than 5 years	1	—	—	—	—	—	1
1 to 5 years	1	—	—	—	—	—	1
Less than 1 year	—	—	—	—	—	—	—
None	45	—	1	3	10	2	29
Postsecondary nondegree award	42	—	—	7	6	6	23
More than 5 years	—	—	—	—	—	—	—
1 to 5 years	3	—	—	—	—	—	3
Less than 1 year	—	—	—	—	—	—	—
None	39	—	—	7	6	6	20
Some college, no degree	6	—	—	1	2	2	1
More than 5 years	1	—	—	—	—	—	1
1 to 5 years	1	—	—	—	1	—	—
Less than 1 year	1	—	—	—	—	1	—
None	3	—	—	1	1	1	—
High school diploma or equivalent	350	—	14	49	159	100	28
More than 5 years	8	—	—	1	3	—	4
1 to 5 years	30	—	—	—	5	2	23
Less than 1 year	4	—	—	1	1	2	—
None	308	—	14	47	150	96	1
Less than high school	96	—	—	6	24	64	2
More than 5 years	—	—	—	—	—	—	—
1 to 5 years	2	—	—	1	1	—	—
Less than 1 year	4	—	—	—	2	2	—
None	90	—	—	5	21	62	2

SOURCE: U.S. Bureau of Labor Statistics.

bachelor's degree at $63,430, and associate's degree at $61,590. (See table 3 and chart 1.)

The somewhat lower median wage for master's degree occupations compared with bachelor's and associate's degree occupations conflicts with the expectation that investment in additional education generally results in a return of higher wages. Wages are affected by factors besides the level of degree, however, including the field of study relevant to the occupation. Returns are generally higher in some types of occupations—notably those in management and in technical fields—than others with the same or higher education requirements, such as counseling or social work.

Chart 2 shows the distribution of employment by ranges of median wages for the master's, bachelor's, and associ-

Table 3. Employment, total job openings, and median annual wages by education, work experience, and on-the-job training category, 2010–2020

[In thousands]

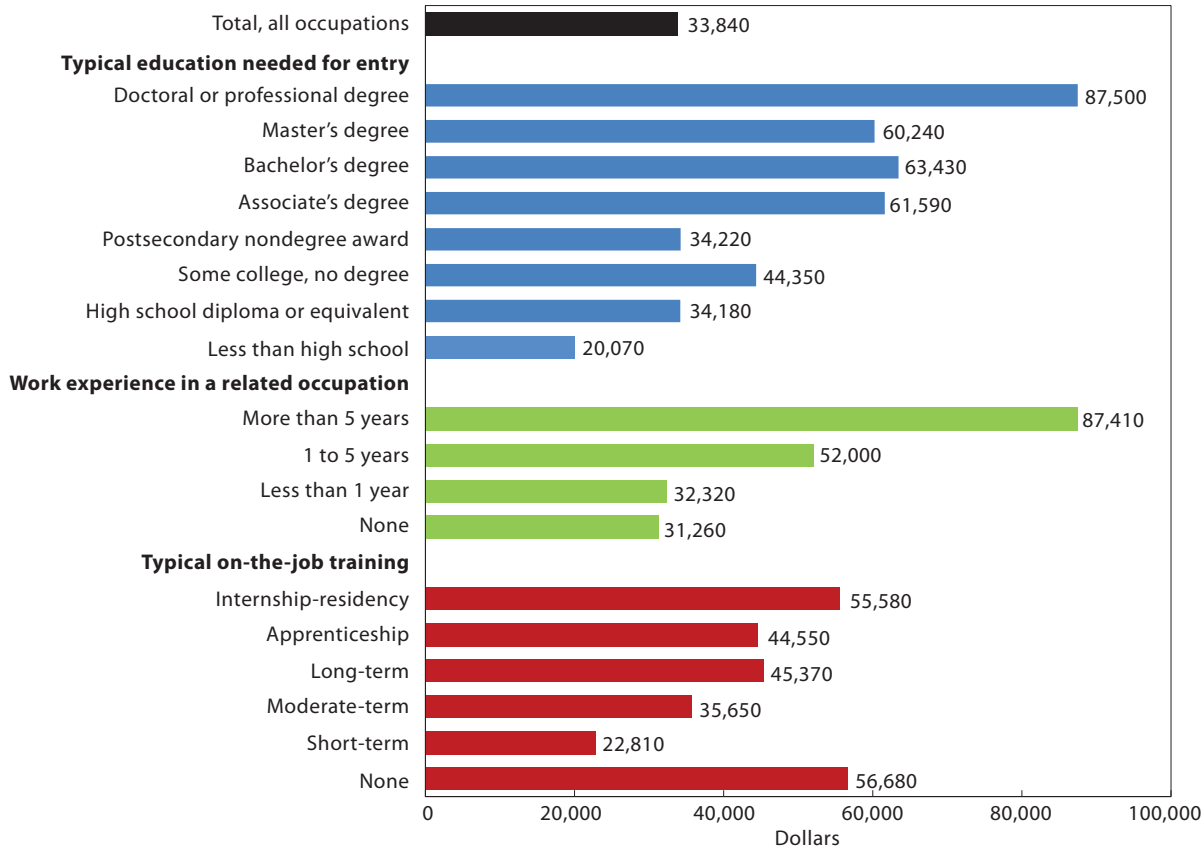
Education, work experience, and on-the-job training	Employment				Change, 2010–2020		Total job openings due to growth and replacement needs, 2010–2020		Median annual wage, May 2010
	Number		Percent distribution						
	2010	2020	2010	2020	Number	Percent	Number	Percent	
Typical education needed for entry									
Total, all occupations	143,068.2	163,537.1	100.0	100.0	20,468.9	14.3	54,787.4	100.0	$33,840
Doctoral or professional degree	4,409.7	5,286.3	3.1	3.2	876.6	19.9	1,701.8	3.1	87,500
Master's degree	1,986.0	2,417.2	1.4	1.5	431.2	21.7	903.9	1.6	60,240
Bachelor's degree	22,171.1	25,827.2	15.5	15.8	3,656.1	16.5	8,562.4	15.6	63,430
Associate's degree	7,994.6	9,434.6	5.6	5.8	1,440.0	18.0	2,941.0	5.4	61,590
Postsecondary nondegree award	6,524.0	7,624.9	4.6	4.7	1,100.9	16.9	2,389.6	4.4	34,220
Some college, no degree	811.6	953.8	.6	.6	142.2	17.5	362.0	.7	44,350
High school diploma or equivalent	62,089.6	69,665.7	43.4	42.6	7,576.1	12.2	21,745.9	39.7	34,180
Less than high school	37,081.7	42,327.4	25.9	25.9	5,245.7	14.1	16,180.8	29.5	20,070
Work experience in a related occupation									
Total, all occupations	143,068.2	163,537.1	100.0	100.0	20,468.9	14.3	54,787.4	100.0	33,840
More than 5 years	4,612.4	4,956.0	3.2	3.0	343.6	7.4	1,368.5	2.5	87,410
1 to 5 years	17,103.0	19,078.2	12.0	11.7	1,975.2	11.5	5,638.7	10.3	52,000
Less than 1 year	3,129.6	3,535.2	2.2	2.2	405.6	13.0	1,125.2	2.1	32,320
None	118,223.3	135,967.7	82.6	83.1	17,744.5	15.0	46,654.9	85.2	31,260
Typical on-the-job training									
Total, all occupations	143,068.2	163,537.1	100.0	100.0	20,468.9	14.3	54,787.4	100.0	33,840
Internship-residency	5,374.2	6,271.5	3.8	3.8	897.3	16.7	2,193.6	4.0	55,580
Apprenticeship	2,539.0	3,109.2	1.8	1.9	570.2	22.5	1,183.0	2.2	44,550
Long-term	7,039.0	7,920.5	4.9	4.8	881.5	12.5	2,545.5	4.6	45,370
Moderate-term	25,007.0	28,244.5	17.5	17.3	3,237.5	12.9	8,682.0	15.8	35,650
Short-term	58,171.0	66,040.0	40.7	40.4	7,869.0	13.5	23,767.8	43.4	22,810
None	44,937.9	51,951.3	31.4	31.8	7,013.4	15.6	16,415.5	30.0	56,680

SOURCE: U.S. Bureau of Labor Statistics.

ate's degree occupations. The occupations in these three education categories have about the same shares of employment in the median wage ranges more than $75,000 to $100,000, more than $50,000 to $75,000, and less than median for all occupations ($33,840). In the highest-paying median wage range (more than $100,000), however, only one master's degree occupation appears—political scientists, at $107,420—and one associate's degree occupation—air traffic controllers, at $108,040. Each of these occupations accounts for 0.3 percent of employment among all occupations in its education category. Eight bachelor's degree occupations have median wages above $100,000, however, and they account for 7.7 percent of the jobs in bachelor's degree occupations: chief executives; architectural and engineering managers; natural sciences managers; computer and information systems managers; petroleum engineers; marketing managers; financial managers; and airline pilots, copilots, and flight engineers. All the bachelor's degree occupations in the highest wage range require education in business, science or engineering, or another technical field, and all but petroleum engineers require related work experience or, in the case of airline pilots, copilots, and flight engineers, moderate-term OJT.

In wage range from $33,840, the median wage for all occupations, to $50,000, the master's degree occupations have nearly twice the share of employment (20.1 percent) than do bachelor's degree occupations (11.4 percent), and associate's degree occupations fall in between (16.5 percent). (See chart 2.) The seven master's degree occupations in this wage range include four community and social service occupations (marriage and family therapists, mental health

Chart 1. Median annual wages for occupations by education and training category, May 2010



SOURCE: U.S. Bureau of Labor Statistics, Occupational Employment Statistics.

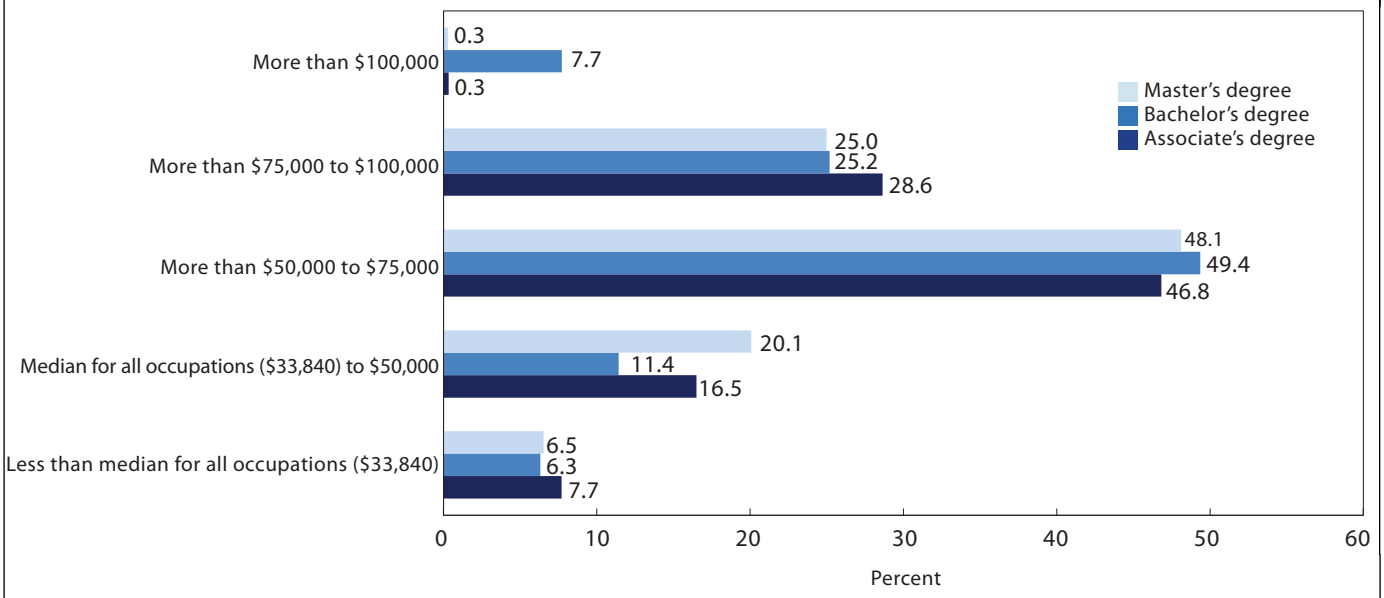
counselors, all other counselors, and healthcare social workers); two education, training, and library occupations (curators and farm and home management advisors); and one healthcare technical occupation (all other therapists). The mental health counselors occupation pulls the overall wage for this group down, because it is a relatively large occupation, with low median wages of $38,150.

In chart 1, for the two categories between high school diploma and associate's degree, the wages differ substantially, with $34,220 for occupations in the postsecondary nondegree award category and $44,350 for those in the some college, no degree, category. The latter category contains only six occupations, all of which require either related work experience or OJT, or both. For the high school diploma category, median annual wages of $34,180 are similar to the postsecondary nondegree award category, perhaps reflecting the fact that nearly all occupations in the high school category also require related work experience or OJT, or both. As expected, wages for occupations in the high school category are much higher than the $20,070 for occupations in the less than high school category.

When wages are considered by the related work experience categories, occupations typically requiring more than 5 years of related work experience have much higher wages, at $87,410, than for any other work experience category. Most of these occupations are managers or supervisors. Occupations in the 1 to 5 years of related work experience category had median wages of $52,000, much more than the median for all occupations. Wages differed little between the less than 1 year and no work experience categories, at $32,320 and $31,260, respectively. (See chart 1.)

For the OJT categories shown in chart 1, occupations with an OJT assignment of "none" had the highest median wage, at $56,680. The 241 occupations in this group ranged widely across all the education categories, as seen in table 2. Among occupations with OJT assignments other than "none," wages were generally higher with more training. Median wages were similar between the apprenticeship occupations ($44,550) and long-term OJT occupations ($45,370). Wages for these two groups were significantly

Chart 2. Percent of employment by range of May 2010 median wages, master's, bachelor's, and associate's degree occupations



SOURCE: U.S. Bureau of Labor Statistics.

below the $55,580 for the internship-residency group. The internship-residency group includes a mix of highly paid medical practitioners as well as teaching and counseling occupations that pay above average but much less than the medical practitioners. Occupations with moderate-term OJT are typically paid much more ($35,650) than those with short-term OJT ($22,810). (See chart 1.)

Value of work experience and training. Work experience and OJT can be important parts of the path for entry and competency in an occupation. Looking across the three dimensions of the system—the path—provides additional insight into the value of work experience and OJT regarding pay and job opportunities. Out of the 192 possible combinations of education, work experience, and OJT, 59 paths include one or more occupations. Some of the paths, with one occupation, have very large employment. For this analysis, the 59 paths were further narrowed to the 22 that had 10 or more occupations and/or 2010 employment of 1 million or greater. These paths are shown in table 4, which displays the paths sorted by education assignment and then by work experience and OJT. All typical entry-level education categories are represented, except for some college, no degree. Two of the paths each have one large occupation with employment of greater than 1 million.

An analysis of these paths reveals the following three observations. First, for occupations assigned the same entry-level education, those that require work experience generally pay more than those without it. Second, the fastest growing paths include many healthcare occupations. Last, most job openings (new jobs and replacement positions) are projected in paths with lower pay, little formal education, no work experience, and little or no OJT.

The 2010 median annual wages for the 22 selected paths are shown in table 4. Of these paths, five are bachelor's degree paths. The two bachelor's degree paths with work experience (Bachelor's/More than 5 years/None and Bachelor's/1 to 5 years/None)[12] have higher median wages than the three bachelor's degree paths that do not need work experience. Occupations that typically need a bachelor's degree and work experience are, for the most part, managers, directors, administrators, and others with managerial-type responsibilities. The median wage, $116,290, for the Bachelor's/More than 5 years/None path is the highest for the bachelor's degree groups shown. This group consists entirely of management occupations.

For the three associate's degree paths shown, the path with work experience also pays more than those without. The occupation in the Associate's/1 to 5 years/None path is general and operations managers, a large occupation that had employment of 1.8 million in 2010 and a median wage of $94,400. The two associate's degree paths with no work experience paid much less. Associate's/None/Moderate-term OJT had a median wage of $41,470 and

Table 4. Employment by path, 2010–2020, for selected paths with 2010 employment greater than 1 million or 10 or more occupations

[In thousands]

Path			Employment				Total job openings due to growth and replacement needs	Median annual wage, 2010	Number of occupations
			Number		Change, 2010–2020				
Typical entry-level education	Work experience in a related occupation	Typical on-the-job training needed to attain competency	2010	2020	Number	Percent			
Total, all occupations[1]			**143,068.2**	**163,537.1**	**20,468.9**	**14.3**	**54,787.4**	**$33,840**	**749**
Doctoral or professional degree	None	Internship-residency	1,013.9	1,250.7	236.8	23.4	471.0	164,930	8
Doctoral or professional degree	None	None	3,361.8	3,998.4	636.6	18.9	1,221.2	77,800	16
Master's degree	None	None	1,288.0	1,578.6	290.5	22.6	584.9	56,480	22
Bachelor's degree	More than 5 years	None	1,498.9	1,640.3	141.4	9.4	465.8	116,290	6
Bachelor's degree	1 to 5 years	None	3,050.1	3,556.5	506.4	16.6	1,175.9	77,410	24
Bachelor's degree	None	Internship-residency	4,081.3	4,677.1	595.8	14.6	1,590.9	52,430	11
Bachelor's degree	None	Moderate-term on-the-job training	2,085.8	2,390.0	304.2	14.6	797.1	61,390	17
Bachelor's degree	None	None	10,800.1	12,801.7	2,001.7	18.5	4,253.6	63,650	84
Associate's degree	1 to 5 years	None	1,767.1	1,848.6	81.6	4.6	410.1	94,400	1
Associate's degree	None	Moderate-term on-the-job training	382.5	419.5	37.0	9.7	148.3	41,470	10
Associate's degree	None	None	5,188.2	6,416.9	1,228.7	23.7	2,216.5	57,180	29
Postsecondary non-degree award	None	None	4,650.2	5,540.8	890.6	19.2	1,808.8	29,850	20
High school diploma or equivalent	More than 5 years	None	2,282.6	2,344.5	61.9	2.7	651.4	63,730	4
High school diploma or equivalent	1 to 5 years	Short-term on-the-job training	1,616.3	1,945.6	329.3	20.4	652.9	37,700	2
High school diploma or equivalent	1 to 5 years	None	8,904.4	9,849.7	945.3	10.6	2,862.0	43,570	23
High school diploma or equivalent	Less than 1 year	Long-term on-the-job training	1,064.2	1,187.3	123.1	11.6	327.2	62,450	1
High school diploma or equivalent	None	Apprenticeship	2,509.7	3,074.6	564.9	22.5	1,172.2	44,430	14
High school diploma or equivalent	None	Long-term on-the-job training	4,498.0	5,048.6	550.5	12.2	1,630.6	43,350	47
High school diploma or equivalent	None	Moderate-term on-the-job training	18,311.4	20,601.3	2,289.9	12.5	6,080.5	34,350	150
High school diploma or equivalent	None	Short-term on-the-job training	21,930.8	24,561.2	2,630.4	12.0	8,008.3	27,840	96
Less than high school	None	Moderate-term on-the-job training	1,429.2	1,673.5	244.3	17.1	595.6	32,000	21
Less than high school	None	Short-term on-the-job training	33,402.0	38,159.4	4,757.4	14.2	14,633.3	19,600	62

[1] The paths do not add up to the total.

SOURCE: U.S. Bureau of Labor Statistics.

Associate's/None/None occupations paid $57,180.

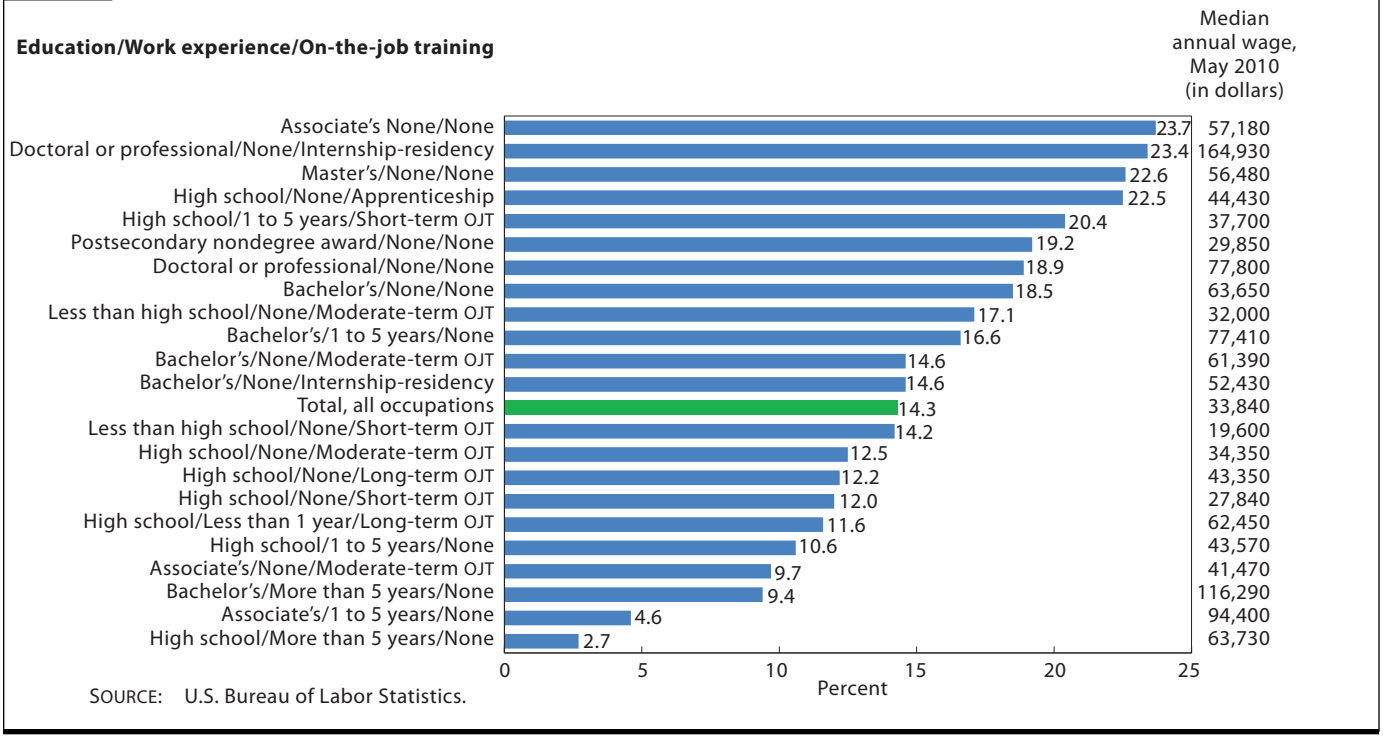
For high school occupations, four paths with work experience are shown in table 4. Two of these work experience paths are paid much more than any of the other high school paths. High school/More than 5 years/None had a median wage of $63,730 in 2010. This path includes managerial and first-line supervisor occupations. High school/Less than 1 year/Long-term OJT has one large occupation (business operations specialists, all other) that paid a median wage of $62,450 in 2010.

The High school/None/Apprenticeship path, which mainly includes construction occupations, had a median wage of $44,430 in 2010. This group paid somewhat more than two paths with work experience: High school/1 to 5 years/Short-term OJT, at $37,700, and High school/1 to 5 years/None, at $43,570. Close to the apprenticeship path in terms of pay was High school/None/Long-term OJT, at $43,350. Most occupations in this path are in production; installation, maintenance, and repair; and arts, design, entertainment, sports, and media.

Comparing the median wage for all paths shown in the table 4, one will find that four paths pay less than the total median wage of $33,840—both Less than high school paths and the High school/None/Short-term OJT and Postsecondary nondegree award/None/None paths. This postsecondary nondegree award path includes some lower-level healthcare occupations, such as nursing aides and orderlies; a few service occupations, such as hairstylists; and some technician and repairer occupations. The three highest-paid paths shown are Doctoral or professional/None/Internship-residency, at $164,930; Bachelor's/More than 5 years/None, at $116,290; and Associate's/1 to 5 years/None, at $94,400. The Master's/None/None path paid less, at $56,480, than several occupational paths with less education. The Master's/None/None path contains some lower-paying social work occupations, including rehabilitation counselors; education, guidance, school, and vocational counselors; and healthcare social workers.

The projected percent growth in employment for the selected paths is shown in chart 3. The fastest growing paths are heavily represented by healthcare-related occupations. Other occupations represented in the fastest growing paths are in science and engineering, social sciences, and construction. The Associate's/None/None path has the fastest projected growth, 23.7 percent, and includes rapidly growing occupations in healthcare, such as physical therapy and occupational therapy assistants, diagnostic medical sonographers, dental hygienists, respiratory therapists, registered nurses, and several technologists and technicians. The Associate's/None/None path also includes occupations that are various types of science technicians, engineering technicians, and drafters. The

Chart 3. Percent growth in employment for selected paths, projected 2010–2020



SOURCE: U.S. Bureau of Labor Statistics.

Doctoral or professional/None/Internship-residency path is projected to grow by 23.4 percent and largely consists of physicians and surgeons and various dentist occupations. The Master's/None/None path is projected to grow by 22.6 percent. This path mainly includes healthcare occupations, such as occupational therapists and physician assistants; counseling and social work occupations, including rehabilitation counselors and healthcare social workers; and social science occupations, such as historians and sociologists. The construction occupations make up all but one of the occupations assigned to the High school/None/Apprenticeship path, which is projected to grow by 22.5 percent. Rapid growth is projected for many construction occupations as the construction industry recovers from the 2007–2009 recession; however, this growth represents only a partial recovery of jobs lost.[13] Of the 12 paths that are projected to grow faster than the overall average of 14.3 percent, 9 typically need some level of postsecondary education.

The paths projected to grow the slowest are High school/More than 5 years/None; Associate's/1 to 5 years/None; and Bachelor's/More than 5 years/None. The High school/More than 5 years/None path contains an occupation projected to decline: farmers, ranchers, and other agricultural managers. The lone occupation in Associate's/1 to 5 years/None is the large and well-paying general and operations managers, which is projected to grow by 4.6 percent. The Bachelor's/More than 5 years/None path contains six management occupations.

For the most part, occupations in paths projected to have the most job openings from 2010 to 2020 are those with large employment numbers in 2010 and that require little formal education, no work experience, little or no OJT, and have low pay. (See chart 4.) Job openings come from both economic growth (new jobs) and the need to replace workers who permanently leave occupations, and the number of openings due to replacing workers is generally larger than the number of new jobs. The path projected to have the most job openings is also the lowest-paid path on the chart: Less than high school/None/Short-term OJT, with 14.6 million job openings and 4.8 million of those being new jobs. Next are two high school occupations: High school/None/Short-term OJT, with 8.0 million job openings (2.6 million from growth), and High school/None/Moderate-term OJT, with 6.1 million job openings (2.3 million from growth).

Although the top three paths with the largest number of job openings do not need postsecondary education, the path with the fourth largest number of job openings does. The Bachelor's/None/None path is projected to have 4.3 million job openings from 2010 to 2020, and 2.0 million of those are to be new jobs due to growth. This path is the fourth largest in occupational employment in 2010, at 10.8 million, and has an assortment of occupational groups.

Labor market analysis and required education

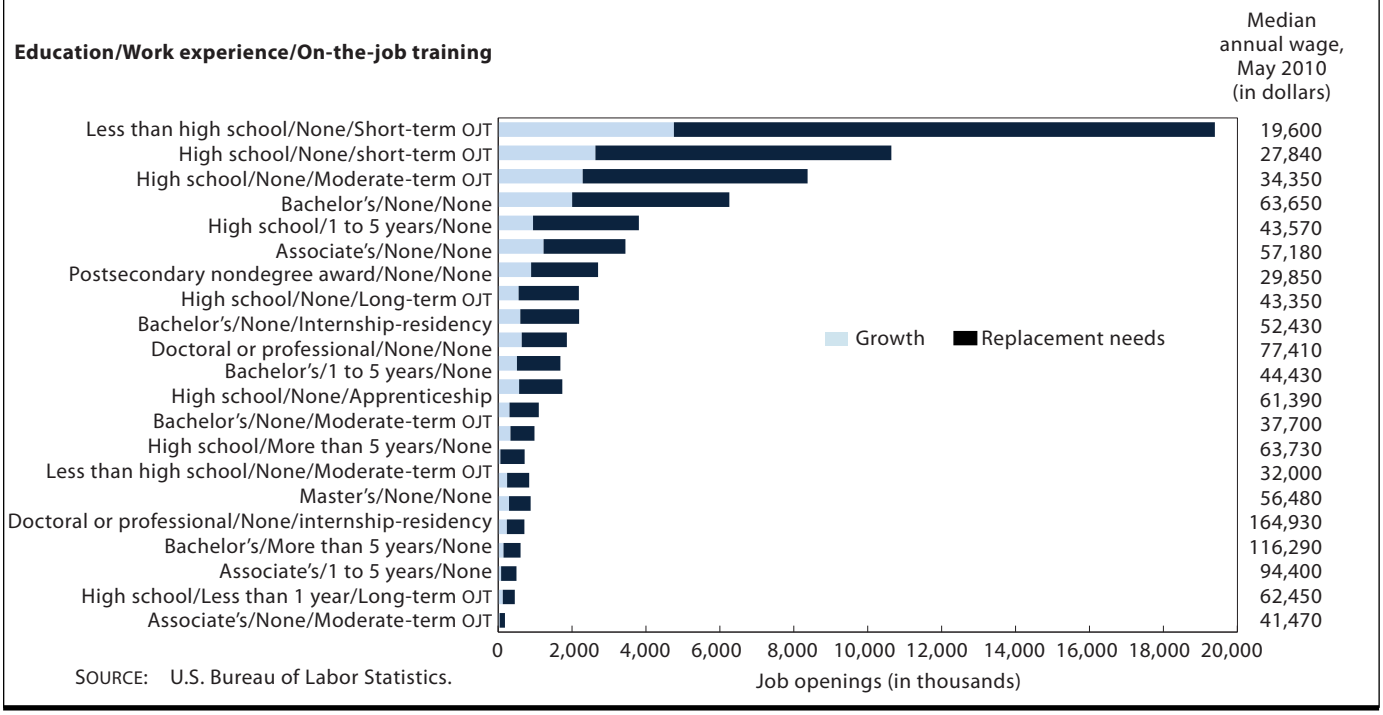
As noted at the beginning, BLS is presenting its approach to a problem that labor market analysts face across the globe. These analysts need a way to generalize and summarize employment trends by education and other preparation, which requires developing some construct to represent the complexities of how labor markets intersect with education and other preparation for work.

A review of several other studies finds two approaches to generalizing and summarizing employment trends. The first is a classification approach in which occupations are categorized according to education and training. A second approach is computational, in which the base year and projected employment are distributed by educational attainment and then employment is reaggregated by the educational attainment categories, resulting in projected labor demand by education level. In both approaches, some analysts (but not BLS) also develop projections of the labor force by education or skill level and compare these projections to the labor demand by education level to depict projected supply-demand conditions by education level.

The BLS approach is an example of the first approach, since each SOC occupation for which projections are produced receives the education and training assignments. The SOC itself does not consider education or training level in the design of the classification. Other occupational classification systems, however, build education level into the occupational classification itself using a skills hierarchy. The International Standard Classification of Occupations (ISCO)[14] and Canada's National Occupational Classification (NOC)[15] are examples of such classifications.

The Canadian Occupational Projections System produces demand projections by broad skill level, using the NOC's hierarchy of education level or training usually required for a person to work in a given occupation. This process is straightforward. The projections for individual occupations are summed according to the NOC hierarchy, resulting in employment by five skill levels: management occupations and occupations usually requiring university education, college education or apprenticeship training, high school diploma, and only OJT.[16] The Canadian analysts also produce labor force projections by level of education attainment and then convert these labor force projections to broad skill level using the distributions of the

Chart 4. Job openings due to growth and replacement needs for selected paths, projected 2010–2020



SOURCE: U.S. Bureau of Labor Statistics.

nonstudent labor force by education and skill level. They also discuss in detail the reasons why a worker's education and the requirements of his or her eventual occupation may be quite different, noting that, for example, in occupations typically requiring only OJT, about 30 percent of the workers have a postsecondary education.[17] This finding is similar to the comparison of the BLS education categories and the ACS educational attainment data noted earlier.

A broadly applied example of the second approach is found in Europe. The European Center for the Development of Vocational Training, referred to by its French acronym CEDEFOP (Centre Européen pour le Développement de la Formation Professionnelle), has produced analyses of skills supply and demand in Europe. The models used include production of demand by occupation and translation of this information into demand by qualification. Qualifications are broadly defined based on education attainment as three groups: high, medium, and low. Employment demand projections are translated to qualifications based on continuation of past patterns of employment by broad qualification level within both occupations and industries.[18] As in Canada, the CEDEFOP model also includes components for projecting the labor force by education attainment and for allocating the labor force to occupations, assuming historical patterns of unemployment by qualification categories will continue.

The CEDEFOP authors note that "there is no simple one-to-one relationship between occupation and qualification"[19] but explore how these are changing over time. Like the Canadian analysis, CEDEFOP examines the nature of the differences between the characterization of occupational requirements and the actual distribution of workers in occupations by their level of education attainment, identifying a variety of types of mismatches.[20]

In the United States, an example of the second approach, but also including the first approach, is found in a recent working paper by Neumark, Johnson, and Mejia.[21] The study examines the question of whether the pending retirement of the baby boom generation will result in a skills gap in the U.S. labor market. The authors use the previous 11 BLS education and training categories to depict demand by education attainment, encountering the weaknesses of these categories described earlier. The authors also project education requirements by assuming a steady rate of growth between 2008 and 2018 in the education distributions within occupations.

Also in the United States, a Georgetown University report depicts the projected education requirements of jobs by occupation using the distribution of 2008 employment by occupation and education attainment and projecting the change in this distribution to 2018.[22] The Georgetown authors assume that "the present distribution of education among the employed prime-age population is the best single indicator of present demand for education."[23]

These studies, in the United States and elsewhere, demonstrate the complexity of relating education to employment requirements. All rely on employment demand by occupation as the source of demand for workers with various educational qualifications. The studies differ in their consideration of the nature of mismatches between the education that workers have and the education and training that occupations require. The new BLS education and training categories and the 2010–2020 employment projections provide a new data set for future research on this important topic.

IN SUM, the new BLS education and training categories provide information on the typical path that one needs to enter an occupation and to become competent at performing it. They provide useful information not only for career seekers and persons who advise them but also for policy makers, businesses, and others with interest in education and training needs. When the categories are applied to the 2010–2020 employment projections, they show that faster growth is projected in occupations in which postsecondary education is typically needed for entry, and in terms of OJT, the fastest growth is projected in occupations that typically require an apprenticeship. The system also allows analysis across its three dimensions, and the three dimensions make up a "typical" path. The fastest growing paths from 2010 to 2020 are heavily represented by healthcare occupations. Individuals in occupations with the same entry-level education requirement and who need work experience earn more than those who do not need work experience. □

NOTES

[1] The education and training assignments for all occupations in the 2010 National Employment Matrix are shown in Employment Projections Table 1.12, **http://www.bls.gov/emp/ep_table_112.htm**.

[2] Definitions for the individual categories and assignments are presented at **http://www.bls.gov/emp/ep_definitions_edtrain.pdf**.

[3] The prior system was introduced in *Employment Outlook: 1994–2005. Job Quality and Other Aspects of Projected Job Growth.* Chapter III. The Educational Requirements of Jobs. BLS Bulletin 2742, December 1995. It was further described in "A New Way to Classify Occupations by Education and Training," *Occupational Outlook Quarterly* (Winter 1995–1996).

[4] These data are available in Employment Projections Table 1.11 at **http://www.bls.gov/emp/ep_table_111.htm**.

[5] BLS produces employment projections for 749 occupations; these occupations match the structure that the Occupational Employment Statistics (OES) program used to publish 2010 data. OES occupations are classified on the basis of the Standard Occupational Classification (SOC) system. However, OES data do not exactly match the updates made to the SOC in 2010. OES is transitioning to the 2010 SOC, but the change will not be fully implemented until the 2012 reference year.

[6] Employment Projections Table 1.11, **http://www.bls.gov/emp/ep_table_111.htm**.

[7] See, for example, Neeta P. Fogg and Paul E. Harrington, "The Growing Disconnection Between Recent College Graduates and the College Labor Market," *CONTINUING HIGHER EDUCATION REVIEW, Vol. 75, 2011,* **http://www.drexel.edu/provost/clmp/docs/CLMP_RisingMal-EmploymentandtheGreatRecession.pdf**.

[8] SOC 27–2099, Entertainers and Performers, Sports and Related Workers, All Other.

[9] The count of 58 manager and supervisor occupations with a work experience assignment includes all occupations in SOC Major Group 11, Management Occupations, all first-line supervisor occupations, and additional occupations with "manager" or "director" in the SOC title and/or "planning and directing" activities in the occupational definition (SOC codes 13–1011, 21–2021, 27–1011, and 27–2012).

[10] C. Brett Lockard and Michael Wolf, "Occupational Employment Projections to 2020," *Monthly Labor Review*, January 2012, pp. 84–108, **http://www.bls.gov/opub/mlr/2012/01/art5full.pdf**.

[11] For example, see "Education Pays" at **http://www.bls.gov/emp/ep_chart_001.htm**. This chart shows 2011 median weekly earnings for persons age 25 and over by educational attainment, using data from the Current Population Survey.

[12] The paths are presented in the order of "education/work experience/on-the-job training"; see chart 3.

[13] See Dixie Sommers and James C. Franklin, "Overview of Employment Projections to 2020," *Monthly Labor Review*, January 2012, pp. 3–20, **http://www.bls.gov/opub/mlr/2012/01/art1full.pdf**.

[14] International Labor Organization, International Standard Classification of Occupations, **http://www.ilo.org/public/english/bureau/stat/isco/?wwparam=1330965836**.

[15] Statistics Canada, "National Occupational Classification—Statistics (NOC-S)," **http://www.statcan.gc.ca/subjects-sujets/standard-norme/soc-cnp/2006/noc2006-cnp2006-menu-eng.htm.**

[16] Human Resources and Skills Development Canada, "Looking-Ahead: A 10-Year Outlook for the Canadian Labour Market (2008–2017), November 2008," November 2008, pp. 35–38, **http://www23.hrsdc.gc.ca/l.3bd.2t.1ils@-eng.jsp**. In a footnote on page 19, "college" in the Canadian system is described as including completion of a "certificate or diploma from a postsecondary institution (community college, CEGEP, nursing school, etc.)" and "a certificate below the Bachelor's level at a university."

[17] *Ibid.*, pp. 21–23.

[18] CEDEFOP, "Skills Supply and Demand in Europe: Medium-Term Forecast Up to 2020," 2010, pp. 56–63 and Annex III, **http://www.cedefop.europa.eu/EN/publications/15540.aspx**.

[19] *Ibid.*, p. 58.

[20] CEDEFOP, "The Skill Matching Challenge: Analysing Skill Mismatch and Policy Implications," 2010, **http://www.cedefop.europa.eu/EN/publications/15275.aspx**.

[21] David Neumark, Hans P. Johnson, and Marisol Cuellar Mejia, NBER Working Paper no. 17213, "Future Skills Shortages in the U.S. Economy?" July 2011, **http://www.nber.org/papers/w17213**.

[22] Georgetown University, Center on Education and the Workforce, "Help Wanted: Projections of Jobs and Education Requirements Through 2018," 2010, **http://cew.georgetown.edu/jobs2018/**.

[23] *Ibid.*, p. 130.

Impact of commodity price movements on CPI inflation

An analysis of price movements of four commodities—crops, animal slaughter and processing, dairy, and oil and gas—reveals that only oil and gas prices had a considerable impact on CPI inflation; thus, even large increases in the prices of the first three of these commodities do not necessarily contribute substantially to inflation

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A worldwide surge in commodity prices that began in late 2006 and ended in mid-2008 generated interest in studying the effects of commodity price movements on consumer prices. During this period, prices for commodity crops nearly doubled while prices for oil and natural gas more than doubled. In a recent article, Bart Hobijn of the Federal Reserve Bank explored the relationship between commodity price changes (for crops, oil, and natural gas) and changes in inflation as measured by the Bureau of Economic Analysis (BEA).[1] Hobijn analyzed BEA's Personal Consumption Expenditures (PCE) Price Indexes from June 2006 through June 2008, to determine the extent to which commodity price swings affected the price of final consumer goods. Hobijn found that the commodity price increases translated into larger price increases in the United States only for those goods most closely related to the commodities in question. The contribution of the price surges to overall inflation was less pronounced.

Building upon Hobijn's work, this article explores the effects of price changes in four commodity groups (crops, animal slaughter and processing, dairy, and oil and natural gas) on the Bureau of Labor Statistics (BLS, the Bureau) Consumer Price Index (CPI) for various final goods, and on overall CPI consumer inflation, from 2003 through 2008. Although the increases in crop and oil prices, and in natural gas prices, during the years 2006 through 2008 were relatively high, the prices of these commodities exhibited noticeable highs and extreme volatility several years prior to Hobijn's analysis. Numerous factors drove commodity price volatility during this earlier period, the most important of which were fundamental changes to supply and demand, speculative market trading, exchange rate fluctuations, and political conflicts in key producing regions of the globe.

The analysis presented here produces findings similar to Hobijn's. In general, despite large runups in commodity prices, the effects on overall rates of CPI inflation were relatively modest, although certain CPI categories were heavily influenced by the price movements of the commodities examined. In the shorter periods with particularly dramatic price movements, the results were similar: the impact on overall inflation was still relatively modest, whereas the impact of commodity prices was more pronounced on those CPI indexes which were closely related to the commodities. However, unlike Hobijn's piece, this article finds that oil and gas commodity price movements

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had an appreciable impact on overall CPI inflation, as well as on the lower level indexes, both in the longer term and in specific years.

The article is divided into three main sections. The first section outlines the methodology employed to conduct the analysis, describes the modified Leontief model used to calculate the importance of different commodities for the production of final goods, and discusses both the underlying assumptions of the study and some of its inherent limitations. The second section delineates the components of the four commodity aggregates used in the analysis. The last section examines the major price movements of each commodity aggregate and their impact on several measures of CPI inflation.

Methodology

The analysis that follows examines input–output data in combination with commodity price index data to estimate price transmission from commodity prices to various consumer price indexes. Input–output data are used to compute the input shares of commodities for different consumer goods. Input shares indicate the percentage of value of a final good, or a set of final goods, that can be attributed to a specific input commodity or to a set of input commodities. For this study, the input shares of crops, animal slaughter and processing, dairy, and oil and gas are calculated for a number of CPI categories and then used to examine how commodity price changes would affect the prices of consumer goods if the entire commodity price change were passed forward to the consumer good.

To calculate input shares, a Leontief model is utilized. The model is based on the premise that an economy consists of interdependent industries. In order to produce output, these industries consume products produced by other industries, and possibly themselves, as inputs to production. The model shows that total demand for a product i is the sum of all intermediate demand (from other industries) and final demand (personal consumption, investment, government spending, and net exports) for the product. The Leontief model presented here excludes investment, government spending, and net exports, to focus on final demand for consumers. Total demand for product i can be expressed mathematically as

$$r_i = a_{i1}r_1 + a_{i2}r_2 + \ldots + a_{ij}r_j + \ldots + a_{in}r_n + b_i, \quad \text{for } i = 1,2,\ldots,j,\ldots n,$$

where r_i is the total demand for product i, a_{ij} is a technical coefficient expressing the value of i necessary to produce a dollar's worth of product j, b_i is final demand for product i, and n is the total number of industries.

To provide a context for this equation, consider the example of a country with only three industries, one producing commodity i (electricity), another producing commodity j (utility natural gas), and the third producing commodity k (coal). Electricity is consumed both for final demand (as personal consumption) and as intermediate demand in the production of natural gas and coal. Total demand for electricity can then be written as

$$r_e = a_{e,\text{ung}}r_{\text{ung}} + a_{e,c}r_c + b_e,$$

where $a_{e,\text{ung}}$ is a coefficient expressing the value of electricity necessary to produce a dollar's worth of utility natural gas, r_{ung} is total demand for utility natural gas, $a_{e,c}$ is a coefficient expressing the value of electricity necessary to produce a dollar's worth of coal, r_c is total demand for coal, and b_e is final demand for electricity. To complete the model, similar equations could be written to describe total demand for coal and utility natural gas. The complete Leontief model can then be used to determine the share of each commodity input to one another.

In this study, the values for r, a, and b are derived from BEA input–output tables and from input–output tables compiled by former BLS analyst Carl Chentrens.[2] (For a complete and more technical discussion of the methodology, see Appendix A.) The input shares are then used to examine the impact of changes in commodity prices on the CPI. The effect of commodity price movements is calculated by multiplying the input shares of a given commodity by the change in the producer price index for that commodity.

This method of calculating the contribution of commodity price changes to the CPI assumes that such changes are immediately and fully passed through to the consumer. Previous studies have shown, however, that that is not necessarily the case:[3] for some commodities, it can take up to a year for the increases to pass through to consumers. This concern is somewhat mitigated by the fact that average producer prices and consumer prices are compared from one year to the next, as opposed to point-to-point price change comparisons. The former method better captures price levels over the entire year and is less influenced by sharp, short-lived movements. Nonetheless, the assumption of immediate and full passage through to the consumer is one limitation of the study. Also, the input–output tables indicate the composition of final goods in terms of PCE categories. Therefore, in order to examine the CPI categories of interest (such as food and beverages, fuels and utilities, and motor fuel), PCE categories

were mapped to the appropriate CPI categories. The PCE-to-CPI mappings were based on a 2007 jointly published BEA–BLS paper.[4]

Components of commodity aggregates

In examining the effects of price changes for crops, animal slaughter processing, dairy, and oil and gas on the CPI, input shares are calculated with the use of BEA input–output data and price changes of the commodities are measured with producer price indexes (PPIs). Unfortunately, in most cases, currently published PPIs do not correspond exactly to input–output table categories, so aggregate PPIs are created to match commodities in the input–output tables. To achieve this result, standard PPI aggregation methodologies were used to combine detailed PPIs into higher level categories. Exhibit 1 shows the PPIs that were aggregated together to match the BEA input–output codes.

Commodity price movements and the CPI

This section discusses the major factors influencing producer prices for certain commodity aggregates over the period from 2003 through 2008, as well as notable effects of price transmission from each of the four commodity aggregates on consumer prices. Effects from all four commodity aggregates were analyzed for the aforesaid period, as well as for a specific subperiod during which price movements seemed particularly interesting. As mentioned earlier, the focus is on average yearly prices instead of point-to-point price changes, in order to limit the effects of short-term price spikes.

Exhibit 1. Components of commodity aggregates

Input–output commodities	Commodity (C) and industry (I) data[1]
Crops	(C) Fruits and melons, fresh/dry vegetables and nuts (011) (C) Grains (012) (C) Raw cotton (0151) (C) Hay, hayseeds, and oilseeds (018)
Animal slaughter and processing	(C) Meats (0221) (C) Processed poultry (0222)
Dairy	(I) Dairy product manufacturing (3115)
Oil and gas	(C) Natural gas (0531) (C) Crude petroleum (domestic production) (056) (C) Liquefied petroleum gas (0532)

[1] Commodity is PPI commodity; industry is NAICS industry.

Crops. As seen in chart 1, from December of 2001 through the end of 2008 the crops PPI (obtained by aggregating current PPIs for fruits and melons; fresh/dry vegetables and nuts; raw cotton; and hay, hayseeds, and oilseeds) was moderately stable in its movement, although volatility increased from June 2006 through December 2008. Historically, crop production has been influenced by a variety of factors, including climate conditions, fluctuations in demand, the distribution of plantings among a variety of crops with different yields, food safety issues, and fertilizer prices. The considerable increase in the crops price measure observed in the 2006-to-mid-2008 timeframe was associated with surging oil prices and U.S. government incentives to increase plantings of corn and soybeans for the production of ethanol.[5]

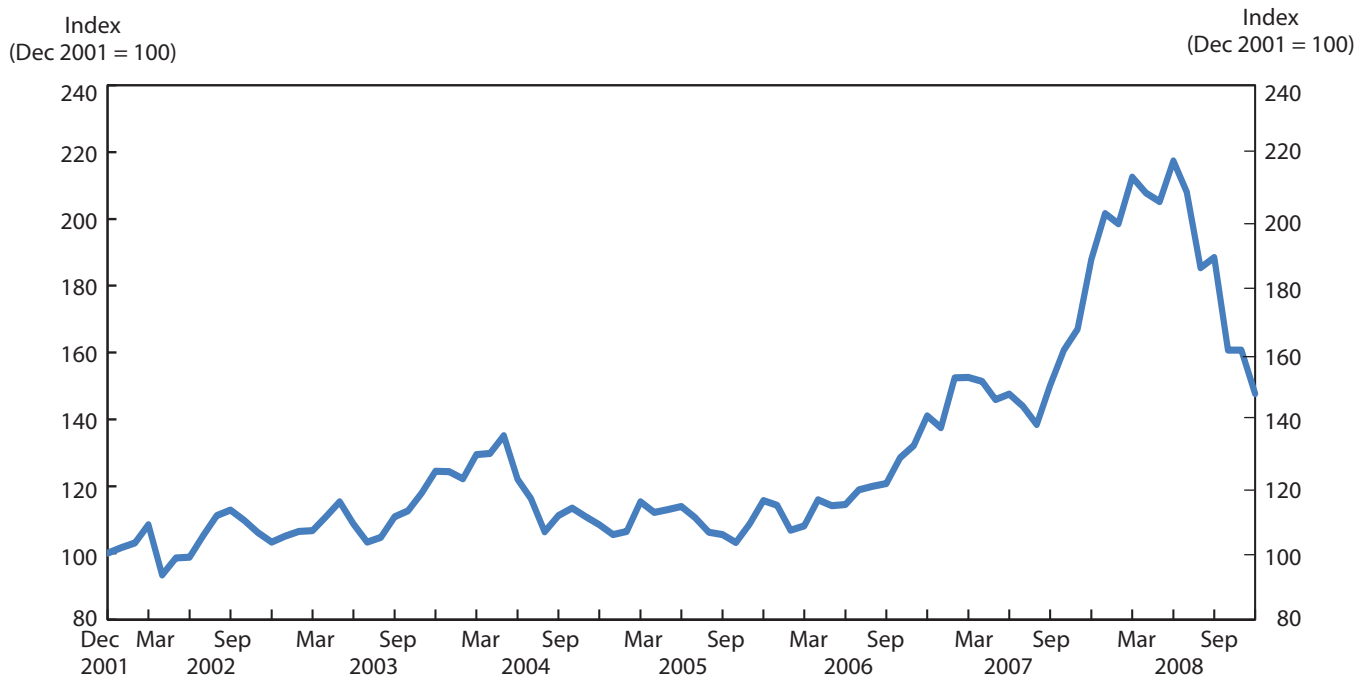
In recent years, a strong expansion of government-based initiatives promoting ethanol production, such as the Renewable Fuel Standard provision in the 2005 U.S. Energy Policy Act, has affected virtually every aspect of the grains and oilseeds industries.[6] Ethanol production increased from 3 billion gallons in 2003 to more than 6 billion gallons in 2007.[7] The Energy Independence and Security Act of 2007,[8] with its goal of producing 15 billion gallons of cornstarch-based ethanol by 2022, triggered more crop shifts to corn and soybean, in turn lowering supplies of other grains and oilseeds.

During the period from 2006 to mid-2008, climate conditions also were a key factor in the increase in crop prices. World wheat prices were driven upward in 2007 as drought conditions in the United States lowered domestic output. In addition, global wheat supplies were limited by drought in Australia, another major wheat exporter. In early 2008, soybean prices increased substantially because of a shortened soybean season, excessive rainfall and flooding, and reduced yields.[9]

The market volatility stemming from higher ethanol demand and from weather factors appeared to spur increased levels of speculation in food commodity markets.[10] Speculation initially pushed prices higher, but when oil prices tumbled in mid-2008 because of a weakening economy and declines in demand, prices for other commodities (including crops) fell similarly.

In analyzing the effect of commodity price movements on CPI inflation, several different measures were examined. The first column of table 1 shows, for 2007–2008 and 2003–2008, the percentage of the total value of the goods and services covered by each index that can be traced back to

Chart 1. Producer Price Index for crops



crops. The second column indicates the movement of each CPI over the specified periods and was taken directly from CPI tables produced by the Bureau. The third column shows what the movement for the different CPIs would have been had crop prices remained constant. Values in this column were obtained by multiplying the input share of crops by the change in crop producer prices (which represents the contribution of crop price movements to inflation) and then subtracting the result from the corresponding number in the same row in the second column. The numbers are obtained under the assumption that all else remains unchanged. The last column indicates the percentage-point contribution of crop price increases to CPI inflation. Values in this column were calculated by taking the difference of the corresponding values in the same row in the second and third columns and then dividing by the corresponding values in the same row in the second column.[11] (A detailed analysis for each year is available from the authors.)

Although crop prices exhibited major movements in recent years, their impact on consumer prices was limited (as can be seen in table 1): even though crop prices increased by 83.18 percent (a 10.62-percent annual compounded rate of change) from 2003 to 2008, the change in the CPI for all items was less than 20 percent over the same timeframe. Under the methodology and assumptions of this article, had crop prices remained constant and were all else held equal, the all-items CPI movement would have increased at a slightly lower rate of 18.94 percent. Rising crop prices therefore accounted for less than 4 percent of the increase in the all-items CPI from 2003 to 2008. The reason the impact of crop prices on the all-items CPI was minimal was that the input share of crops averaged just 1.05 percent. In the subperiod from 2007 to 2008, the impact was stronger because the crop price changes were greater (59.83 percent, a 26.42-percent annual compounded rate of change) and the input share of crops in the all-items CPI was higher, though still relatively modest (1.15 percent). During this subperiod, the increase in the all-items CPI was 6.80 percent; it would have been 6.19 percent had crop prices remained constant. From 2007 to 2008, almost 9 percent of the increase in the all-items CPI can be attributed to the increase in crop prices, whereas crop price increases accounted for less than 4 percent of the increase in the overall 2003–2008 period.

As one would expect, the impact of the increases in commodity crop prices on the core CPI, defined as the CPI

Table 1. Impact of price changes in crops on selected CPI categories

CPI	Average crop input shares		CPI price change		CPI price change had crop prices remained constant		Impact of crop price changes on CPI	
	2007–2008	2003–2008	2007–2008	2003–2008	2007–2008	2003–2008	2007–2008	2003–2008
All Items	1.15	1.05	6.80	19.70	6.19	18.94	8.90	3.83
All Items less food and energy	.35	.34	4.68	13.19	4.49	12.96	4.00	1.79
Housing	.58	.58	6.45	19.98	6.14	19.58	4.78	1.97
Shelter	.12	.10	6.26	18.54	6.20	18.47	1.00	.41
Fuels and utilities	.10	.09	13.00	53.25	12.95	53.19	.39	.12
Food and beverages	6.14	5.60	9.49	21.19	6.22	17.11	34.42	19.26
Apparel	.43	.40	–.46	–4.12	–.69	–4.41	...	...
Transportation	.16	.14	8.13	27.93	8.05	27.83	1.02	.37
Motor vehicles	.19	.16	–2.41	–5.96	–2.51	–6.08	...	...
Motor fuel	.13	.12	26.53	139.82	26.46	139.73	.26	.06
Recreation	.40	.38	2.09	6.61	1.88	6.35	10.13	4.02
Crops PPI price change	59.83	83.18	...	...	...	...	...	...
Annual compounded rate of change	26.42	10.62	...	...	...	...	...	...

NOTE: Last column uses calculated values; percent changes in previous columns are rounded to two decimal places.

for all items less food and energy, was much smaller because input shares were lower, averaging just 0.34 percent from 2003 to 2008 and 0.35 percent from 2007 to 2008. In the years 2003–2008, the impact of crop prices on core inflation was quite low, 13.19 percent, and it would have been only slightly lower, 12.96 percent, without the contribution from rising crop prices. Even when crop prices soared in 2007–2008, the core CPI was only slightly higher than it would have been if crop prices had remained constant (4.68 percent as opposed to 4.49 percent).

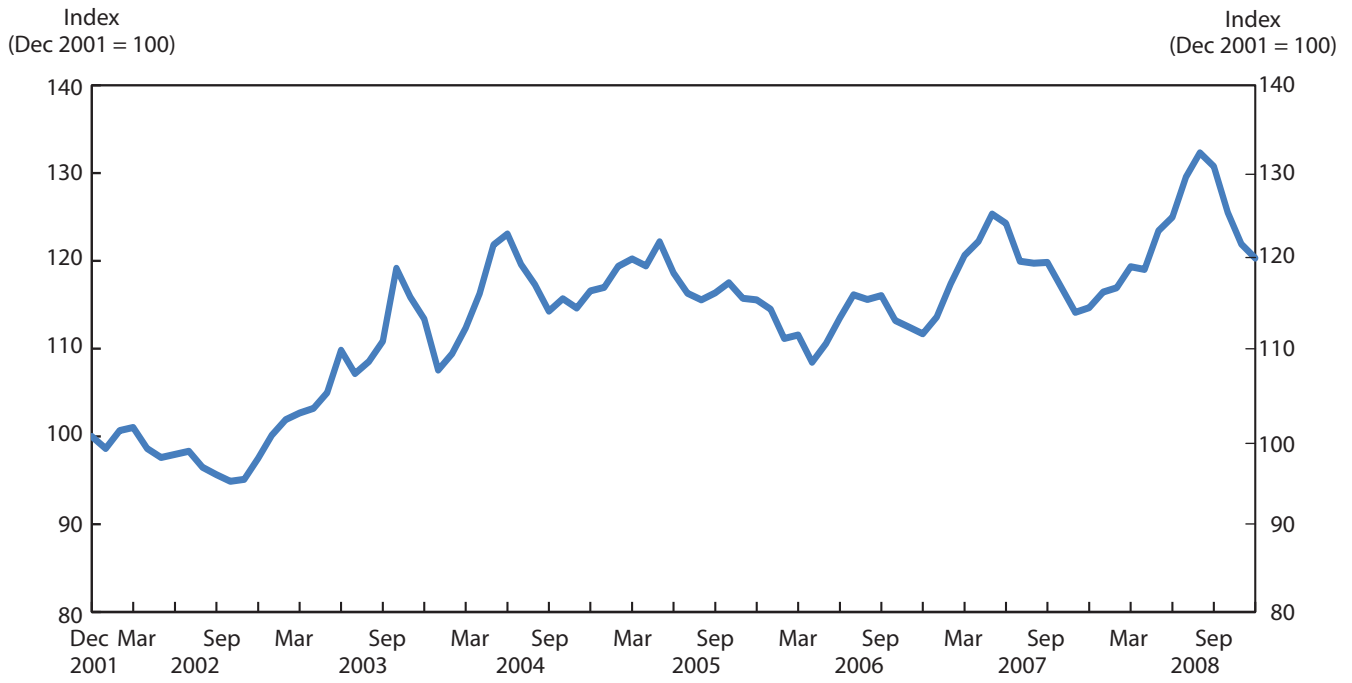
Although broad measures of price change were minimally affected by crop price movements, the runup in crop prices substantially affected the CPI for food and beverages, as the input share of crops in food and beverages, averaging 5.60 percent from 2003 to 2008, was much higher than both the share in the core CPI and the share in the all-items CPI. During this period, the CPI for food and beverages was 21.19 percent; it would have been just 17.11 percent had crop prices remained constant. Higher crop prices therefore accounted for nearly 20 percent of the total increase in the food and beverages index from 2003 to 2008. In the 2007–2008 subperiod, the impact was even stronger: the CPI for food and beverages was 9.49 percent, whereas it would have been only 6.22 percent had crop prices remained constant. The impact of rising crop prices thus accounted for nearly 35 percent of the increase in the food and beverages component of the CPI from 2007 to 2008.

Animal slaughter and processing. As seen in chart 2, from December 2001 to December 2008 the PPI for animal slaughter and processing fluctuated, although the price trend was increasing over the period. U.S. livestock and poultry production is based predominantly on a system of grain-fed animals. Even though increased feed (grain) prices contributed to the volatility in the PPI for animal slaughter and processing from 2006 to 2008,[12] yearly average prices did not change substantially. The major upward shift in prices occurred in 2003 and 2004.

A decline in beef production, increases in demand, and the discovery of the disease bovine spongiform encephalitis (BSE), the market reaction to which limited supply in the United States, all contributed to higher beef and cattle prices through much of 2003. The higher beef and cattle prices then spurred demand for other meat items, such as pork and poultry.[13] Although animal slaughter and processing prices dropped precipitously in late 2003 with the discovery of BSE in the United States, by mid-2004 prices had mostly recovered. A deadly bout of avian flu in Asia also contributed to the increase in animal slaughter and processing prices.

Despite strong increases in animal slaughter and proc-

Chart 2. Producer Price Index for animal slaughter and processing



essing prices in 2003–2004 and continued volatility in prices through 2008, their impact on consumer prices was limited. As shown in table 2, animal slaughter and processing price movements did not have a large impact on broad measures of CPI price change. In 2003–2008, the input share of animal slaughter and processing in the all-items CPI, while higher than the 1.05 percent for crops, was still fairly low, averaging 1.33 percent. The increase in animal slaughter and processing prices (26.26 percent, a 5.03-percent annual compounded rate of change) was also much lower than the increase in crop prices. Consequently, animal slaughter and processing prices had a minimal impact on the all-items index. Had animal slaughter and processing prices remained constant, the change in the all-items index would have been 19.37 percent, compared with the actual change of 19.70 percent. Rising animal slaughter and processing prices therefore accounted for only 1.68 percent of the change in the all-items CPI from 2003 to 2008. The impact was stronger in 2003–2004 because animal slaughter and processing price changes were greater (18.42 percent, an 8.82-percent annual compounded rate of change) and the input share of animal slaughter and processing in the all-items index was higher, but still relatively modest (1.36 percent). During the 2-year span, the all-items CPI rose 5.02 percent, whereas it would have risen 4.78 percent had animal slaughter and processing prices remained constant. Therefore, the increase in commodity prices accounted for 4.78 percent of the change in the all-items CPI.

As regards the core CPI, the impact of increases in animal slaughter and processing prices was much smaller. In 2003–2008, the change in the core index was 13.19 percent, and it would have been only marginally lower, 13.12 percent, without the contribution from rising animal slaughter and processing prices. Even in the 2003–2004 subperiod, when prices rose more substantially, the core index was only slightly higher than it would have been had animal slaughter and processing prices remained constant (3.25 percent compared with 3.20 percent).

Although animal slaughter and processing price movements affected broad CPI measures only minimally, they had a substantial impact on the CPI for food and beverages because of their high input share (more than 8 percent for both 2003–2008 and the 2003–2004 subperiod). From 2003 to 2008, the food and beverages index increased 21.19 percent; without the contribution from higher animal slaughter and processing prices, it would have increased only 19.19 percent. Higher animal slaughter and

Table 2. Impact of price changes in animal slaughter and processing on selected CPI categories

CPI	Average animal slaughter and processing input shares		CPI price change		CPI price change had animal slaughter and processing prices remained constant		Impact of animal slaughter and processing price changes on CPI	
	2003–2004	2003–2008	2003–2004	2003–2008	2003–2004	2003–2008	2003–2004	2003–2008
All items	1.36	1.33	5.02	19.70	4.78	19.37	4.78	1.68
All items less food and energy	.29	.28	3.25	13.19	3.20	13.12	1.58	.54
Housing	.07	.07	5.15	19.98	5.13	19.96	.25	.09
Shelter	.04	.04	5.17	18.54	5.16	18.53	.15	.06
Fuels and utilities	.05	.05	12.76	53.25	12.76	53.24	.07	.02
Food and beverages	8.20	8.03	5.59	21.19	4.14	19.19	25.96	9.43
Apparel	.60	.58	–2.89	–4.12	–2.99	–4.27	...	...
Transportation	.16	.16	6.70	27.93	6.67	27.89	.43	.14
Motor vehicles	.24	.26	–5.06	–5.96	–5.10	–6.02	...	...
Motor fuel	.10	.08	37.54	139.82	37.52	139.80	.05	.02
Recreation	.20	.19	2.26	6.61	2.23	6.56	1.52	.72
Animal slaughter and processing PPI price change	18.42	26.26	...	...	...	...	...	...
Annual compounded rate of change	8.82	5.03	...	...	...	...	...	...

NOTE: Last column uses calculated values; percent changes in previous columns are rounded to two decimal places.

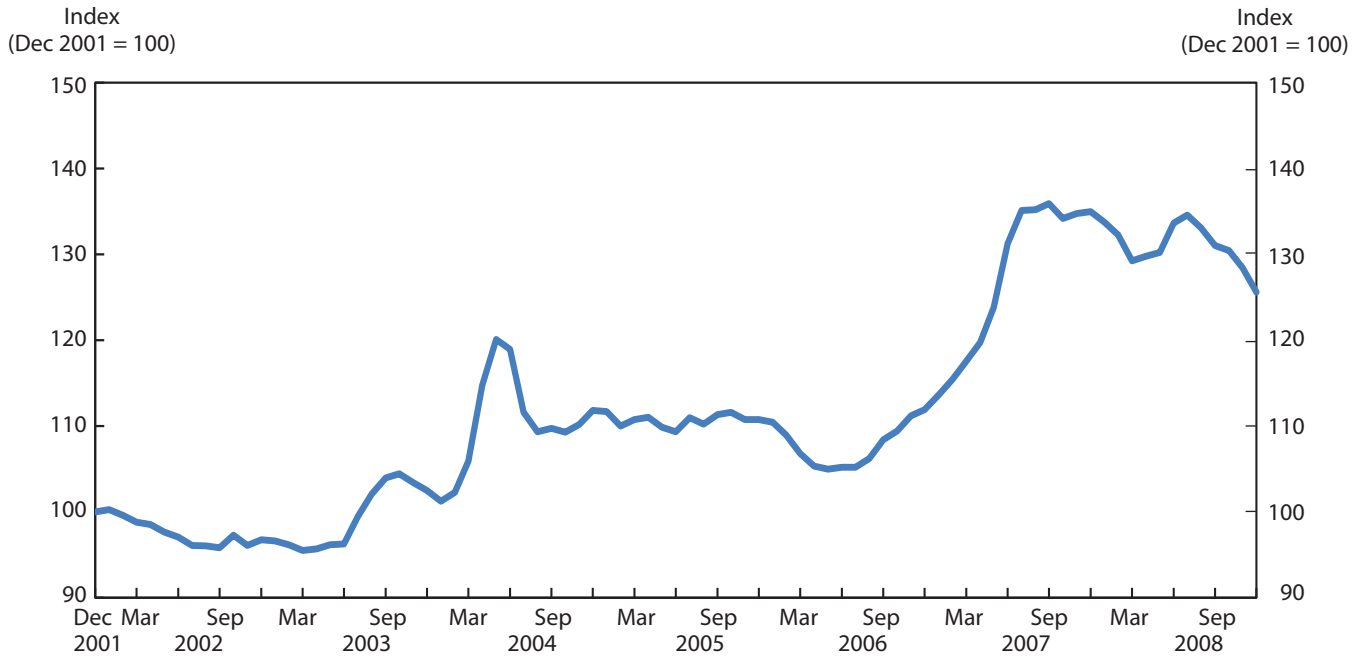
processing prices therefore accounted for 9.43 percent of the total change in the food and beverages index in that period. In 2003–2004, the impact was even stronger: the food and beverages index increased 5.59 percent, whereas the change would have been only 4.14 percent had animal slaughter and processing prices remained constant. In sum, animal slaughter and processing prices accounted for more than one-quarter of the food and beverages price change during the subperiod.

Dairy. The dairy PPI was derived from the industry-based PPI for dairy product manufacturing.[14] As seen in chart 3, dairy prices have historically been less volatile because of government price support programs and a market loss payment system. In recent years, however, a number of factors and events led to price uncertainty and volatility in the dairy product-manufacturing industry: total milk production, which is influenced by both the number of milk cows and the amount of milk per cow; commercial stocks; international trade; and changes to the regulation of dairy products.

From 2000 to 2006, dairy prices were relatively stable, although the industry did see a sharp spike in 2004 due to a rapid decline in milk cow numbers following a ban on imported animals from Canada after the discovery of BSE earlier in the year. Dairy prices began to increase steadily from mid-2006 through mid-2007 and remained high through mid-2008. The upward price shift was driven by strong demand and tight global supplies. Low stocks in the European Union, lower milk production because of droughts in Australia, New Zealand, and the United States, and strong demand (particularly from China) all contributed to the price increases.[15]

As with crops and animal slaughter and processing, rising dairy prices did not strongly influence the all-items or core CPI. Table 3 shows that the impact of dairy price movements on inflation was smaller than that attributable to those two commodities, primarily because of their higher input share. In 2003–2008, the input share of dairy in the all-items CPI averaged 0.65 percent while dairy prices rose 34.20 percent (a 5.03-percent annual compounded rate of change). Had dairy prices been flat over the period, the increase in the all-items CPI would have been 19.49 percent, compared with the actual value of 19.70 percent. Therefore, rising dairy prices accounted for a little more than 1 percent of the change in the all-items index during 2003–2008. In 2007, when dairy prices rose at their highest rate, their impact on the all-items CPI was still minimal: despite a 19.11-percent rise in dairy prices, the change in the all-items index was only about 0.1 percentage point higher than it would have been had dairy prices remained constant (2.73 percent as opposed to 2.85 percent).

Chart 3. Producer Price Index for dairy



The impact of the increases in commodity dairy prices on the core CPI was nearly nonexistent as the input share of dairy in the core CPI was just 0.14, on average, both in 2003–2008 and in 2007. From 2003 to 2008, the increase in the core index was 13.19 percent, and it would have been only marginally lower, 13.15 percent, without the contribution from rising dairy prices. In 2007, despite the 19.11-percent increase in dairy prices, the core CPI was still only marginally higher than it would have been had dairy prices remained constant (2.33 percent compared with 2.30 percent).

Increases in dairy prices did substantially affect the CPI for food and beverages through the higher input share of dairy (3.90 percent from 2003 to 2008, 3.83 percent in 2007) in food and beverages, although the impact was largest in 2007. In 2003–2008, the change in the CPI for food and beverages was 21.19 percent, whereas it would have been 19.95 percent, a relatively modest impact, had dairy prices remained constant. In 2007, however, the food and beverages index rose 3.91 percent; had dairy prices remained constant that year, the index would have risen only 3.20 percent. Rising dairy prices therefore accounted for nearly 18 percent of food and beverages inflation in 2007.

Oil and gas. The oil and gas PPI was calculated by aggregating indexes for natural gas, crude petroleum (domestic production), and liquefied petroleum gas. As seen in chart 4, crude oil and natural gas prices have historically been quite volatile. The depletion of finite resources, changes in exchange rates, policies of the Organization of the Petroleum Exporting Countries (OPEC), political and environmental shocks, commodity speculation, and changes in demand have all influenced oil and gas price movements in the past. Between 2001 and 2008, a number of these factors contributed to large price spikes in 2003, 2005, and 2008.

The increase in natural gas and oil prices in 2003 was due largely to a Venezuelan oil strike in late 2002 that reduced crude oil production and led to an increase in the world price of the commodity. According to the U.S. Department of Energy, the United States received more than half of Venezuela's crude exports at the time and replacing the lost volumes proved difficult.[16] High prices at the end of 2005 were due to shocks to oil and natural gas infrastructure caused by Hurricanes Katrina and Rita hitting the Gulf of Mexico.[17] All oil and natural gas production in the Gulf was shut in, import terminals were closed, and several pipelines and refineries were inoperable.[18]

Table 3. Impact of price changes in dairy on selected CPI categories

CPI index	Average dairy input shares		CPI price change		CPI price change had dairy prices remained constant		Impact of dairy price changes on CPI	
	2007	2003–2008	2007	2003–2008	2007	2003–2008	2007	2003–2008
All items	.64	.65	2.85	19.70	2.73	19.49	4.11	1.05
All Items less food and energy	.14	.14	2.33	13.19	2.30	13.15	1.08	.34
Housing	.04	.04	3.16	19.98	3.15	19.96	.23	.07
Shelter	.02	.02	3.65	18.54	3.65	18.54	.12	.04
Fuels and utilities	.03	.03	3.04	53.25	3.04	53.24	.18	.02
Food and beverages	3.83	3.90	3.91	21.19	3.20	19.95	17.99	5.86
Apparel	.11	.12	–.38	–4.12	–.40	–4.16	...	...
Transportation	.06	.06	2.12	27.93	2.11	27.91	.51	.07
Motor vehicles	.07	.07	–1.35	–5.96	–1.36	–5.99	...	...
Motor fuel	.04	.05	8.16	139.82	8.16	139.81	.09	.01
Recreation	.09	.09	.46	6.61	.44	6.58	3.44	.43
Dairy PPI price change	19.11	34.20	...	...	...	...	...	...
Annual compounded rate of change	19.11	5.03	...	...	...	...	...	...

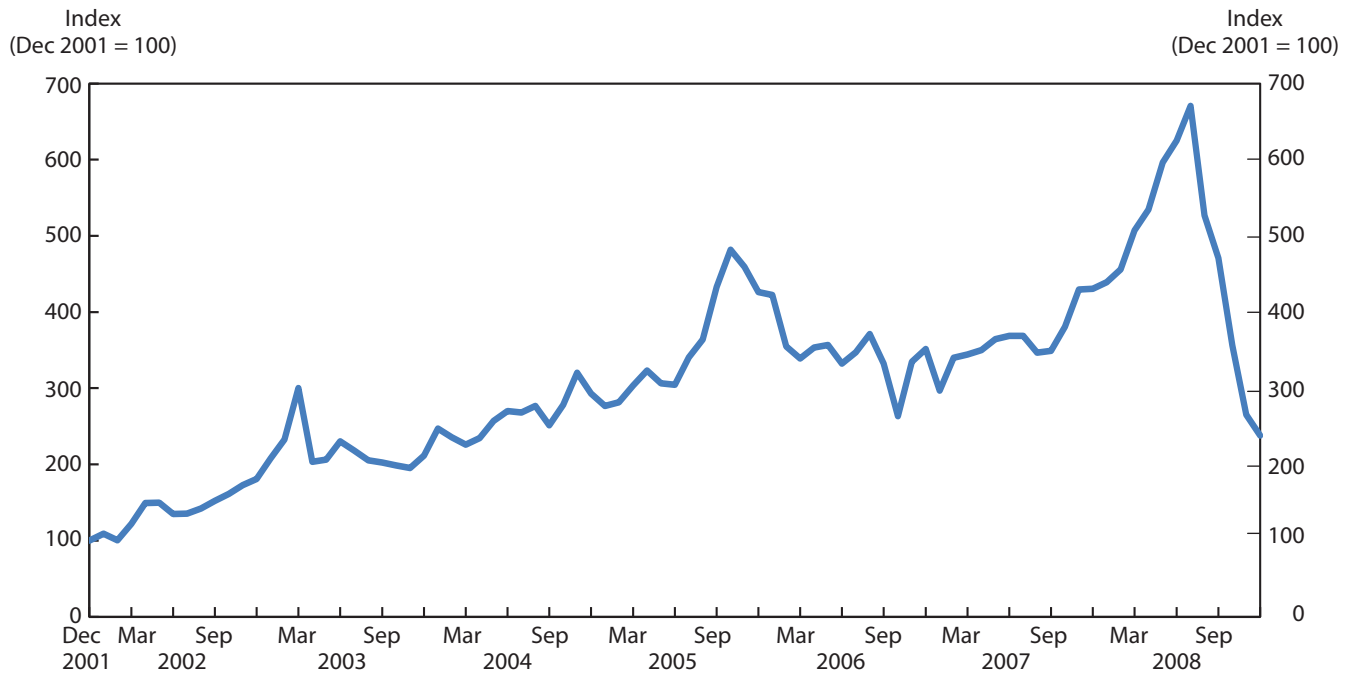
NOTE: Last column uses calculated values; percent changes in previous columns are rounded to two decimal places.

The increase in crude oil and natural gas prices that culminated in record-high prices in mid-2008 was driven by strong demand from Europe, Latin America, the Middle East, and Asia, as well as the declining value of the dollar. After peaking in midyear, prices decreased rapidly through the rest of the calendar year. Between lessening demand for crude oil and weakened economies in the United States and Europe, the global market for crude oil declined. Concerns about slowing global demand affected futures traders and OPEC alike, depressing prices further.

In contrast to crops, animal slaughter, and dairy, rising oil and gas prices had a large impact on overall consumer price inflation. Movements in oil and gas prices had a pronounced effect on the percent change in the all-items CPI through both the magnitude of the increases in oil and gas commodity prices and the substantially higher input share of oil and gas in the all-items index. As table 4 shows, from 2003 through 2008 oil and gas prices increased 232.25 percent (a 22.16-percent annual rate) and the average input share was 3.88 percent. Over that period, the percent change in the all-items CPI was 19.70 percent; had oil and gas prices remained unchanged, it would have been 14.55 percent. Rising oil and gas prices therefore accounted for more than 25 percent of the percent change in the all-items CPI from 2003 to 2008. In 2008,[19] the impact was even more pronounced because of the large price increase (30.09 percent) and the high input share (4.78 percent). In that year, the percent change in the CPI for all items was 3.84 percent, whereas it would have been 2.40 percent had oil and gas prices remained constant. Higher oil and gas prices therefore accounted for 37.48 percent of the percent change in the all-items CPI in 2008. Rising oil and gas prices accounted for a substantial amount of the inflation both over the entire period from 2003 to 2008 and in 2008. However, the overall rate of inflation was still quite modest relative to the magnitude of the price increases in oil and gas, demonstrating that even large movements in oil and gas prices do not necessarily lead to extremely high inflation.

Price movements in oil and gas also affected core inflation substantially. The input share of oil and gas in the core CPI, though smaller than that for the all-items CPI, averaged 2.54 percent from 2003 to 2008 and 3.05 percent in 2008. Core inflation was 13.19 percent over the 2003–2008 period and would have been 9.77 percent without the contribution from higher oil and gas prices. As with the all-items CPI, higher oil and gas prices therefore accounted for 25.93 percent of core inflation during the period. In 2008, core inflation was 2.30 percent, and it would have been only 1.38 percent had oil and gas prices not increased. In that year, higher oil and gas prices therefore accounted for 39.92 percent of core inflation, similar

Chart 4. Producer Price Index for oil and gas



to the impact that increasing gas and oil prices had on the percent change in the all-items CPI. The high percentage of both the all-items CPI and core inflation accounted for by oil and gas prices indicates the importance of oil and gas prices to a broad range of goods and services.

Many different CPI categories were affected considerably by rising oil and gas prices, but the three categories affected most from 2003 through 2008 were transportation, motor fuels, and fuels and utilities. In analyzing the impact of higher oil and gas prices on these indexes, the fact that oil and natural gas are combined in the input–output tables and treated as one industry or commodity becomes a limitation. Crude oil and natural gas prices do not always move in a similar fashion, and some final-demand categories are more sensitive to one than the other. Most notably, large increases in crude oil prices lead to substantial increases in the CPI for transportation and motor fuels whereas natural gas price movements are the more dominant factor in fuels and utilities. Despite this limitation, useful information can still be gleaned from examining the impact of combined oil and gas prices on these subindexes.

Motor fuel and transportation. The input share of oil and gas in motor fuel averaged 43.64 percent from 2003 to 2008. During this period, the percent change in the CPI for motor fuel was 139.82, whereas it would have been only 69.02 percent without the contribution from higher oil and gas prices. Oil and gas price movements therefore accounted for more than half (50.63 percent) of the increase in the CPI for motor fuel during the 2003–2008 timeframe.[20] In 2008, the impact was even stronger: the increase in the CPI for motor fuel was 16.97 percent, whereas it would have been just 2.44 percent had oil and gas prices remained constant. Higher oil and gas prices therefore accounted for a large part of the increase in motor fuel prices in 2008.

Motor fuel is a subcategory of the broader CPI transportation index. As can be seen in table 4, almost 67 percent of the inflation in transportation from 2003 to 2008 was caused by rising oil and gas prices. Nearly all (93.69 percent) of the 5.88-percent inflation in transportation in 2008 can be attributed to increasing oil and gas prices. Although the oil and gas input share of transportation is less than that of motor fuel, crude oil prices were still the main driver for CPI transportation inflation.

Fuels and utilities. The input share of oil and gas in fuels

Table 4. Impact of price changes in oil and gas on selected CPI categories

CPI	Average oil and gas input shares		CPI price change		CPI price change had oil and gas prices remained constant		Impact of oil and gas price changes on CPI	
	2008	2003–2008	2008	2003–2008	2008	2003–2008	2008	2003–2008
All items	4.78	3.88	3.84	19.70	2.40	14.55	37.48	26.12
All items less food and energy	3.05	2.54	2.30	13.19	1.38	9.77	39.92	25.93
Housing	5.19	4.49	3.19	19.98	1.62	13.87	49.06	30.56
Shelter	1.07	.86	2.52	18.54	2.20	17.40	12.76	6.16
Fuels and utilities	26.02	24.06	9.66	53.25	1.83	17.14	81.03	67.81
Food and beverages	2.24	1.82	5.37	21.19	4.70	18.74	12.56	11.55
Apparel	1.91	1.57	–.08	-4.12	–.65	–6.25	...	...
Transportation	18.32	13.87	5.88	27.93	.37	9.28	93.69	66.76
Motor vehicles	1.92	1.58	–1.07	–5.96	–1.65	–8.11	...	...
Motor fuel	48.29	43.64	16.97	139.82	2.44	69.02	85.61	50.63
Recreation	2.75	2.28	1.62	6.61	.80	3.56	50.97	46.15
Oil and gas PPI price change	30.09	232.25	...	...	...	...	...	...
Annual compounded rate of change	30.09	22.16	...	...	...	...	...	...

NOTE: Last column uses calculated values; percent changes in previous columns are rounded to two decimal places.

and utilities averaged 24.06 percent from 2003 to 2008. During this period, the percent change in the CPI for fuels and utilities was 53.25 percent, whereas it would have been only 17.14 percent without the contribution from higher oil and gas prices. Oil and gas price increases therefore accounted for more than two-thirds (67.81 percent) of the increase in fuels and utilities prices over the 2003–2008 period. In 2008, the impact was stronger: the CPI for fuels and utilities was 9.66 percent; it would have been just 1.83 percent had oil and gas prices remained constant. Higher oil and gas prices therefore accounted for 81.03 percent of the increase in prices for fuels and utilities in 2008.

THE ANALYSIS PRESENTED IN THIS ARTICLE has revealed results similar to those of Hobijn. The effect of commodity price increases was more pronounced for specific CPI categories than it was for broader CPI measures. Higher oil and gas prices substantially affected motor fuels, transportation, and fuels and utilities price changes, and increasing crop, animal slaughter and processing, and dairy prices contributed to higher prices for food and beverages. From 2003 to 2008, price increases in crops, animal slaughter and processing, and dairy accounted for slightly more than one-third[21] of the increase in the food and beverages CPI; in subperiods when price movements in these commodities were especially strong, the impact was even more pronounced. Crops, animal slaughter and processing, and dairy together accounted for about 7 percent of the all-items CPI price change and less than 3 percent of the core CPI price change during the 2003–2008 period. Furthermore, even the largest price movements for these commodities in a given year contributed only minimally to all-items and core inflation. From 2003 to 2008, higher oil and gas prices accounted for approximately two-thirds of the increase in transportation prices, about one-half of the increase in motor fuel prices, and roughly two-thirds of the increase in fuels and utilities prices. In 2008, the substantially higher oil and gas prices accounted for a majority of the price increase in all three indexes.

However, unlike Hobijn's account, the analysis presented here finds that oil and gas commodity price movements had a substantial impact on the all-items CPI, as well as on lower level indexes both in the longer term and in specific years. Rising oil and gas prices contributed substantially to both all-items and core CPI price changes from 2003 through 2008, accounting for approximately 26 percent of both indexes combined. During years of large price increases in oil and gas, higher prices accounted for an even greater share of the all-items and core CPIs; in 2008, higher prices accounted for nearly 40 percent of each. Whereas almost all subindexes were substantially affected

by oil and gas prices, the most heavily affected were transportation, motor fuels, and fuels and utilities.

Several factors could have contributed to the difference between Hobijn's findings and those of this analysis with regard to the impact of oil and gas commodity prices on all-items CPI inflation. Whereas Hobijn used the 2006 BEA input–output tables to compute input shares, this study has used the updated 2008 BEA input–output tables. In addition, the aggregated PPI index for oil and gas used here includes commodity data for liquefied petroleum, a PPI category that did not appear in Hobijn's oil and gas index. Lastly, the analysis presented here has used CPI data in order to analyze the effect of commodity price movements on consumer inflation, while Hobijn used PCE data to calculate this pass-through.

In sum, crops, animal slaughter and processing, and dairy price movements had a limited impact on CPI inflation while the impact of oil and gas commodity price movements was much larger. From 2003 through 2008, crop prices rose by 83 percent, animal slaughter prices grew by 26 percent, dairy prices increased by 34 percent, and oil and gas prices shot up by 230 percent. Despite all this growth, CPI inflation was just 19.7 percent over the same period. Thus, although crop, animal slaughter and processing, dairy, and oil and gas commodity prices are important contributors to consumer price inflation, even large increases in the prices of these commodities do not necessarily lead to excessively high rates of inflation. □

Notes

[1] Bart Hobijn, "Commodity Price Movements and PCE Inflation," *Current Issues in Economics and Finance* (New York, Federal Reserve Bank of New York, November 2008).

[2] Carl Chentrens, "Employment Outlook: 2008–2018—Layout and Description for 202-Order Input–Output Tables: 1993 through 2008, Historical and Projected 2018" (U.S. Bureau of Labor Statistics, 2009). This table is no longer available; however, for more recent tables, see Directorate for Science, Technology and Industry of the Organisation for Economic Co-operation and Development, "Input–Output Tables" (Paris, OECD, Mar. 25, 2012), **http://www.oecd.org/document/3/0,3746,en_2649_34445_38071427_1_1_1_1,00.html**.

[3] See, for example, Stephen P. A. Brown and Mine K. Yücel, "Gasoline and Crude Oil Prices: Why the Asymmetry?" *Economic and Financial Review* (Dallas, Federal Reserve Bank of Dallas, third quarter, 2000).

[4] Clinton P. McCully, Brian C. Moyer, and Kenneth J. Stewart, "A Reconciliation between the Consumer Price Index and the Personal Consumption Expenditures Price Index" (U.S. Bureau of Economic Analysis and U.S. Bureau of Labor Statistics, September 2007), **http://www.bea.gov/papers/pdf/cpi_pce.pdf**.

[5] See Joshua A. Byrge and Kevin L. Kliesen, "Ethanol: Economic Gain or Drain?" *The Regional Economist* (St. Louis, Federal Reserve Bank of St. Louis, July 2008), **http://www.stlouisfed.org/publications/re/articles/?id=33**.

[6] For information on the Energy Policy Act, see "Energy Policy Act of 2005" (Public Law 109-58, U.S. Department of the Interior, Aug. 8, 2005), **http://www.doi.gov/pam/EnergyPolicyAct2005.pdf**.

[7] To produce 6 billion gallons of ethanol would require approximately 2.2 billion bushels of corn. (See "Ethanol Reshapes the Corn Market," *Amber Waves: The Economics of Food, Farming, Natural resources, and Rural America* (U.S. Department of Agriculture, April 2006), **http://www.ers.usda.gov/amberwaves/april06/features/ethanol.htm**.)

[8] The act is featured on the website of the U.S. Senate Committee on Energy & Natural Resources, **www.energy.senate.gov/public**.

[9] Monthly reports on various aspects of agriculture appear on the website of the Economic Research Service of the U.S. Department of Agriculture, **www.ers.usda.gov**. For information on crops, see *Economics, Statistics, and Market Information System* (U.S. Department of Agriculture, no date), **http://usda.mannlib.cornell.edu/MannUsda/viewTaxonomy.do?taxonomyID=25**.

[10] *Ibid.*

[11] Let CPI(i, j) = annual average CPI value for category j in year i, PPI(i, j) = annual average PPI value for category j in year i, and share(i, j) = input share for year i for category j. Then the formulas for columns 2, 3, and 4 are as follows:

Column 2: $\prod_{i=1}^{N}\left(\frac{\text{CPI}(i,j)}{\text{CPI}(i\ -\ 1,j)}\right)\ -\ 1]\times 100$

Column 3: [Column 2]×[100% – [Column 4]]

Column 4: $\left[\prod_{i=1}^{N}\left[\text{share}(i,j)\times\left(\frac{\text{PPI}(i,j)}{\text{PPI}(i-1,j)}-1\right)+1\right]-1\right]\times 100/[\text{Column 2}]$

[12] Increased production costs (due to higher feed prices) led farmers to increase slaughter rates, putting downward pressure on prices in the short term with the increased supply to market. The upward and downward price movements from 2006 to 2008 reflected which of these two factors (higher feed prices or increased slaughter rates) was dominant in the short term.

[13] Monthly reports on various aspects of agriculture appear on the website of the Economic Research Service of the U.S. Department of Agriculture, **www.ers.usda.gov**. For information on animal slaughter and processing, see *Economics, Statistics, and Market Information System* (U.S. Department of Agriculture, no date), **http://usda.mannlib.cornell.edu/MannUsda/viewTaxonomy.do?taxonomyID=25**.

[14] This industry encompasses the manufacture of dairy products, from raw milk and processed milk to dairy substitutes. The products range from fluid milks, yogurt, butter, cheese, and ice cream to dry or condensed milk and whey products.

[15] Monthly reports on various aspects of agriculture appear on the website of the Economic Research Service of the U.S. Department of Agriculture, **www.ers.usda.gov**. For information on dairy, see *Economics, Statistics, and Market Information System* (U.S. Department of Agriculture, no date), **http://usda.mannlib.cornell.edu/MannUsda/viewTaxonomy.do?taxonomyID=25**.

[16] For information on the Venezuelan oil strike, see Joanne Shore and

John Hackworth, "Impacts of the Venezuelan Crude Oil Production Loss" (U.S. Energy Information Administration, Mar. 15, 2007), **http://www.eia.doe.gov/pub/oil_gas/petroleum/feature_articles/2003/venezuelan/vzimpacts.htm**.

[17] For information on hurricanes that struck in 2005, see "Hurricane Impacts on the U.S. Oil and Natural Gas Markets," *EIA Report on Hurricane Impacts on U.S. Energy* (U.S. Energy Information Administration, Dec. 27, 2005), **http://tonto.eia.doe.gov/oog/special/eia1_katrina.html**; "Hurricane Katrina's Impact on the U.S. Oil and Natural Gas Markets," *EIA Report on Hurricane Katrina's Impact on U.S. Energy* (U.S. Energy Information Administration, Sept. 7, 2005), **http://www.eia.gov/oog/special/eia1_katrina_090705.html**; "Hurricane Katrina's Impact on the U.S. Oil and Natural Gas Markets," *Daily Report on Hurricane Katrina's Impact on U.S. Energy* (U.S. Energy Information Administration, Sept. 15, 2005), **http://www.eia.gov/oog/special/eia1_katrina_091505.html**; "Hurricane Impacts on the U.S. Oil and Natural Gas Markets," *Daily Report on Hurricane Impacts on U.S. Energy* (U.S. Energy Information Administration, Sept. 26, 2005), **http://www.eia.gov/oog/special/eia1_katrina_092605.html**; and "Hurricane Impacts on the U.S. Oil and Natural Gas Markets," *Daily Report on Hurricane Impacts on U.S. Energy* (U.S. Energy Information Administration, Oct. 11, 2005), **http://www.eia.gov/oog/special/eia1_katrina_101105.html**.

[18] For safety reasons, oil and gas companies will "shut in" production from offshore platforms that are expected to be in the path of a hurricane. The platforms are abandoned until the storm passes.

[19] As discussed earlier, there were three major movements in oil and natural gas producer prices from 2001 to 2008: in 2003, 2005, and 2008. In all 3 years, oil and gas prices were up by more than 30 percent. The year 2008 is chosen as the subperiod of interest because the input share was the highest in that year, causing the price movement in 2008 to have the largest impact.

[20] Major inputs into fuel prices are oil and gas extraction, petroleum and coal products manufacturing, and wholesale and retail margins. A plausible explanation for the fact that oil prices account for only about 50 percent of fuel price increases is that refining (petroleum and coal products manufacturing) costs went up. Also, in more recent years transportation costs have been affected by volatility in ethanol prices.

[21] The contribution of one-third was arrived at by adding the various impacts of the commodity price changes on the CPI (i.e., 19.26 for crops, 9.43 for animal slaughter and processing, and 5.86 for dairy, totaling 34.55 percent).

APPENDIX A: Detailed methodology

To determine the impact of commodity price movements on the price of final consumer goods, the input share for each commodity needs to be calculated. The input share quantifies the importance of the different commodities for the production of the final goods. To calculate input shares for the commodities of interest in this article, this appendix follows a method described by Hobijn.[1] The method utilizes a modified Leontief model, expressed in linear form as $\mathbf{r} = \mathbf{A}\mathbf{r} + \mathbf{b}$.

Solved for **r**, the equation can be written as $\mathbf{r} = (1 - \mathbf{A})^{-1}\mathbf{b}$. In matrix form, this equation can also be expressed as $\mathbf{r} = (\mathbf{I}_n - \mathbf{A})^{-1}\mathbf{b}$, in which **r** represents the input share, vector **b** represents the proportions of each commodity in final-demand categories, $\mathbf{I}_n$ is the 202 × 202 identity matrix, and **A** is a commodity–commodity direct requirements (CCDR) matrix, a 202 × 202 matrix whose (*i*,*j*)th element is the amount, in dollars, of commodity *i* directly required to produce $1 of commodity *j* for final use.[2] The matrix that results from taking the inverse of the difference of the identity matrix and the CCDR matrix $[(\mathbf{I}_n - \mathbf{A})^{-1}]$ is an important component of the methodology used here and is known as the commodity–commodity total requirements (CCTR) matrix, a 202 × 202 matrix whose (*i*,*j*)th element is the production required, both directly and indirectly, of commodity *i* per dollar of delivery to final use of commodity *j*. Once the CCTR matrix and the proportions of final demand for each commodity are calculated, the input shares **r** of the commodities in the final-demand category may be found by taking the cross product of the two: $\mathbf{r} = \mathbf{CCTR} \times \mathbf{b}$.

Note that several steps were required to calculate the CCTR matrix. The process begins with the make and use tables compiled by Carl Chentrens for the Bureau of Labor Statistics.[3] The make table is a 202 × 202 matrix whose (*i*,*j*)th element is the value of commodity *i*'s output by industry *j* in a given year, and the use table is a 202 × 202 matrix whose (*i*,*j*)th element is the value of commodity *i* used in industry *j* (e.g., the value of crops used in animal production).

The make and use tables are then used to calculate the CCDR matrix.[4] One adjustment was made to this matrix (similar to Hobijn's method): the columns for the commodities of interest (crops, animal slaughter and processing, dairy, and oil and gas) were zeroed out. This adjustment must occur because the prices for these commodities are gross output prices and already reflect the inputs used in their production. However, as Hobijn explains, because of the adjustment, the input shares of the four commodities examined do not include the input share of each in the production of the other.[5] Once this adjusted CCDR is created, it is subtracted from a 202 × 202 identity matrix and the inverse of the resulting matrix is taken, yielding the CCTR matrix.

After the CCTR matrix is obtained, the values for vector **b**, are calculated. These values represent the share of each commodity in the final-demand categories of interest. Calculating the values of **b** starts with the final-demand table from the input–output tables. The final-demand table is a 202 × 203 matrix whose (*i*,*j*)th element is the value of commodity *i* used to meet the final consumer demand for category *j* (e.g., the value of printing and related support activities in the category of magazines, newspapers, and sheet music). Two steps are necessary to turn the final-demand tables into the required vectors. First, the amounts listed in the final-demand table need to be converted from purchaser's values to producer's values to make them comparable to the amounts shown in the make and use tables. The purchaser's value is equal to the producer's value plus wholesale and retail trade margins and costs relating to the transportation of the good (by rail, air, water, truck, or pipeline) to the point of purchase. The final-demand table includes columns indicating the amount of the purchaser's value that is due to margin and transportation costs. These given margin and transportation amounts are redistributed back into the commodities to convert the values to producer's prices. Once the values in the final-demand table are adjusted from purchaser's to producer's values, each value in the table is divided by the sum of the entries in its column. Because the final-demand tables detail the amount of each commodity used to meet final consumer demand for a category, dividing by the column totals in this manner gives the proportion of final demand accounted for by each commodity.

At first glance, it may seem that these columns represent the final input shares in which we are interested. However, the final-demand table indicates only how much of each commodity *that is available for final use* is needed to produce each item. The table does not take into account how much of each different commodity is required to make available a dollar's worth of a commodity for final use. The CCTR matrix is needed because it quantifies the interindustry linkages of the different commodities. Multiplying the columns representing the share of each com-

APPENDIX A: Continued—Detailed methodology

modity in the final-demand categories of interest by the CCTR yields the final input shares for each commodity in the production of the final goods that take into account all inputs of the commodities along the way.

Notes to APPENDIX A

[1] Bart Hobijn, "Commodity Price Movements and PCE inflation," *Current Issues in Economics and Finance* (New York, Federal Reserve Bank of New York, November 2008).

[2] For a detailed discussion of the derivation of the CCDR matrix, see Karen J. Horowitz and Mark A. Planting, "Concepts and Methods of the U.S. Input–Output Accounts" (U.S. Bureau of Economic Analysis, September 2006 and updated April 2009), **http://www.bea.gov/papers/pdf/IOmanual_092906.pdf**, especially chapter 12.

[3] Carl Chentrens, Employment Outlook: 2008–2018—Layout and Description for 202-Order Input–Output Tables: 1993 through 2008, Historical and Projected 2018" (U.S. Bureau of Labor Statistics, 2009). This table is no longer available; however, for more recent tables, see Directorate for Science, Technology and Industry of the Organisation for Economic Co-operation and Development, "Input–Output Tables" Paris, OECD, Mar. 25, 2012), **http://www.oecd.org/document/3/0,3746,en_2649_34445_38071427_1_1_1_1,00.html**.

[4] Horowitz and Planting, "U.S. Input–Output Accounts."

[5] Hobijn, "Commodity Price Movements."

APPENDIX B: Glossary

Commodity–commodity direct requirements (CCDR) matrix A 202 × 202 matrix whose (i,j)th element is the amount, in dollars, of commodity i directly required to produce $1 of commodity j for final use.

Commodity–commodity total requirements (CCTR) matrix A 202 × 202 matrix whose (i,j)th element is the production required, both directly and indirectly, of commodity i per dollar of delivery to final use of commodity j. Equal to the inverse of the difference of the identity matrix and the CCDR: $\mathbf{CCTR} = (\mathbf{I_n} - \mathbf{CCDR})^{-1}$.

Final-demand table A 202 × 203 matrix whose (i,j)th element is the value of commodity i used to meet the final consumer demand for category j.

Input–output tables A means of presenting a detailed analysis of the process of production and the use of goods (products) and services and the income generated in that process. The tables are either (a) make and use tables or (b) symmetric input–output tables.[1] The tables compiled by Chentrens and used in this article are make and use tables.

Input share A measure of the importance of a commodity for the production of final goods.

Leontief model A standard model, given by $\mathbf{x} = (\mathbf{I_n} - \mathbf{A})^{-1}\mathbf{y}$, that relates final demand $\mathbf{y}$ to total output $\mathbf{x}$ through the interindustry linkages represented by the total requirements matrix $(\mathbf{I_n} - \mathbf{A})^{-1}$. Widely used in economic impact analysis to model the changes in total output that are needed to satisfy a change in final demand.

Make table A 202 × 202 matrix whose (i,j)th element is the value of commodity j's output by industry i in a given year.

Producer's value The value that a producer receives for a good. (e.g., the amount a farmer receives for his or her crops).

Purchaser's value The sum of producer's value and wholesale and retail trade margins and costs relating to the transportation of the good (by rail, air, water, truck, or pipeline) to the point of purchase.

Use table A 202 × 202 matrix whose (i,j)th element is the value of commodity i used in industry j (e.g., the value of crops used in animal production).

No longer tax exempt: income tax calculation in the Consumer Expenditure Survey

BLS has developed an experimental federal income tax calculator that estimates taxes for Consumer Expenditure Survey participants to help address high nonresponse rates, unreliable reporting, and time-frame ambiguity; this calculator could improve the quality of the aftertax income data in the survey

Aylin Kumcu

The primary aim of the Consumer Expenditure Survey (CE) is to record the expenditure behavior of American households. The CE program conducts two surveys that collect data on the expenditures, income, and characteristics of consumer units: the Diary Survey and the Quarterly Interview Survey. The Bureau of Labor Statistics (BLS) publishes the results of these surveys at the aggregate level, and the microdata are studied by a wide variety of users. One of the main users of CE data is the Consumer Price Index, which employs the data to update the cost weights for its market basket of goods and to calculate the relative importance of these aggregate goods. CE data also are widely used by other government agencies, academia, and members of the public for research, policymaking, and other purposes, because the CE survey is one of the sole sources of high-quality, sample-based U.S. data that links expenditures and income at the household level.[1]

While the survey's primary objective is to collect information on expenditures, it is also important that it provide accurate data on household income. However, some respondents may consider the income questions sensitive in nature, resulting in high nonresponse rates for some questions. To address this issue, in 2005 the CE began to include imputed income in its 2004 published tables and 2004 public use microdata. However, the CE has not yet implemented a method for estimating or imputing aftertax income. Considering the issues related to the quality of reported tax information in the CE, this study explores the possibility of calculating household tax liability using other highly reliable information from the survey.

The federal income tax predicament

There are two main issues related to the income taxes reported in the CE. First is the question of high nonresponse rates and the quality of reported data. Many individuals surveyed in the CE do not respond to the tax questions. For those who do respond, it is unclear how accurate their responses are. Although some respondents may report correct taxes around the time they file their income tax return, it is not possible to determine how accurate their memory is without knowing whether they re-

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ferred to their records or documents. Second, the tax year to which the tax variables refer changes throughout the interview year because of the CE survey design and the wording of its tax-related questions.

The CE program currently estimates total income taxes using other variables because it does not measure them directly. Total tax paid is the sum of taxes withheld from the respondent's paycheck and additional tax paid, minus tax refunds. More specifically, total tax paid includes the following[2]:

- Annual federal income tax deducted from salary[3]
- Annual state and local income tax deducted from salary[4]
- Federal tax paid in addition to that withheld from paycheck in the past 12 months
- State and local tax paid in addition to that withheld from earnings in the past 12 months
- Personal property tax paid in the past 12 months
- Other taxes paid in the past 12 months which were not reported elsewhere

These refunds are then deducted in calculating total income tax:

- Amount of refund received from federal income tax in the past 12 months
- Amount of refund received from state and local income tax in the past 12 months
- Amount of other refunds received, including any other tax refunds, during past 12 months

Total federal tax is comprised of the *federal tax* elements from above and can be represented in the following way:

$$\text{Total CE federal tax paid} = \text{Tax deducted} + \text{Tax paid} - \text{Tax refund} \quad (1)$$

(Exhibit 1 depicts how these variables would be filled on the 1040 Individual Tax Form.) This estimate aims to include the earned income tax credit (EITC) and the additional child tax credit, which are given as refunds and tend to be an important part of individuals' income tax liability, but the CE cannot explicitly verify these two credits are accurately reported.

By calculating total tax paid in this manner, the CE attempts to capture what a consumer unit (CU)[5] actually owes the Internal Revenue Service (IRS) in order to determine aftertax income. The CE estimates aftertax income as follows:

$$\text{Income after tax} = \text{Income before tax} - \text{Total tax paid} \quad (2)$$

Income before tax is the total amount of income, including the dollar value of Supplemental Nutrition Assistance Program benefits (formerly called food stamps) and other transfers, before any taxes are paid. Total tax paid is the total amount of tax paid as described above. Aftertax income is the total amount of income after all taxes are paid. In other words, it is the income a CU has at its disposal to spend on goods and services. If total tax is zero because a respondent does not answer or does not know, aftertax income exactly equals beforetax income. In fact, this is the case for nearly 40 percent of the Quarterly Interview Survey sample in the third quarter of 2005.

The CE program's estimate of total tax is likely to be inaccurate for a large portion of the survey sample because of high rates of nonresponse or incorrect responses and ambiguity surrounding the time frame to which the tax variables refer. The following tabulation for the third quarter of 2005 shows a large majority of individuals report that taxes were deducted from pay:

Interviewees' response to the question, "Was federal tax withheld from last paycheck?"

Taxes deducted?	*Number of individuals*	*Percent*
Yes	8,409	87
No	838	9
Refuse or don't know	415	4

However, approximately two-thirds of individuals do not report how much federal tax was withheld from their last paycheck even when they report that tax was indeed withheld. As shown below, only 32 percent of individuals who reported federal tax was deducted from their wages or salary actually reported nonzero tax withholdings in the third quarter of 2005:

Amount of tax withheld from paycheck of individuals who reported that federal tax was withheld

Amount deducted	*Number of individuals*	*Percent*
Zero	5,740	68
Greater than zero	2,669	32

The next tabulation shows that this percentage is slightly greater at the CU level. Among the consumer units where at least one member reported that federal tax was withheld, 37.5 percent actually reported a nonzero value for total tax withholdings:

Amount of tax withheld from paycheck for consumer units in which at least one member reported that federal tax was withheld

Amount deducted	*Number of households*	*Percent*
Zero	3,340	62.5
Greater than zero	2,004	37.5

Exhibit 1. **Part of Form 1040 U.S. Individual Income Tax Return for 2006**

Other Taxes	58	Self-employment tax. Attach Schedule SE			58	
	59	Social security and Medicare tax on tip income not reported to employer. Attach Form 4137			59	
	60	Additional tax on IRAs, other qualified retirement plans, etc. Attach Form 5329 if required			60	
	61	Advance earned income credit payments from Form(s) W-2, box 9			61	
	62	Household employment taxes. Attach Schedule H			62	
	63	Add lines 57 through 62. This is your **total tax** ▶			63	**TOTTAX**
Payments	64	Federal income tax withheld from Forms W-2 and 1099	64	*FAMTFEDX*		
	65	2006 estimated tax payments and amount applied from 2005 return	65			
If you have a qualifying child, attach Schedule EIC.	66a	**Earned income credit (EIC)**	66a	**EICAMNT**		
	b	Nontaxable combat pay election ▶ **66b**				
	67	Excess social security and tier 1 RRTA tax withheld (see page 60)	67			
	68	Additional child tax credit. Attach Form 8812	68	**ADDCCREDIT**		
	69	Amount paid with request for extension to file (see page 60)	69			
	70	Payments from: **a** ☐ Form 2439 **b** ☐ Form 4136 **c** ☐ Form 8885	70			
	71	Credit for federal telephone excise tax paid. Attach Form 8913 if required	71			
	72	Add lines 64, 65, 66a, and 67 through 71. These are your **total payments** ▶			72	
Refund	73	If line 72 is more than line 63, subtract line 63 from line 72. This is the amount you **overpaid**			73	
Direct deposit? See page 61 and fill in 74b, 74c, and 74d, or Form 8888.	74a	Amount of line 73 you want **refunded to you.** If Form 8888 is attached, check here ▶ ☐			74a	*FEDRFNDX*
	▶ b	Routing number ▶ **c** Type: ☐ Checking ☐ Savings				
	▶ d	Account number				
	75	Amount of line 73 you want **applied to your 2007 estimated tax** ▶	75			
Amount You Owe	76	**Amount you owe.** Subtract line 72 from line 63. For details on how to pay, see page 62 ▶			76	*FEDTAXX*
	77	Estimated tax penalty (see page 62)	77			

NOTE: The variables in bold are values calculated by the tax calculator. The variables in italics are reported values in the Consumer Expenditure Survey.

SOURCE: U.S. Bureau of Labor Statistics, using Internal Revenue Service tax form.

The inconsistency presented by such a large portion of the interviewees' responses suggests nonresponse rates are sufficiently high to cause imprecise values for total federal tax at the micro and aggregate levels.

A second factor affecting the accuracy of the estimates is uncertainty surrounding the tax year to which the variables that are used to calculate income tax in the CE refer. Because the survey asks if taxes were paid or a refund was received in the past 12 months, there are three possible scenarios regarding to which tax year the taxes and refunds refer:[6]

A. The tax paid and refund received are from the previous tax year if the CU has not filed taxes yet; that is, the interview took place in the first quarter of the year.

B. They are from the current tax year if the CU has filed taxes and received a refund for the current year; that is, the interview took place in the second, third, or fourth quarter.

C. They are from both the previous and current tax year, which could theoretically happen in any quarter; for example, the interview took place in May 2005 and the CU received two refunds in the past 12 months, which is possible if the CU just received a refund for the current tax year (2005) but had not received a refund for the previous year (2004) until June 2004.

It is unknown which scenario occurs given the current CE questionnaire. However, it is most likely that interviews which take place in the first quarter lead to scenario A, though a very small portion of the population will have already filed their taxes and received their refund. In the case of scenario A, the CE will underestimate tax liability because it assumes tax from last year will exactly equal the tax for this year, which is probably not the case. It is likely that interviews which take place in the third and fourth quarters lead to scenario B, though again a very small portion of respondents may have filed their taxes very late last year but early or on time this year, leading to scenario

C. In the case of scenario B, the CE will accurately reflect taxes. In the case of scenario C, the CE will overestimate taxes because the reported tax will reflect 2 years of taxes. Interviews which take place in the second quarter could reflect any of the three scenarios.

The CE also makes some important assumptions in using these variables to estimate aftertax income. (Recall equation (2) for total tax paid.) First, all of the income and tax questions refer to the previous 12 months, which means the CE assumes that the values for the last 12 months will be the same for the 12 months of the current tax year. (This situation is further confounded for CUs in their third and fourth interviews, whose income and tax values refer to an even earlier time frame. See endnote 6.) Second, the amount of tax reported as being withheld from pay is based on the amount of tax withheld from the latest paycheck. This assumes the rate of tax withheld from the latest paycheck will be the same for each paycheck that year. This assumption will be inaccurate for individuals whose paychecks vary enough throughout the year that their average tax rate is not consistent from one paycheck to another. These issues also apply to the CE's state and local tax variables.

Although it is not a simple matter to circumvent the fact that CE income and tax variables refer to the previous 12 months, the other points previously discussed regarding federal income tax can be readily addressed. We can calculate federal income tax directly using demographic characteristics and reported or imputed income and expenditures, all of which are highly reliable. This calculation avoids issues resulting from nonresponse or incorrect information and ambiguity of timeframe.

The tax man: a potential solution

The tax calculator developed by BLS approximates federal income tax using various sources of income, expenditures, and CU characteristics reported by interviewees in the CE survey. The resulting estimates avoid relying on respondents who may not recall their tax liability or who refuse to answer tax questions, and the estimates overcome assumptions made because of the format of the CE questionnaire. The tax calculator uses the 1040 Individual Income Tax Return Form and supplementary forms and worksheets to calculate taxes as if respondents were filing their tax returns using the information reported to the CE. The main tax variable of interest for this report is the total federal income tax owed to the IRS including the earned income tax credit (EITC) and the additional child tax credit:

$$\text{Total tax calculator tax paid} = \text{Total tax} - \text{EITC} - \text{Additional child tax credit} \quad (3)$$

Total tax is line 63 of the 1040 form, total tax before subtracting any payments. The EITC is line 66a, and the additional child tax credit is line 68. (See exhibit 1, 1040 Individual Income Tax Return Form 2006.) This is the closest possible approximation that can be made to a CU's total tax liability for the purpose of calculating aftertax income.

The tax calculator calculates taxes for tax units (TUs)—that is, groups of individuals who file together—rather than for consumer units, groups of individuals who live together and share certain expenses. The following tabulation shows the relationship between consumer units and tax units:

Number of tax units per consumer unit	*Percent of sample*
1	76
2	18
3 or more	6

The tax calculator includes the largest sources of income for a majority of the population, deductions for educational expenses, contributions to retirement accounts, and the standard and itemized deductions, as well as certain credits for which CE data are available. (See exhibit 2, which shows ingredients of the tax calculator.) Because of data constraints, the tax calculator does not accurately calculate total tax owed by the self-employed; the self-employment tax is included but business expenses are not deducted. The mean total income for income reporters was $64,440.28, the mean total tax paid was $2,354.31, and the mean average tax rate was 0.7 percent. (See table 1.)

The tax calculator must make some basic assumptions for simplification and to circumvent obstacles in the data. First, the tax calculator assumes everyone in the survey files the 1040 Individual Income Tax Return Form, everyone in the sample is a U.S. citizen, no one is clergy, and no one is blind. In addition, some simplifications are made when distinguishing between tax units and consumer units. There are three options for filing status:

1. Single: Any tax unit that contains only one "unmarried" adult, including widow(er)s and interviewees who report they are married but do not reside with their spouse[7]

Exhibit 2. Ingredients of the BLS Consumer Expenditure tax calculator

Income

- Wages and salary
- Farm income (or loss)
- Nonfarm business income (or loss)
- Taxable Social Security benefits
- Interest
- Dividends
- Taxable refunds
- Alimony
- Pensions, annuities, IRA distributions
- Unemployment compensation
- Other income

Exemptions

Credits

- Credit for child and dependent care expenses
- Credit for the elderly or disabled
- Earned income tax credit
- Additional child tax credit

Adjusted gross income (AGI) deductions

- One-half of self-employment tax
- Self-employed SEP-IRAs, SIMPLE, and qualified plans
- Alimony paid
- IRA deductions
- Tuition and fees deduction

Itemized deductions and the standard deduction

- Medical and dental expenses greater than 7.5 percent of AGI
- Taxes paid
  - State and local income taxes
  - Real estate taxes
  - Personal property taxes
  - Other taxes
- Interest paid
  - Mortgage interest
- Gifts to charity

SOURCE: U.S. Bureau of Labor Statistics.

2. Married, filing jointly: Any tax unit in which the two spouses reside in the same home and are married to each other

3. Head of household: Any tax unit which contains dependents and an adult who is "unmarried," including interviewees who report they are married but do not reside with their spouse, and also widow(er)s

In the third quarter of 2005, the proportion of survey respondents in each filing status was as follows:

Filing status of tax units

Filing status	*Percent of sample*
Single	51
Married, filing jointly	39
Head of household	8
Dependent, filing separately	2

There are four kinds of dependents:

1. Any person who is less than 19 years old
2. Children who are less than 25 years old, are in college, and do not work full time
3. Relatives who are any age and disabled
4. Relatives who earn no more than the maximum income to be considered a dependent

Taxes are also calculated for dependents who earn enough income that they must file separately.

Some additional assumptions are made to calculate income, adjusted gross income (AGI), itemized deductions, and tax credits. The tax calculator assumes the income and tax reported by the interviewee refer to the previous tax year even though the questionnaire refers to "the previous 12 months." Capital gains and losses are not included as a source of income, and dividends are taxed at the same rate as all other income. Refunds from state and local taxes paid in the previous tax year (previous 12 months) are assumed to be taxable refunds for TUs that have a mortgage in the current period, because it is likely these households

Table 1. Mean total income, federal income tax, and average tax rate for Consumer Expenditure Survey tax reporters, by type of consumer unit

Type of consumer unit	Total income[1]	Total federal income tax[2]	Average tax rate[3]	*N*
All consumer units	$64,440.28	$2,354.31	0.7	1,876
Single, no children	38,889.55	1,833.77	4.3	584
Married, with or without children	91,653.79	3,400.65	2.7	855
Single parent, with children	32,168.51	37.29	–21.9	171
Other consumer units	57,521.74	1,736.01	1.1	266

[1] Total income refers to income for tax purposes only; it does not include workers' compensation or veterans' benefits, public assistance or welfare income, or the dollar value of food stamps.

[2] Federal income tax is the sum of the federal income tax values, including refunds, as described in equation (1).

[3] Average tax rate is federal income tax divided by total income.

NOTE: Data are from the Consumer Expenditure third quarter 2005 quarterly interview for consumer units that are in the second or fifth interview and report a valid response to each of the questions used to calculate total federal income tax. The data are weighted to be representative of the U.S. population at the aggregate level.

SOURCE: U.S. Bureau of Labor Statistics.

had a mortgage last year and itemized their deductions. Finally, limits are not placed on income losses, such as losses from self-employment or rental real estate.

For AGI, the tax calculator includes contributions made to retirement plans, half of the self-employment tax, and the deduction for tuition fees. It also assumes self-employed individuals have Simplified Employee Pension plans, and all other individuals have individual retirement accounts (IRAs). The tax calculator assumes everyone who has tuition expenditures will take the tuition deduction rather than the tuition credit, because the deduction leads to less tax owed, and because the CE cannot determine whether the student is eligible for the credit. A simplifying assumption is made for dependents who file separately: the tax calculator gives these dependents the deduction, although in reality the tax head who claims them takes the deduction. The aggregate effect of this assumption is minimal because the final tax is calculated at the consumer unit level.[8]

The assumptions made regarding itemized deductions are as follows: First, mortgage interest paid this quarter is consistent across the entire tax year. Second, all contributions to educational institutions, religious organizations, charities, and all other organizations (not including political organizations) are deductible, as outlined in the 1040 instructions. Third, no deductions are taken for casualty and theft losses, job expenses, or miscellaneous deductions because the CE does not have this information. Finally, health expenditures reported to the CE are assumed to reflect annual expenditures. The questionnaire asks for medical expenditures from the previous quarter, and thus includes only 3 months of health insurance premiums, prescription drugs, and doctors' visits or hospital bills. This assumption will be inaccurate for CUs that cannot deduct insurance premiums (because they are paid with beforetax dollars) and CUs that can deduct all premiums incurred over the tax year.[9] It will also be inaccurate for CUs that make the same expenditures for prescription drugs or doctors' and hospital visits during each quarter of the tax year. However, only a small portion of the U.S. population takes the itemized deduction because of their high medical expenditures, and therefore this simplifying assumption was made.

The credits computed by the tax calculator include the credit for child and dependent care expenses, the credit for the elderly or disabled, the child tax credit, and the earned income tax credit. The credit for child and dependent care expenses does not require us to make any assumptions for the majority of tax units. For CUs with multiple tax units, each of which has dependents, the tax calculator will overestimate childcare expenses because the tax calculator does not divide expenses among dependents in different TUs. The credit for the elderly or disabled requires the tax calculator to make two assumptions: First, individuals will only take the credit if their reason for not working is that they are disabled. People are eligible to take the credit if they are older than age 65 or are "retired on permanent and total disability."[10] However, the CE groups reasons for not working into a single category that includes retired, taking care of the home and/or family, student, ill/disabled/unable to work, unable to find work, or doing something else.[11] Thus interviewees who retired on disability could respond that they are not working because they retired or because they are disabled, but

not both, and we will underestimate their credits. Second, the tax calculator must assume that all disability income is nontaxable and that all pensions are taxable because the CE does not distinguish between taxable and nontaxable income. This will cause the tax calculator to inaccurately estimate the credit for some TUs, such as those that earn nontaxable veteran's pensions. No additional assumptions are required for the child tax credit or the EITC.

The tax calculator, once created and tuned to the CE data needs, requires minimal maintenance. Annual updates must be made for new tax rates and thresholds, as well as for changes to the tax code. The tax calculator is designed in such a way that updating and incorporating the new tax rates and thresholds would require little work. In addition, the tax rates, thresholds, and changes to the code are all available in *Instructions for Form 1040, U.S. Individual Income Tax*, published by the IRS and available on the IRS website. All major changes to the tax code are outlined in the "What's New" section of the instructions. Thus the update process could be incorporated into the CE production schedule without placing great demands on CE staff.

Comparison of the tax calculator results

To assess the accuracy of federal income tax estimated by the tax calculator, two analyses were conducted. First, interviewees' reported income tax liability was compared to the total federal taxes produced by the tax calculator. Second, BLS tax calculator estimates were compared to those of a tax calculator developed by the Congressional Budget Office (CBO). The results show that the BLS tax calculator accurately estimates federal income tax.

Internal comparison to federal income tax reported in the CE. This section analyzes the results of a matched-sample comparison between federal income tax reported by CUs and federal income tax estimated using the tax calculator. The sample was restricted to CUs that gave valid responses to the tax questions. Two variables are analyzed in this section: the difference in total tax and the difference in the average tax rate. As noted earlier, total federal income tax refers to the total amount of taxes the CU owes the IRS including subtractions for the EITC and the additional child tax credit. The tax calculator estimates the value of total taxes directly, whereas the CE survey estimates it using information on payroll tax deductions, additional taxes paid, and refunds received. Because the EITC and the additional child tax credit are distributed as refunds, it is not possible to distinguish them from overpayment of taxes in the CE. Thus the two credits are included in both values of total tax. The difference in total tax is calculated as follows for each CU in the sample:

$$\text{Total tax difference} = \text{Tax calculator tax} - \text{CE tax} \quad (4)$$

The average tax rate is calculated as total tax divided by total income for each CU. Total tax is the same tax value used above, and total income is the sum of all taxable income sources, i.e., line 22 from the 1040 Individual Tax Return Form. The average tax rate is calculated in the same manner for both the tax calculator and the CE estimate:

$$\text{Average tax rate} = \text{Total tax paid} / \text{Total income} \quad (5)$$

For each CU, the difference is the average tax rate calculated by the tax calculator minus the tax rate estimated by the CE:

$$\text{Tax difference} = \text{Tax calculator average tax rate} - \text{CE average tax rate} \quad (6)$$

The data for this analysis are characterized as follows:

- The data are from the CE Quarterly Interview Survey for the third quarter of 2005, whose reference period includes April, May, and June; the third quarter was chosen because respondents are expected to have recently filed their taxes, increasing the accuracy of responses to questions on taxes and refunds.
- The tax calculator uses 2005 tax rates because most income reported refers to income earned in 2005.
- Imputed data are included.
- All CUs in the sample are in their second or fifth interview (the interviews when respondents are asked about income and taxes), contain only one TU, and report a positive value for both the CE total tax and the tax calculator total tax.

The results of this comparison are summarized in table 2, which compares income and federal income tax reported by respondents with those estimated using the tax calculator. The mean total tax for all filers reported in the CE survey is $7,860.37, whereas the mean calculated by the tax calculator is $2,446.89. The mean tax rate reported in the CE is 6 percent, and the value calculated by the tax calculator is 1.7 percent. The results of the matched-sample mean comparisons are varied but in general show that the tax calculator produces total taxes and average

Table 2. Mean total income, total federal income tax, and average tax rate for Consumer Expenditure Survey tax reporters and BLS tax calculator

Filing status	Tax reporters			Tax calculator			*N*
	Total income[1]	Federal income total tax[2]	Average tax rate[3]	Total income[1]	Federal income total tax[2]	Average tax rate[3]	
All filers	$67,095.84 (80,598.31)	$7,860.37 (24,603.43)	6.0 (.110)	$67,320.87 (80,215.11)	$2,446.89 (8,850.15)	1.7 (.268)	3,717
Single	54,683.16 (96,086.33)	7,002.17 (31,875.83)	7.9 (.075)	55,054.91 (95,808.56)	2,021.73 (6,117.77)	2.9 (.099)	1,744
Married, filing jointly	90,440.14 (61,757.97)	10,844.00 (16,343.49)	8.2 (.080)	90,416.15 (61,246.27)	3,477.09 (11,671.04)	2.6 (.099)	1,540
Head of household	34,064.65 (37,170.73)	705.41 (8,354.39)	–10.1 (.172)	34,584.39 (36,961.55)	495.35 (5,398.45)	–6.3 (.731)	433

[1] Total income refers to income for tax purposes only; it does not include workers' compensation or veterans' benefits, public assistance or welfare income, or the dollar value of food stamps.

[2] Federal income tax is the sum of the federal income tax values, including refunds, as described in equation (1).

[3] Average tax rate is federal income tax divided by total income.

NOTE: Data are from the Consumer Expenditure third quarter 2005 quarterly interview and reflect consumer units that are in the second or fifth interview, contain only one tax unit, and have positive total tax from both the tax calculator and the CE. Numbers in parentheses are standard deviations.

SOURCE: U.S. Bureau of Labor Statistics.

tax rates with differences that are large and statistically significant at the 5-percent level. (See table 3.) When the sample is partitioned by filing status, several of the cells no longer are statistically significant. For singles, the difference in the mean total tax is statistically significant, but the difference in the mean average tax rate is not. For CUs with a filing status of married, filing jointly, the differences in both mean total tax and mean average tax rate are significant. For head of households, neither is statistically significant. When these groups are further partitioned by income level, about half of the differences in total tax and tax rates are significant for each filing status, but the differences for CUs with income less than $50,000 are not as large. The mixed results are likely due to the problems described above, including high nonresponse rates, unreliable reporting, and time-frame ambiguity. The large standard error associated with the differences in total tax and the average tax rate are likely due to small sample size (which is a result of restricting the sample to include only CUs with valid responses to the tax questions) and the large amount of variability in the input data.

Comparison to the CBO tax calculator. The CBO tax calculator, developed for its own internal use, produces tax tables identical to those published by the Statistics of Income Division of the IRS when it uses actual tax data from the IRS. The CBO used its tax calculator to calculate taxes on the CE public use microdata. The comparison between the CBO tax calculator using the CE public use microdata and the BLS tax calculator using the CE microdata for internal use leads to the conclusion that the BLS tax calculator produces accurate estimates of total tax and average tax rates for CE consumer units.

The analyses of the difference in total tax and the difference in the average tax rate calculated by the BLS and CBO tax calculators follow the same methods as the internal comparison described in the previous section. The total tax difference and the average tax rate difference are calculated as follows:

$$\text{Total tax difference} = \text{Total tax from BLS tax calculator} - \text{Total tax from CBO tax calculator} \quad (7)$$

$$\text{Average tax rate difference} = \text{BLS average tax rate} - \text{CBO average tax rate} \quad (8)$$

The average tax rates are determined by dividing total tax by total income in the same manner depicted in equation (5).

The data for these analyses are characterized as follows:

- The data are from the CE Quarterly Interview Survey

Table 3. Mean difference in total federal income tax and average tax rate between Consumer Expenditure Survey and BLS tax calculator, by filing status and total income level

Filing status	Income level							
	All income levels	Less than $20,000	Less than $30,000	Less than $40,000	Less than $50,000	Less than $75,000	Less than $100,000	$100,000 or more
All filers								
Federal income tax	[1]$5,413.47 ($24,284.92)	[1]$–464.30 ($2,228.43)	$124.58 ($2,375.45)	[1]$910.41 ($3,542.36)	[1]$1,458.62 ($3,920.43)	[1]$3,443.00 ($4,976.47)	[1]$5,763.38 ($7,204.46)	[1]$18,993.52 ($51,597.71)
Average tax rate	[1]4.3 (.269)	–3.4 (.666)	2.2 (.101)	[1]2.7 (.100)	[1]3.3 (.089)	[1]5.5 (.078)	[1]6.7 (.083)	[1]10.7 (.097)
N	3,717	533	385	423	407	734	502	733
Single head of household								
Federal income tax	$4,980.43 ($31,811.46)	[1]$245.38 ($1,829.61)	[1]$824.71 ($2,160.70)	[1]$1,590.64 ($2,693.89)	[1]$2,052.78 ($4,260.38)	[1]$4,044.90 ($5,229.87)	[1]$7,342.97 ($7,931.24)	[1]$23,586.34 ($87,882.38)
Average tax rate	5.1 (.111)	0.0 (.154)	[1]3.4 (.087)	[1]4.7 (.079)	[1]4.6 (.097)	[1]6.5 (.084)	[1]8.6 (.093)	[1]11.2 (.103)
N	1,744	339	236	257	212	319	167	214
Married, filing jointly								
Federal income tax	[1]$7,366.91 ($15,844.04)	$–881.40 ($3,140.77)	[1]$–629.76 ($2,268.82)	$–45.17 ($4,955.28)	[1]$845.14 ($3,265.72)	[1]$3,125.01 ($4,589.46)	[1]$4,876.78 ($6,637.20)	[1]$17,108.24 ($23,939.51)
Average tax rate	[1]5.6 (.112)	0.0 (.380)	[1]–2.8 (.090)	0.0 (.130)	[1]1.9 (.073)	[1]4.9 (.070)	[1]5.6 (.076)	[1]10.5 (094)
N	1,540	38	59	105	135	379	325	499
Head of household								
Federal income tax	$210.06 ($7,361.10)	[1]$–1,904.89 ($2,038.87)	[1]$–1,216.81 ($2,273.26)	$–310.62 $(3,104.14)	$739.53 ($3,738.32)	$1,457.10 ($5,849.08)	[1]$8,198.78 ($7,870.00)	[1]$16,888,15 ($25,104.81)
Average tax rate	–3.8 (.723)	0.0 (1.196)	[1]–6.0 (.105)	–1.4 (.098)	1.8 (.086)	2.3 (.095)	[1]9.5 (.087)	[1]9.6 (.106)
N	433	156	90	61	60	36	10	20

[1] Statistically significant at the 5-percent level.

NOTES: Data are from the Consumer Expenditure third quarter 2005 quarterly interview and reflect consumer units that are in the second or fifth interview, contain only one tax unit, and have positive total tax from both the tax calculator and the CE. Numbers in parentheses are standard deviations.

SOURCE: U.S. Bureau of Labor Statistics.

for the third quarter of 2005.

- Both tax calculators use 2005 tax rates.
- Imputed data are included.
- All CUs in the sample are in their second or fifth interview, contain only one TU, and do not have top-coded data for any tax input values.[12]

Because the CBO tax calculator was not originally designed to be used with CE data, it does not account for some tax-related items included in the BLS tax calculator. For this analysis, the following adjustments were made to the BLS tax calculator to mimic the CBO tax calculator:

- Dependents are limited to children or grandchildren of the reference person and are less than 19 years old or are less than 25 and in college.
- No dependents file separately, because the CBO tax calculator does not create multiple tax units.
- The credits calculated are limited to the child tax credit, the additional child tax credit, and the earned income tax credit.[13]

- Tax refunds are not considered taxable income.
- Deductions for contributions to retirement plans do not include payroll deductions.
- The self-employed do not pay an additional tax.

Tables 4 and 5 compare the results of the BLS and CBO tax calculators. The results are varied, but in general there are differences in the mean values of total income, total tax, and the average tax rates. Table 4 shows that the mean total taxes for the BLS and CBO tax calculators are $4,091.16 and $4,064.83, respectively. The mean average tax rate is 5 percent for both tax calculators. In table 5, which shows the mean difference in total federal income tax and average tax rate by filing status and income level, many of the cells are statistically different from zero at the 5-percent level of significance. The mean difference in total tax is $26.33, and the mean difference in the average tax rate is 0.1 percentage points, both of which are statistically significant. The difference for singles in the total tax is $20.89, which is not statistically significant, but the difference in the tax rate is 0.1, which is significant. The differences are significant for married, filing jointly CUs, with differences of $34.18 in the total tax and 0.1 percentage points in the tax rate. The $0.60 total tax mean difference for heads of households is not significant, but the tax rate difference of 0.1 percentage points is significant.

The statistically significant results are most likely due to two major differences in the way the BLS and CBO tax calculators treat certain inputs to the tax calculators. First, the BLS calculator taxes all income sources at the same rate, whereas the CBO calculator treats dividends as capital gains, taxing them at 15 percent. Second, the CBO tax calculator converts quarterly medical expenditures to annual values, whereas the BLS calculator does not.[14] When these differences are controlled for, the number of cells with a statistically significant value drops, especially for the mean total tax difference cells.

Tables 6 and 7 display results where the sample does not include CUs who report positive dividend income or do not have equal medical expenditures in both the BLS and CBO tax calculators.[15] Table 6 reflects results similar to those in table 4, except that the means from the BLS and CBO tax calculators are greater than when no restrictions are applied, and the values calculated by the BLS calculator are closer to those calculated by the CBO. The mean total taxes for all filers are $4,409.85 and $4,400.58 for the BLS and CBO tax calculators, respectively. The mean tax rate is 6 percent for both calculators. Table 6 shows that the matched-sample comparison with CUs restricted to those without dividend income or medical expenditures results in a higher number of cells in which the difference is not statistically significant. In table 7, there are 16 cells in which the mean difference in total tax is significant and 14 for the mean average tax rate (out of a total of 30 cells),

Table 4. Mean total income, total federal income tax, and average tax rate from BLS and CBO tax calculators

Filing status	BLS tax calculator			CBO tax calculator			*N*
	Total income[1]	Federal income total tax[2]	Average tax rate[3]	Total income[1]	Federal income total tax[2]	Average tax rate[3]	
All filers	$42,041.65 (39,969.98)	$4,091.16 (6,419.01)	5.4 (0.056)	$45,289.39 (37,508.81)	$4,064.83 (6,432.70)	5.3 (0.057)	2,524
Single	23,078.67 (25,724.75)	2,685.35 (4,511.40)	5.5 (0.059)	27,005.67 (23,483.35)	2,664.47 (4,462.92)	5.3 (0.059)	991
Married, filing jointly	58,846.22 (43,248.52)	5,591.42 (7,535.16)	5.9 (0.054)	61,963.82 (40,020.32)	5,557.24 (7,581.59)	5.9 (0.055)	1,335
Head of household	23,648.78 (20,164.58)	1,011.84 (2,492.86)	1.9 (0.034)	24,374.26 (19,902.76)	1,011.24 (2,509.05)	1.8 (0.034)	198

[1] Total income refers to income for tax purposes only; it does not include workers' compensation or veterans' benefits, public assistance or welfare income, or the dollar value of food stamps.

[2] Federal income tax is the sum of the federal income tax values, including refunds, as described in equation (1).

[3] Average tax rate is federal income tax divided by total income.

NOTES: Data are from the Consumer Expenditure third quarter 2005 quarterly interview and reflect consumer units that are in the second or fifth interview, contain only one tax unit, and have no top-coded data. Numbers in parentheses are standard deviations.

SOURCE: U.S. Bureau of Labor Statistics, including data from the Congressional Budget Office.

Table 5. Mean difference in total federal income tax and average tax rate between BLS and CBO tax calculators, by filing status and total income level

Filing status	Income level							
	All income levels	Less than $20,000	Less than $30,000	Less than $40,000	Less than $50,000	Less than $75,000	Less than $100,000	$100,000 or more
All filers								
Federal income tax	$26.33 ($542.30)	[1]$3.81 ($25.55)	[1]$27.74 ($137.57)	$–36.46 ($835.44)	[1]$45.47 ($266.70)	[1]$50.52 ($332.80)	[1]$163.33 ($612.51)	$–16.71 ($1,293.22)
Average tax rate	[1]0.1 (.006)	[1]0.1 (.004)	[1]0.5 (.009)	[1]0.1 (.007)	[1]0.1 (.007)	[1]–0.1 (.007)	0.0 (.008)	0.0 (.007)
N	2,524	652	255	248	219	374	252	244
Single head of household								
Federal income tax	$20.89 ($505.57)	$15.98 ($33.03)	[1]$46.85 ($178.44)	$–92.85 ($1,263.55)	$2.01 ($242.60)	$94.47 ($525.00)	[1]$250.33 ($667.34)	$331.80 ($1,415.06)
Average tax rate	[1]0.1 (.007)	[1]0.2 (.005)	[1]0.5 (.011)	0.1 (.009)	0.0 (.006)	–0.1 (.010)	0.1 (.011)	0.2 (.010)
N	991	370	118	108	76	83	40	15
Married, filing jointly								
Federal income tax	[1]$34.18 ($601.68)	[1]$1.35 ($9.52)	[1]$21.55 ($73.71)	$11.47 ($64.81)	[1]$59.93 (265.32)	[1]$45.61 ($243.41)	[1]$146.91 ($601.88)	$–39.54 ($1,284.90)
Average tax rate	[1]0.1 (.006)	0.0 (.001)	[1]0.4 (.006)	[1]0.2 (.004)	[1]0.2 (.007)	[1]–0.1 (.006)	.0 (.008)	.0 (.007)
N	1,335	201	102	118	122	272	212	229
Head of household								
Federal income tax	$0.60 ($171.14)	$0.00 ($0.00)	$–18.63 ($109.88)	$–16.75 ($146.58)	$118.67 ($338.55)	$–71.20 ($350.05)	…	…
Average tax rate	[1]0.1 (.006)	0.0 (.002)	[1]0.5 (.008)	0.1 (.004)	0.3 (.007)	–0.1 (.008)	…	…
N	198	81	35	22	21	19	0	0

[1] Statistically significant at the 5-percent level.

NOTES: Data are from the Consumer Expenditure third quarter 2005 quarterly interview and reflect consumer units that are in the second or fifth interview, contain only one tax unit, and have no top-coded data. Numbers in parentheses are standard deviations.

SOURCE: U.S. Bureau of Labor Statistics, including data from the Congressional Budget Office.

i.e., about half of the cells display a difference that is statistically significant. Table 7 contains only 2 cells with a statistically significant difference for total tax and 12 for the average tax rate. Thus the results from the restricted sample illustrate that the two tax calculators compute total tax and average tax values that are nearly equal. Furthermore, the differences are not large enough to make a substantial difference, even when they are statistically significant.

THE RESULTS FROM THESE ANALYSES provide additional support for implementation of a tax calculator or other method to improve the federal income tax data in the CE. The internal comparison reveals that the BLS tax calculator produces total tax and average tax rates that have large and statistically significant differences when compared with those estimated using CE interviewees' responses. The comparison to the CBO tax calculator illustrates that the BLS tax calculator accurately computes total tax and average tax rates. Because tax calculators and other methods of estimating or imputing tax data can be difficult and time consuming to create, many parties stand to benefit from the implementation of an official CE tax calculator. It will improve the quality of the

Table 6. Mean total income, total federal income tax, and average tax rate from BLS and CBO tax calculators, controlling for dividend income and medical expenditures

Filing status	BLS tax calculator			CBO tax calculator			*N*
	Total income[1]	Federal income total tax[2]	Average tax rate[3]	Federal income total income[1]	Total tax[2]	Average tax rate[3]	
All filers	$44,036.94 (40,984.87)	$4,409.85 (6,611.91)	5.8 (0.057)	$46,308.68 (38,895.15)	$4,400.58 (6,624.41)	5.8 (0.057)	1,882
Single	24,282.60 (25,767.79)	2,904.65 (4,460.35)	6.0 (0.060)	27,307.47 (23,626.94)	2,894.03 (4,445.93)	5.9 (0.060)	759
Married, filing jointly	63,438.25 (44,057.62)	6,202.61 (7,880.48)	6.4 (0.055)	65,385.95 (41,496.43)	6,191.99 (7,907.38)	6.4 (0.056)	957
Head of household	22,509.79 (20,199.61)	956.62 (2,471.35)	1.8 (0.033)	23,206.11 (19,906.62)	961.40 (2,496.08)	1.7 (0.034)	166

[1] Total income refers to income for tax purposes only; it does not include workers' compensation or veterans' benefits, public assistance or welfare income, or the dollar value of food stamps.

[2] Federal income tax is the sum of the federal income tax values, including refunds, as described in equation (1).

[3] Average tax rate is federal income tax divided by total income.

NOTES: Data are from the Consumer Expenditure third quarter 2005 quarterly interview and reflect consumer units that are in the second or fifth interview, contain only one tax unit, have no top-coded data, have no income from dividends, and have no medical expenditure deductions in either tax calculation. Numbers in parentheses are standard deviations.

SOURCE: U.S. Bureau of Labor Statistics, including data from the Congressional Budget Office.

aftertax income data tables published by the CE, and it will widen the CE audience of researchers and other users to include those who are interested in studying aftertax income but do not have time, resources, or sufficient knowledge to create their own tax calculator. Although the tax values produced by the BLS tax calculator are not perfect, this study demonstrates that a tax calculator such as the one discussed here greatly improves the quality of the tax data if tax inputs are properly defined and appropriate assumptions are made. □

Table 7. Mean difference in total federal income tax and average tax rate between BLS and CBO tax calculators, by filing status and total income, controlling for dividend income and medical expenditures

Filing status	Income level							
	All income levels	Less than $20,000	Less than $30,000	Less than $40,000	Less than $50,000	Less than $75,000	Less than $100,000	$100,000 or more
All filers								
Federal income tax	$9.27 ($259.18)	$1.36 ($14.84)	$1.36 ($56.44)	$4.50 ($67.80)	[1]$23.58 ($165.80)	$11.71 ($193.69)	$57.731 ($612.51)	$–16.02 ($630.81)
Average tax rate	0.0 (.005)	[1]0.1 (.004)	[1]0.3 (.007)	[1]0.1 (.003)	0.1 132.13	[1]–0.1 –.002	0.0 (.007)	–0.1 (.006)
N	1,882	253	396	184	191	301	203	197
Single head of household								
Federal income tax	$10.63 ($182.09)	$2.37 ($19.51)	$6.50 ($37.20)	$6.40 ($37.59)	$13.13 ($181.84)	$27.06 ($249.02)	$132.13 ($540.61)	$–88.72 ($951.34)
Average tax rate	[1]0.1 (.005)	[1]0.1 (.005)	[1]0.3 (.007)	0.0 (.003)	0.0 (.005)	–0.2 (.009)	0.0 (.009)	–0.1 (.008)
N	759	228	97	89	67	73	33	10
Married, filing jointly								
Federal income tax	$10.62 ($317.55)	$0.00 ($.01)	$4.68 ($19.86)	$8.15 ($59.12)	$11.12 ($80.76)	$15.43 ($145.94)	$43.28 ($352.57)	$–12.14 ($612.56)
Average tax rate	0.0 (.005)	0.0 (.000)	[1]0.2 (.005)	[1]0.1 (.003)	0.0 (.002)	[1]–0.1 (.004)	0.0 (.006)	–0.1 (.006)
N	957	98	58	83	77	212	170	187
Head of household								
Federal income tax	$–4.78 ($170.31)	$0.00 ($0.00)	$0.00 ($0.00)	$–22.47 ($120.72)	$–20.29 ($157.98)	$151.29 ($338.99)	…	…
Average tax rate	[1]0.1 (.005)	0.0 (.000)	0.0 (.000)	[1]0.5 (.008)	0.1 (.004)	0.4 (.007)	…	…
N	166	19	70	29	19	13	0	0

[1] Statistically significant at the 5-percent level.

NOTES: Data are from the Consumer Expenditure third quarter 2005 quarterly interview and reflect consumer units that are in the second or fifth interview, contain only one tax unit, have no top-coded data, have no income from dividends, and have no medical expenditure deductions in either tax calculation. Numbers in parentheses are standard deviations.

SOURCE: U.S. Bureau of Labor Statistics, including data from the Congressional Budget Office.

Notes

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[1] For additional information on the Consumer Expenditure Survey, visit the CE webpage at **www.bls.gov/cex/**.

[2] The definitions of variables that follow are from the 2005 CE data dictionary.

[3] Annual federal tax deducted from pay is calculated as the member's annual income from salary and wages multiplied by the percentage of the last pay check that went toward federal income tax. In other words, Annual federal tax = Annual salary and wages * (Amount deducted for federal tax from last pay / Amount of last pay check before any deductions).

[4] Annual state and local taxes paid are calculated in the same manner as federal income tax (see endnote 3).

[5] A consumer unit is a group of individuals who share expenses of housing, food, and other goods, and who live in the same residence. Of the sample in third quarter 2005, 54 percent of CUs contained members of the immediate family (i.e., husband and wife with or without children, or one parent with children), 27 percent were single individu-

als living by themselves, and 19 percent were "other," i.e., other relatives or nonrelated people living in the residence.

[6] These scenarios are true for respondents in their second and fifth interviews, when income and tax questions are asked. For respondents in their third and fourth interviews, the income and tax values are carried forward from the second interview. For those respondents, the time frame referenced will be even further in the past.

[7] Although single people with dependents should file as single rather than as head of household if they contribute less than 50 percent toward household costs, the IRS suspects many singles incorrectly file as head of household. Thus the tax calculator assumes all single people with dependents file as head of household. The tax calculator considers married people who do not live with their spouses as unmarried, because the CE does not collect data on family members who do not live at the residence. A recent widow(er) is also considered unmarried because the CE cannot determine whether the person is a qualifying widow(er).

[8] In the third quarter of 2005, two-thirds of the sample respondents who were eligible for the education deduction and credit owed less tax by taking the deduction. No dependents who filed separately had any tuition payments in that period.

[9] Data are available on employer provided health insurance plans in the CE and could be incorporated into a future tax calculator.

[10] Quoted from the 2006 Schedule R, Credit for the Elderly or the Disabled.

[11] From the CE data dictionary.

[12] The CE adds a top code to the public use microdata to remove personally identifiable information in order to protect the privacy of CUs whose responses fall outside the normal range. These CUs are removed from this portion of the analysis because the top-coded inputs will produce inaccurate tax outputs.

[13] The previous three adjustments imply that the tax calculators assume no one is disabled.

[14] The CBO tax calculator multiplies the quarterly medical expenditures the CUs report by 4 to estimate annual medical expenditures. The BLS does not do this because the value of medical expenditures includes some large expenses which are not likely to occur each quarter, such as hospital visits. These large expenses significantly alter itemized deductions, and in some cases lead CUs to itemize when they would not otherwise do so. In some instances, this causes large changes in both total tax rates and average tax rates.

[15] Before restricting the sample in these two ways (dividend income is zero and deductions for medical expenses are equal in both tax calculators), the tables were constructed with first one and then the other restriction. The tables in which dividend income is zero resulted in smaller total tax and average tax rate values since total income was reduced. The tables in which deductions for medical expenses are equal resulted in greater total tax and average tax rates because medical expenses are only equal for CUs that do not take any deduction. For many CUs this means they do not itemize their deductions, and thus their taxes are greater. When both restrictions are applied at once, total tax and the average tax rate are slightly greater than when no restrictions are applied because the effect of deleting CUs with medical deductions outweighs the effect of deleting CUs with dividend income.

Consumer Expenditure Survey Microdata Users' Workshop, July 2011

Geoffrey Paulin

The Consumer Expenditure Survey (CE) is the most detailed source of expenditures, demographics, and income collected by the federal government. CE data are collected by the U.S. Census Bureau in two component surveys: the Quarterly Interview Survey and the Diary Survey, which are described subsequently. (See Appendix A.) Every year, the CE program releases microdata from each of these surveys, which are used by researchers in a variety of areas, including academia, government, market research, and other private industry areas. In July 2006, the CE program office conducted the first in a series of annual workshops, to help users to better understand the structure of CE microdata; provide training in the uses of the surveys; and, through presentations by current users and interactive forums, promote conversation among the users, both to expand awareness within the community of common research interests and to discuss possibilities for collaboration. As part of these efforts, the past three workshops have also featured presentations by economists from the BLS regional offices who work with CE data. (See Appendix B.) The focus of this report is the most recent workshop, which was held in 2011.

Day one. William Hawk opened the first day of the 2011 workshop with an overview of the CE in general, featuring topics such as how the data are collected and published. Bill Passero and Craig Kreisler then presented an introduction to the microdata, including an explanation of its features, such as "topcoding."[1]

The session that followed included a new feature for the workshop: presentations by first-time users of the CE microdata. The first presenter, Karen Ransom of the Southeast BLS Information Office in Atlanta, spoke about research into the effects of the recent "housing bubble" in various major metropolitan areas across the United States.[2] The second presenter, Kara Markley of the Mid-Atlantic BLS Information Office in Philadelphia, described her research into costs of commuting for residents of the Washington, DC, area, with particular emphasis on transit subsidies received by many of these commuters. Both presenters received their first training in use of the microdata within a few months of the workshop: Markley in March 2011 and Ransom in May 2011. The idea behind their presentations was to share their experiences with other novice users, including any tips or advice they had regarding working with the data.

The final speaker of the morning session, Tian Luo, of the Western BLS Information Office, a more experienced user of CE microdata,[3] presented research on expenditures for higher education by the race of the reference person of the consumer unit.[4] Like the others in this session, Luo is part of the Economic Analysis and Information (EA&I) staff at a BLS regional office. Since the 2009 workshop, at least one speaker from an EA&I staff has been included in the program. The inclusion of such a speaker is important to researchers, because EA&I staff can provide information on data relevant to their local areas not only from the CE program, but from other programs sponsored by BLS (e.g., data on unemployment rates in Chicago). As resources and circumstances permit, future workshops will be planned to include both additional sessions aimed at highlighting experiences of first-time CE microdata users and continued presentations by EA&I staff of BLS regional offices.

Jonathan Fisher, of the Census Bureau, started the afternoon session with a presentation on how households adjust to changes in gasoline prices. The presentation was interesting for many reasons, including the fact that it used microdata from both the Diary and Interview Surveys. Jeff Lundy, Ph.D. candidate in sociology at the University of California at San Diego, then spoke about annual changes in wealth as measured by the Interview Survey.

The afternoon concluded with the first of two practical "hands-on" training sessions, with Laura Paszkiewicz and Craig Kreisler, expert users from the CE program staff, demonstrating how to use the files and variables to obtain estimates. During the session, participants practiced together on laptop computers.[5]

Day two. The second day opened with advanced topics, with Catherine Hackett of the BLS Division of Price Statistical Methods presenting technical details about sampling methods and construction of sample weights; Troy Olson of the CE program speaking on imputation and the allocation of microdata questions; and Bill Passero talking about common "calendar" versus "collection" period expendi-

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tures.[6] Following these presentations, Laura Paszkiewicz and Craig Kreisler held a practical training session and described specific steps required to compute calendar-year estimates, both unweighted and weighted.

After a break for lunch, the afternoon opened with an informational presentation followed by two research presentations. First, Jeff Lundy described his experiences in the BLS onsite researcher program, in which approved researchers can obtain access to confidential data provided by the Bureau.[7] Next, Adam Bee, Ph.D, Notre Dame University and soon-to-be Census Bureau employee, described his research into the relationship between car ownership and employment. Finally, Megumi Omori, of Bloomsburg University, described her research into gift expenditures during the holiday season, a study that used data from the Diary Survey. These presentations were followed by Bill Passero's practical training session, which covered procedures for merging datasets and then manipulating the results to compute statistical measures.

The day concluded with special concurrent sessions. First, Terry Schau, managing editor, and Brian Baker, technical writer–editor, from the *Monthly Labor Review* described the publication process, from submission to printing, for authors interested in having their works appear in that journal. Concurrently, a panel from the Committee on National Statistics, established to make recommendations for a redesign of the CE data collection instrument, spoke on how the members consulted with expert users in order to understand how researchers use CE data and to solicit their ideas on how the data might be improved. Next, Steve Henderson delivered a brief "sneak peek" at changes to the microdata files that were scheduled to occur with the release of the 2010 microdata in September 2011. Finally, participants in an information-sharing group discussed each other's work with the data, their experiences at the workshop, and other topics in an unstructured setting.

Day three. The final day featured advanced topics, starting with Bill Passero's presentation of the use of data from survey respondents who completed all four published interviews. The issue was whether to combine the data collected or, instead, treat observations from each quarter independently. Coincidentally, Jonathan Fisher had developed his own weighting scheme for handling four-interview participants, and he described the methodology in the same session, marking the first time in the history of these workshops that circumstances combined to allow the sharing of a presentation between a BLS and a non-BLS researcher. In subsequent presentations, Neil Tseng explained how sales taxes are applied to expenditure reports during the data production process and Geoffrey Paulin described the proper use of imputed income data and the proper use of sample weights in computing population estimates. The latter session noted that the proper use of weights requires a special technique to account for sample design effects that, if not employed, result in estimates of variances and regression parameters that are incorrect.[8] The session concluded with a presentation by Laura Paszkiewicz describing "paradata" regarding the interview process itself, such as the interviewee's contact history and the type of interview obtained—via personal visit or by telephone. The workshop was the second one to include this feature, as paradata were not added to the public-use microdata files until the release of the 2009 microdata a few months after the 2010 workshop. The morning concluded with the final practical training session of the workshop, featuring a discussion of a program included with the microdata for use in computing proper standard errors for means and regression results when using unweighted nonincome data; population-weighted nonincome data; and multiply imputed income data, both unweighted and population weighted.

The afternoon session included two research presentations. First, Brian Melzer, of Northwestern University, investigated the effects of mortgage debt overhang on housing investment and demonstrated that, although homeowners with negative equity cut back substantially on mortgage principal payments, home improvements, and home maintenance spending, these households showed no difference in durable spending on automobiles, furniture, and home appliances—investments that are not attached to the home. In the second presentation, Sayeh Nickpay, of the University of Michigan, described work investigating the seasonality of medical expenditures and flexible spending accounts. Next, Anthony Damico, of the Kaiser Family Foundations, demonstrated a programming code used in the computation of health care expenditures by Medicare households. The 2011 workshop concluded with CE program staff soliciting feedback from the participants.

2012 workshop

The next microdata users' workshop will be held July 18–20, 2012, and will be free of charge to all participants, although advance registration is required. For more information about this and previous workshops, visit the CE website (**www.bls.gov/cex**) and

look for "Annual Workshop" under the left navigation bar entitled "PUBLIC USE MICRODATA."[9]

Abstracts of presentations

Following are abstracts of the papers described at the conference, listed in the order in which they were presented and based on summaries written by their authors:

Jonathan Fisher, U.S. Census Bureau, "Household Adjustments to Gasoline Price Changes" (Interview and Diary Surveys), day one.

This paper uses aggregate U.S. data, along with household data from the Consumer Expenditure Survey, to explore the adjustments households make to changes in gasoline prices. The paper begins by using aggregate data to show long-run trends in gasoline prices and various measures of gasoline demand. Although gasoline prices have been volatile, the share of total expenditures spent on gasoline has been relatively insensitive to prices, but the level of gasoline expenditures has moved in tandem with gasoline prices.

To investigate how households respond to changes in gasoline prices, the paper then moves to an analysis of household data from the Consumer Expenditure Diary and Interview Surveys. The analysis confirms the well-known finding that the demand for gasoline is inelastic and relatively stable over time and, using the Almost Ideal Demand System of Angus Deaton and John Muellbauer,[10] documents how households alter their nongasoline consumption due to changes in gasoline prices. The paper's chief finding is that households decrease expenditures primarily on motor vehicles and services.

Jeff Lundy, Ph.D. candidate, University of California at San Diego, "Measuring Annual Change in Household Wealth with the CE Survey" (Interview Survey), day one.

The Consumer Expenditure Survey tracks the value of assets and liabilities of a large rotating sample of U.S. households. Unfortunately, researchers studying household wealth have largely neglected this potential resource, relying instead on aggregate statistics. Although aggregate wealth statistics are suggestive of individual household decisions, the Consumer Expenditure Survey has the potential to offer a more direct picture of how U.S. households manage their finances.

To validate the survey's potential for measuring changes in household wealth, this paper compares the Consumer Expenditure Survey with the well-established Flow of Funds Accounts. Results indicate that the Consumer Expenditure Survey measures change in wealth well at the household level.

In addition, the paper examines the extent of gains and losses in wealth for the 2004–2009 period. Among the findings of the research are that the number of households with annual wealth losses is considerably higher than the number of households with lifetime wealth losses and that wealth gains vary substantially across households in various asset ownership groups. These demonstrative findings reveal the potential of the Consumer Expenditure Survey in examining how households' financial and demographic characteristics affect their annual change in net wealth.

Adam Bee, Ph.D., University of Notre Dame, "The Effect of Car Ownership on Employment: Evidence from State Insurance Rate Regulation" (Interview Survey), day two.

Various economic theories suggest that one reason for low rates of employment among low-skilled, inner-city residents is that they are spatially separated from jobs that have moved out to the suburbs. To test that hypothesis, this paper exploits the variation in state regulation of prior approval of insurance rates. More regulation has been shown to suppress auto insurance prices, thereby decreasing the cost of owning a car. The analysis finds that rate regulation increases the proportion of multicar households, among married couples with children. In those households, the additional car encourages mothers to decrease their labor supply while their husbands increase theirs. One possible explanation of this finding is that second cars are stronger complements to time spent in home production (especially child rearing) than they are to time spent in the labor market.

Megumi Omori, assistant professor of sociology, Department of Sociology, Social Work, and Criminal Justice, Bloomsburg University, "What to Buy, When to Buy, and How Much to Spend: Gift Purchasing Between Black Friday and Christmas Eve in 2009" (Diary Survey), day two.

Gift giving has been identified as serving important functions in our society. For example, it shows one's identity, taste, and status. Gift giving is also a sign of love, and it maintains relationships among family members. Furthermore, it creates boundaries between and within social groups. Gift-giving rituals are common during the holiday season, and it seems that almost everyone is involved in gift shopping. Although several studies have examined gift-giving behavior, such as what to give, who does the shopping, and how much to spend, most of them employed rather small, regionally limited samples.

To my knowledge, there is only one study that used nationally representative data to examine expenditures on gifts: using the 1984–1985 Consumer Expenditure Interview Survey, Thesia Garner and Janet Wagner found that 90 percent of their sample reported some gift expenditures.[11] Among those who spent money on gifts, sample households allocated 3.7 percent of their total expenditures on gifts for other than household members. The authors also found that family size, total expenditures, and education of the reference person correlate positively with gift expenditures.

This paper proposes to update Garner and Wagner's study by using the most recent 2009 Consumer Expenditure Survey (CE). Differing from their study, it utilizes the CE Diary Survey Expenditure Files and has five objectives:

1. To estimate the proportion of U.S. households that purchase gifts for other than their own household members (hereafter, simply, gifts) and compare that proportion with figures used in other studies (Variable: GIFT).
2. To estimate expenditures on gifts and the proportion of gift expenditures to total expenditures (Variable: COST).
3. To identify the day and date of gift purchasing between Black Friday and Christmas (Variable: QREDATE).
4. To identify items purchased as gifts during the same period (Variable: UCC)
5. To compare the cost of items purchased as a gift and for household members (Variable: COST) and for other than household members, by household characteristics (FMLD files).

Brian Melzer, assistant professor, Department of Finance, Northwestern University, "Effects of Mortgage Debt Overhang on Housing Investment" (Interview Survey), day three.

Homeowners with negative equity have less incentive to invest in their property. They face a debt overhang: some value created by equity investments in the property is expected to go to the lender. Using rich microdata on household expenditures, this paper shows that debt overhang plays an important role in household financial decisions. Specifically, it finds that homeowners with negative equity cut back substantially on mortgage principal payments, home improvements, and home maintenance spending. At the same time, these households show no difference in durable spending on automobiles, furniture, and home appliances—investments that are not attached to the home. The decline in mortgage principal payments is particularly large for negative-equity homeowners in nonrecourse states, where strategic default is more likely because lenders have a claim, albeit limited, on nonhousing wealth. Debt overhang, rather than financial constraints, best explains this set of facts. Given the prevalence of negative home equity in today's housing market, the findings suggest that home values will grow more slowly in the future because of underinvestment. In addition, the potential deadweight loss due to home foreclosures is only part of the economic inefficiency that follows the spree of mortgage borrowing in the 2000s and the subsequent real estate price decline.

Sayeh Nikpay, Ph.D. candidate, University of Michigan, "Seasonality of Medical Expenditures and Flexible Spending Accounts" (Interview Survey), day three.

This paper uses microdata from the 1999–2009 Consumer Expenditure Surveys to examine the seasonality of purchases of medical goods that are eligible for reimbursement from a flexible spending account (FSA). Because FSA contributions are made annually and cannot be carried over from year to year, households that overcontribute to an FSA should spend disproportionately on FSA-eligible goods at the end of the year in order to avoid forfeiting their contribution. In the paper, the author constructs a monthly panel dataset of consumer units' expenditures on FSA-eligible items, such as eyeglasses, durable medical equipment, and clinician fees, and non-FSA-eligible items, such as men's and women's apparel. Then, with the use of the Health Tracking Household Survey to impute the likelihood of having an FSA on the basis of consumer unit characteristics, the paper compares monthly expenditures for FSA and non-FSA eligible goods over the year.

Anthony Damico, The Kaiser Family Foundation, "Health Care Spending by Medicare Recipients: How to Analyze CE Data by Expenditure Category for Any Population Group of Interest" (Interview Survey), day three.

This presentation is designed to teach users how to define any population of interest from among the CE Interview files and then, in three steps, rapidly produce line, bar, or pie charts about any expenditure category of interest. First, the presentation walks through how to narrow expenditure categories to only the ones of interest. The presentation gives an example using health care, to which anyone can make a few nominal changes to analyze his or her category of interest. Second, by making some minor edits to the SAS program included with the dataset (see SAS

program folder, "Intrvw Mean and SE.sas"), one can limit the output to only the expenditures of interest, with the output broken out by any demographic group that one can identify by means of the family files. Third, in order to increase the number of ways to identify demographic groups, the presentation reviews how to merge the family files with some of the other interview files. After completing these three steps, the researcher will have an output file containing the expenditure categories that he or she is most interested in, broken down and filtered according to precise analytic needs. Here, the example used is again household health care expenditure categories, but now among Medicare beneficiaries, broken down by all sorts of different demographic groupings. To add one more analytic "trick," the presentation briefly reviews a technique that can be used to quickly create an "all other" expenditure category, a category containing multiple categories. □

BLS speakers

Staff of the CE program

William Hawk, Economist, Branch of Information and Analysis (BIA); day one
Craig Kreisler, Economist, BIA; days one and two
Steve Henderson, Supervisory Economist, Chief, BIA; days one (welcoming remarks) and two
Troy Olson, Supervisory Economist, Chief, Phase 3 Section, Branch of Production and Control (P&C); day two
Bill Passero, Senior Economist, BIA; all days
Laura Paszkiewicz, Senior Economist, BIA; all days
Geoffrey Paulin, Senior Economist, BIA; day three
Neil Tseng, Senior Economist, P&C; day three

Other BLS speakers

Brian Baker, Technical Writer–Editor, Office of Publications and Special Studies (OPUBSS), *Monthly Labor Review* Branch; day two
Catherine Hackett, Mathematical Statistician, Division of Price Statistical Methods; day two
Tian Luo, Economist, Office of Field Operations, Western Information Office in San Francisco, Division of Economic Analysis and Information; day one
Kara Markley, Supervisory Economist, Office of Field Operations, Mid-Atlantic BLS Information Office in Philadelphia, Division of Economic Analysis and Information; day one
Karen Ransom, Supervisory Economist, Office of Field Operations, Southeast BLS Information Office in Atlanta, Division of Economic Analysis and Information; day one
Terry Schau, Managing Editor, OPUBSS, *Monthly Labor Review* Branch; day two

Speakers from outside BLS:

Adam Bee, Ph.D., University of Notre Dame, "The Effect of Car Ownership on Employment: Evidence from State Insurance Rate Regulation" (Interview Survey), day two
Anthony Damico, The Kaiser Family Foundation, "Health Care Spending by Medicare Recipients: How to Analyze CE Data by Expenditure Category for Any Population Group of Interest" (Interview Survey), day three
Jonathan Fisher, U.S. Census Bureau, "Household Adjustments to Gasoline Price Changes" (Interview and Diary Surveys), day one; presentation on computation and use of longitudinal weights (Interview Survey), day three
Jeff Lundy, Ph.D. candidate, University of California, San Diego, "Measuring Annual Change in Household Wealth with the CE Survey" (Interview Survey), day one
Brian Melzer, assistant professor, Department of Finance, Northwestern University, "Effects of Mortgage Debt Overhang on Housing Investment" (Interview Survey), day three. Working paper available online at **http://www.kellogg.northwestern.edu/faculty/directory/melzer_brian.aspx#research**.
Sayeh Nikpay, Ph.D. candidate, University of Michigan, "Seasonality of Medical Expenditures and Flexible Spending Accounts" (Interview Survey), day three
Megumi Omori, assistant professor of sociology, Department of Sociology, Social Work, and Criminal Justice, Bloomsburg University, "What to buy, When to Buy, and How Much to Spend: Gift Purchasing Between Black Friday and Christmas Eve in 2009" (Diary Survey), day two

NOTES

[1] To preserve the confidentiality of the data, values for some variables, such as income sources and certain expenditures (rent, among others) are topcoded. In this process, values that exceed a predetermined critical value are replaced with a new value. In each case, changed values are flagged for user identification. Details about topcoding are provided in the public-use microdata documentation for the year of interest. (See, for example, *2010 Consumer Expenditure Interview Survey*, Public Use Microdata, User's Documentation, September 27, 2011, **http://www.bls.gov/cex/2010/csxintvw.pdf**.)

[2] Coresearchers of the work are Jacqueline Midkiff, of the Mountain–Plains BLS Information Office in Kansas City, and Cheryl Abbot, of the Southwest BLS Information Office in Dallas, both of whom attended the workshop.

[3] Luo used CE data in his research into educational expenditures for a project conducted while he was an undergraduate at the University of California at Berkeley.

[4] See appendix A for the definition of *reference person* and *consumer unit*.

[5] Topics covered included a brief overview of the microdata files and structure, summary variables (i.e., aggregated values for various expenditure categories), and estimating unweighted and weighted mean expenditures by using FMLY, MEMB, and MTAB files from the Interview Survey and FMLY and EXPN files from the Diary Survey. For each survey, the FMLY file contains information about the consumer unit as a whole, such as its region of residence, and summary variables for expenditure categories, such as total expenditures, housing,

and apparel in the Interview Survey and fresh fruits, fresh vegetables, nonalcoholic beverages, and nonprescription drugs and supplies in the Diary Survey. The MEMB files in the Interview Survey contain information about each member of the consumer unit, such as the member's age, ethnicity, and educational attainment. However, the files contain no information on expenditures, because such information pertains to the consumer unit as a whole and therefore is not available on specific members, except in single-member consumer units. The MTAB files in the Interview Survey include information on expenditures at highly detailed levels (e.g., food or board at school, rent of dwelling, bedroom linens, girls' hosiery, and boys' footwear). The EXPN files in the Diary Survey are similar to the MTAB files in the Interview Survey, in that they also include information on expenditures at detailed levels (e.g., apples, bananas, oranges, other fresh fruits, and citrus fruits excluding oranges, which together aggregate to form the summary variable "FRSHFRUT" in the Diary Survey FMLY file). There are also EXPN files in the Interview Survey, which contain even more detailed breakdowns for certain expenditures, and other detailed information on some items, such as the number of members in the consumer unit who are covered by a particular health insurance policy. Some of the differences among all these files were discussed during the overview of the file structure delivered on the first day of training.

[6] In the Interview Survey, the 3-month recall period may include expenditures made in the previous year. For example, persons interviewed in February will report expenditures occurring in November and December of the previous year, as well as expenditures occurring in January of the current year. Those interested in computing expenditures for the collection period can sum expenditures for these 3 months to obtain their results. However, those interested in computing expenditures that occurred within the same calendar year must take extra steps to include the November and December expenditures only with the previous year's expenditures and the January expenditures only with the current year's expenditures.

[7] See "Researcher Access to Confidential Data Files at the BLS" (U.S. Bureau of Labor Statistics, Aug. 22, 2011), **http://www.bls.gov/bls/blsresda.htm**.

[8] The CE sample design is pseudorandom. However, the proper use of weights requires the use of the method of balanced repeated replication.

[9] For direct access to this information, see "Consumer Expenditure Survey (CE) Microdata Users' Workshop and Survey Methods Symposium, July 17–20, 2012" (U.S. Bureau of Labor Statistics, Mar. 9, 2012), **http://www.bls.gov/cex/csxannualworkshop.htm**.

[10] Angus Deaton and John Muellbauer, "An Almost Ideal Demand System," *American Economic Review.* June 1980, pp. 312–326.

[11] Thesia Garner and Janet Wagner, "Economic Dimensions of Household Gift Giving," *Journal of Consumer Research*, December 1991, pp. 368–379.

APPENDIX A: About the CE data

Consumer unit. The basic unit of analysis in the CE is the consumer unit. In general, a consumer unit consists of any of the following: (1) all members of a particular household who are related by blood, marriage, adoption, or some other legal arrangement; (2) a person living alone or sharing a household with others or living as a roomer in a private home or lodging house or in permanent living quarters in a hotel or motel, but who is financially independent; (3) two or more persons living together who use their incomes to make joint expenditure decisions. Financial independence is determined by spending behavior with regard to the three major expense categories: housing, food, and other living expenses. To be considered financially independent, the respondent must provide at least two of the three major expenditure categories, either entirely or in part.

Collection and methodology. Since 1980, the Quarterly Interview and Diary Surveys have been collected on an ongoing basis. The Quarterly Interview Survey is designed to collect expenditures for big-ticket items (e.g., major appliances; cars and trucks) and recurring items (e.g., payments for rent, mortgage, or insurance). Some expenditures, such as food at home, are collected globally.[1] In addition to information on expenditures, demographics, and income, information about assets and liabilities is collected. In this Interview Survey, participants are visited once every 3 months for five consecutive quarters. Data from the first interview are collected only for bounding purposes and are not published.[2] Since April 2006, about 7,000 consumer units have participated in the Interview Survey each quarter.

In the Diary Survey, participants record expenditures daily for 2 consecutive weeks. The survey is designed to collect expenditures for small-ticket and frequently purchased items, such as detailed types of food (white bread, ground beef, butter, lettuce). Since April 2006, about 7,000 consumer units participate annually. Because they complete a separate diary each week, approximately 14,000 diaries are collected each year.

Reference person. The reference person for the consumer unit is the first person mentioned when the respondent is asked to name the person or persons who own or rent the home.

Notes to Appendix A

[1] That is, the respondent is asked to provide an estimate of total expenditure for these items, rather than collecting detailed information on items composing the category.

[2] A bounding interview collects information aimed at alerting the interviewer to probe in cases where the purchase of a big-ticket or infrequently purchased item reported in one interview is reported, perhaps inadvertently, in the next interview. For example, if the respondent reports purchasing a refrigerator in the first interview and also reports such a purchase in the second interview, the interviewer can ask followup questions to ascertain whether the refrigerator reported in the second interview was the refrigerator reported in the first interview. The same process is followed in the second through fifth interviews when similar cases occur. That is, the second interview provides bounding information for the third interview, and so forth.

APPENDIX B: History of the workshops, 2006–2010

In July 2006, the CE program conducted the first in a series of annual workshops. Held each year in the conference facilities of the Bureau of Labor Statistics (BLS) headquarters in Washington, DC, the workshop has included speakers demonstrating features of the data, as well as reports from researchers who have used these data in their work. Over time, the format has changed to incorporate suggestions from participants, but the basic elements have remained intact.

The first three workshops, held in 2006–2008, took place over 2 days and included concurrent training sessions for novice users and intermediate or expert users. In July 2009, the program was expanded from 2 days to 3 days. The first day was designed especially for new users, including those who had never used the data. The second day was designed to feature research from users outside the BLS. The third day was designed especially for more experienced users. The program was arranged in this way to accommodate as many participants as possible. That is, any attendee could participate in 1, 2, or all 3 days of the workshop and benefit from sessions geared toward his or her level of expertise.

Starting with the next workshop, in July 2010, the format was changed slightly. On the basis of comments from the 2009 workshop, research presentations were spread out over the 3 days. Nevertheless, the training and data-descriptive sessions continued to be organized progressively, so that attendees could still plan to attend a combination of days appropriate to their levels of expertise in using the data. In addition, researchers did an excellent job presenting not just results of their work, but processes used, problems or data limitations encountered, how they were handled, and other practical considerations.

Finally, a new feature called "Meet with an Expert" was initiated in the 2010 workshop. In this feature, participants had the opportunity to make one-on-one appointments with an expert data user from the staff of the Consumer Expenditure Survey program for an in-depth discussion about their specific or general questions regarding the use of the data. Several participants did so then and in the 2011 workshop.

Do little engines really do big things?

In "Are Small Businesses the Biggest Producers of Jobs?" (*The Regional Economist*, Federal Reserve Bank of Saint Louis, April 2011, **http://www.stlouisfed.org/publications/re/articles/?id=2087**), Kevin L. Kliesen and Julia S. Maués examine the data behind a claim that is routinely asserted by politicians of every persuasion, namely, that "small businesses" (however they may be defined) are the job creation engines of the U.S. economy, responsible for generating a disproportionately large share of new jobs relative to larger firms.

The article traces the claim to its root. In 1979, David Birch, who was then a professor at the Massachusetts Institute of Technology, wrote that firms with 20 or fewer employees accounted for two-thirds of new jobs created during the early 1970s, and firms with 100 or fewer employees accounted for 82 percent of new jobs. Correspondingly, large firms (those with 500 or more employees) accounted for only a small share (15 percent) of new jobs. Birch's findings were subsequently refined by him and revised by others, but the idea that small businesses account for most of the country's job growth was soon ingrained as fact in the nation's political discourse.

It is well known that the failure rate of small businesses is notably high. It takes time for businesses that do not survive to be born and live, then to fail and die. During that time, the business increases the number of jobs, but only in the short run. Later, as it fails, the business decreases the number of jobs. Think of the large number of small businesses that come into existence each year, some of them destined to fail and be forgotten, others able to turn a profit and continue in operation—with a few in the latter group eventually outgrowing the "small business" category—and it's easy to see why, as a whole, small businesses account for such a large portion of new jobs.

However, looking at job creation statistics tells only half the story. True, small businesses, as they come into being and begin to grow, account for an attention-getting share of job creation. It is also true that as some of them struggle and fail, they also account for a large share of job destruction. The authors note that "a common confusion between net and gross job creation" occurs when the focus is placed only on the number of jobs created by small businesses and no attention is paid to the number of jobs destroyed as some small businesses become smaller or cease operations entirely. The notable hundreds of thousands of new jobs are transformed into dozens of thousands when job losses are subtracted from gross job gains to yield net job gains. When the focus of research is shifted to net job gains, it can be seen that large firms create the most jobs. One illustration of this in the article is a table of data from the BLS Business Employment Dynamics program (**www.bls.gov/bed/**) showing that firms with 500 or more employees had the largest number of net job gains over the 1992–2010 period.

Why Greek sovereign debt matters to us

Because the financial crisis in Greece could lead to political and civil unrest within the country and has caused concerns about the stability of the euro and its impact on the world economy, Greek financial troubles are of international importance.

In "Demystifying Sovereign Debt in Greece: Why It Matters to Us" (*EconSouth,* Federal Reserve Bank of Atlanta, second quarter 2010, **http://www.frbatlanta.org/documents/pubs/econsouth/10q2_greece.pdf**), economic analyst Andrew Flowers explains the Greek money crisis, its potential repercussions on both the euro nations and the global economy, and what lessons it holds for other countries dealing with large budget deficits.

Flowers notes that while Greece has led the pack among euro countries in terms of running large budget deficits and carrying a high debt-to-GDP (gross domestic product) ratio, Greece is not alone in its fiscal problems. Several other European countries, including Italy, Ireland, Spain, and Portugal, are also dealing with large deficits.

The severity of Greece's fiscal crisis was revealed in October 2009 by the newly appointed Greek finance minister. Investors began to lose confidence in the country's sovereign debt, resulting in widening bond and credit default swap spreads. By December of the same year, the government proposed the first of several austerity measures to help lower the budget deficit; these measures were met with investor skepticism and objections from protestors. "The political and financial drama in Greece has since oscillated between greater protests and renewed, bolder austerity plans," explains Flowers.

Flowers notes that some analysts worry that the Greek crisis could

also affect other European countries, especially if a large European financial institution were to fail. In addition, the effects of the crisis could spread outside of Europe. Flowers points to troubling signs of strain in the interbank lending market, which could feed through to businesses and consumers around the world.

Concerns over potential spillover effects to other fiscally troubled countries in the euro area prompted a pan-European response to the crisis. In May 2010, the European Commission unveiled a rescue package totaling $957 billion for troubled European governments. However, euro-area countries must still enact tough budget and labor reforms to successfully stabilize their economies, says Flowers.

There are several lessons to be learned by governments all over the world battling large financial deficits. Yet, as Flowers concludes, "time will tell how Greece and its European partners will regain stability and the confidence of investors. For other countries, the Greek fiscal crisis has been a sobering reminder of how precarious government finances are in this postrecession world." □

The real story of the Middle West

Remaking the Heartland: Middle America since the 1950s. By Robert Wuthnow, Princeton, NJ, Princeton University Press, 2011, 358 pp., $35/hardback

Sociologist Robert Wuthnow used to subscribe to the view of the American Middle West (referred to as Middle America in the book's title) as a region in long-term decline, and he decided to write a book explaining the decline as evidenced by ghost towns, reports of joblessness, and other signs of decreasing vitality. But after doing a great deal of research, he realized that the true story of the Middle West, or heartland, from the 1950s to the present was considerably different from the conventional story that he had accepted. With an overall approach that "treads the line between history and social science," Wuthnow argues that, rather than declining, the Middle West has been remade in a way consistent both with its traditional values and with modern changes in society and technology. Pain tends to accompany any large transformation, and the transformation of the heartland is no exception to that tendency: the region certainly has experienced its share of economic pain. And it is sometimes stereotyped as culturally backward. But Wuthnow asserts that, on the whole, the region is both economically and culturally vibrant.

In *Remaking the Heartland*, the Middle West is defined as the traditional U.S. Census Bureau West North Central Division states of Iowa, Kansas, Nebraska, Minnesota, Missouri, North Dakota, and South Dakota, together with Arkansas and Oklahoma. To research this region, Wuthnow chose to use multiple methods. He analyzed statistical data from sources such as the Census Bureau and the Bureau of Labor Statistics; studied media reports, books, and other documents; and, with the help of research assistants, conducted in-depth interviews with people who live in or grew up in the heartland. Wuthnow's use of mixed methods is easily justified: it is hard to imagine one method being sufficient to tell the full story of the transformation of an entire region of the country.

The Middle West used to be a region known for small towns, a strong dependence on agriculture, and little ethnic diversity. Small towns are still a very important part of the Middle West, but there are now a greater number of large cities and suburbs, a more advanced agriculture industry, many new industries, more overall economic prosperity, and increased ethnic diversity. What brought about the transformation of the Middle West? Wuthnow contends that the change was not imposed from the outside but instead came from within the heartland—certainly a believable contention given that history has shown that positive changes are far less likely to last when they are imposed from outside. Still, part of the story of the Middle West's transformation is its increasing economic links with other parts of the United States and other countries as well. But in Wuthnow's opinion, the primary source of the heartland's metamorphosis is the strength of the social institutions that were in place even before the 1950s. These institutions include "the market towns, the farmsteads, the one-room schools, the townships, the rural cooperatives, and the manufacturing centers that gave the region its identity."

Another source of strength in the Middle West is the ability of its people to adapt when faced with adverse circumstances. To understand the Middle West of the 1950s, it is of course necessary to look back further in time, and one of the best examples of adverse circumstances with long-lasting effects is the Great Depression and the Dust Bowl. Throughout the 1940s and even into the 1950s, times continued to be tough. There is a romantic view of the 1950s heartland as "prospering from good crops, with happy housewives preparing luscious meals on modern kitchen appliances," but Wuthnow notes that most families did not live in that way at the time. Many homes still did not have electricity or telephone service, for example. Crop yields tended to fluctuate dramatically. Both in the past and today, one of the ways that people have adapted to adverse circumstances is by moving. Another misconception that Wuthnow points out is the idea of the Middle West as a place where most families have put down roots in a particular town or county and remained for generations. In fact, the heartland has always been a place where people tend to be quite mobile. Today, there are large flows of people moving both into and out of the Middle West; for example, in 2006, about 40 percent of the residents of Kansas were originally from another state. One of the main reasons that the Middle West has been seen as a region in decline is the fact that numerous small towns have been shrinking in population.

Despite these declines in population, Wuthnow points out that many people who leave small communities in the Middle West simply move to larger towns that also are in the Middle West.

Remaking the Heartland tells a number of interesting stories about Middle Western literature, films, television shows, and other entertainment. For example, Wuthnow discusses *Little House on the Prairie, The Wizard of Oz,* and Buffalo Bill's *Wild West* shows. Wuthnow notes that the location of the Wild West in people's imaginations started shifting westward in the 1800s. During the lifetime of Buffalo Bill (1846–1917), the Wild West came to be associated far more with the Southwest of the United States than with the Middle West.

One of the chapters of the book is dedicated to a discussion of education in the Middle West. Ever since the 1800s, most of the heartland states have had particularly strong schools. Most of the early migrants to the Middle West were from states with high levels of education, such as New York, Pennsylvania, and Ohio. Moreover, those who migrated were more educated, on average, than those who remained behind. Today, Middle Western communities still tend to place a high priority on public education. However, they struggle with brain drain, especially among people who graduate from college in the Middle West and then move elsewhere. In addition, given a history of oppression by Whites, it is not surprising that Blacks in the heartland have historically been much less educated than Whites.

The Middle West obviously is well known for agriculture, but another key part of its economy—one that has grown immensely over the past few decades—is agribusiness. Companies like Tyson, ConAgra, and Iowa Beef Processors provide many thousands of jobs. Many of these jobs go to immigrants, which has increased ethnic diversity. However, given that meat processing is an industry with notoriously dangerous working conditions, the impact of agribusiness has not been completely positive. The rapid growth of "edge cities" is another topic that the book discusses at length. Many people from these large suburban cities commute to the central city to work, but a large number of government agencies and private companies have chosen edge cities for their offices. It was not obvious that edge cities would develop as much as they have, because it was hard to imagine enough jobs in the central cities to support populous suburbs. But companies such Garmin in Kansas and General Mills and Medtronic in Minnesota have provided jobs.

The book ends with an afterword. Wuthnow himself is from the Middle West, and here, for the first time, he discusses several of his own connections to the region. Wuthnow performs admirably in his mission to write from an objective standpoint throughout the main chapters. After more than 200 pages of objectivity, it is actually a bit of a treat to read something more personal.

Although Wuthnow does not state it explicitly, an underlying part of his central argument is that, taken altogether, the people of the Middle West are not much different from people elsewhere. They adapt to adverse circumstances, they change with the times, and their social institutions help to push them forward. This implicit point, though not surprising, is an important one given the many negative stereotypes of the heartland that tend to persist. In addition, the book does a good job of mixing statistical analysis with interesting stories of individuals, towns, and institutions.

Despite the many strengths of *Remaking the Heartland*, the book could have been improved by telling the story of another region (in the United States or elsewhere) to serve as a point of comparison with the story of the Middle West. It is a bit difficult to fully accept the argument of social institutions and adaptability remaking the heartland without an analysis of the history of at least one other region and how the same variables in that other region affected its outcome. Even just one chapter discussing one other region could corroborate the thesis of the book (or perhaps weaken it!). Notwithstanding this weakness, it is clear that a great deal of time and care went into the research for the book. Although I take its conclusions with a small grain of salt, I do believe *Remaking the Heartland* to be a trove of interesting and important information about a region of the United States that too often is ignored. □

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Notes on Current Labor Statistics

This section of the *Review* presents the principal statistical series collected and calculated by the Bureau of Labor Statistics: series on labor force; employment; unemployment; labor compensation; consumer, producer, and international prices; productivity; international comparisons; and injury and illness statistics. In the notes that follow, the data in each group of tables are briefly described; key definitions are given; notes on the data are set forth; and sources of additional information are cited.

General notes

The following notes apply to several tables in this section:

Seasonal adjustment. Certain monthly and quarterly data are adjusted to eliminate the effect on the data of such factors as climatic conditions, industry production schedules, opening and closing of schools, holiday buying periods, and vacation practices, which might prevent short-term evaluation of the statistical series. Tables containing data that have been adjusted are identified as "seasonally adjusted." (All other data are not seasonally adjusted.) Seasonal effects are estimated on the basis of current and past experiences. When new seasonal factors are computed each year, revisions may affect seasonally adjusted data for several preceding years.

Seasonally adjusted data appear in tables 1–14, 17–21, 48, and 52. Seasonally adjusted labor force data in tables 1 and 4–9 and seasonally adjusted establishment survey data shown in tables 1, 12–14, and 17 usually are revised in the March issue of the *Review.* A brief explanation of the seasonal adjustment methodology appears in "Notes on the data."

Revisions in the productivity data in table 54 are usually introduced in the September issue. Seasonally adjusted indexes and percent changes from month-to-month and quarter-to-quarter are published for numerous Consumer and Producer Price Index series. However, seasonally adjusted indexes are not published for the U.S. average All-Items CPI. Only seasonally adjusted percent changes are available for this series.

Adjustments for price changes. Some data—such as the "real" earnings shown in table 14—are adjusted to eliminate the effect of changes in price. These adjustments are made by dividing current-dollar values by the Consumer Price Index or the appropriate component of the index, then multiplying by 100. For example, given a current hourly wage rate of $3 and a current price index number of 150, where 1982 = 100, the hourly rate expressed in 1982 dollars is $2 ($3/150 x 100 = $2). The $2 (or any other resulting values) are described as "real," "constant," or "1982" dollars.

Sources of information

Data that supplement the tables in this section are published by the Bureau in a variety of sources. Definitions of each series and notes on the data are contained in later sections of these Notes describing each set of data. For detailed descriptions of each data series, see *BLS Handbook of Methods*, Bulletin 2490. Users also may wish to consult *Major Programs of the Bureau of Labor Statistics*, Report 919. News releases provide the latest statistical information published by the Bureau; the major recurring releases are published according to the schedule appearing on the back cover of this issue.

More information about labor force, employment, and unemployment data and the household and establishment surveys underlying the data are available in the Bureau's monthly publication, *Employment and Earnings.* Historical unadjusted and seasonally adjusted data from the household survey are available on the Internet:

www.bls.gov/cps/

Historically comparable unadjusted and seasonally adjusted data from the establishment survey also are available on the Internet:

www.bls.gov/ces/

Additional information on labor force data for areas below the national level are provided in the BLS annual report, *Geographic Profile of Employment and Unemployment.*

For a comprehensive discussion of the Employment Cost Index, see *Employment Cost Indexes and Levels, 1975–95,* BLS Bulletin 2466. The most recent data from the Employee Benefits Survey appear in the following Bureau of Labor Statistics bulletins: *Employee Benefits in Medium and Large Firms; Employee Benefits in Small Private Establishments;* and *Employee Benefits in State and Local Governments*.

More detailed data on consumer and producer prices are published in the monthly periodicals, *The CPI Detailed Report* and *Producer Price Indexes*. For an overview of the 1998 revision of the CPI, see the December 1996 issue of the *Monthly Labor Review*. Additional data on international prices appear in monthly news releases.

Listings of industries for which productivity indexes are available may be found on the Internet:

www.bls.gov/lpc/

For additional information on international comparisons data, see *International Comparisons of Unemployment,* Bulletin 1979.

Detailed data on the occupational injury and illness series are published in *Occupational Injuries and Illnesses in the United States, by Industry,* a BLS annual bulletin.

Finally, the *Monthly Labor Review* carries analytical articles on annual and longer term developments in labor force, employment, and unemployment; employee compensation and collective bargaining; prices; productivity; international comparisons; and injury and illness data.

Symbols

n.e.c. = not elsewhere classified.
n.e.s. = not elsewhere specified.
p = preliminary. To increase the timeliness of some series, preliminary figures are issued based on representative but incomplete returns.
r = revised. Generally, this revision reflects the availability of later data, but also may reflect other adjustments.

Comparative Indicators

(Tables 1–3)

Comparative indicators tables provide an overview and comparison of major BLS statistical series. Consequently, although many of the included series are available monthly, all measures in these comparative tables are presented quarterly and annually.

Labor market indicators include employment measures from two major surveys and information on rates of change in compensation provided by the Employment Cost Index (ECI) program. The labor force participation rate, the employment-population ratio, and unemployment rates for major demographic groups based on the Current Population ("household") Survey are presented, while measures of employment and average weekly hours by major industry sector are given using nonfarm payroll data. The Employment Cost Index (compensation), by major sector and by bargaining status, is chosen from a variety of BLS compensation and wage measures because it provides a comprehensive measure of employer costs for hiring labor, not just outlays for wages, and it is not affected by employment shifts among occupations and industries.

Data on **changes in compensation, prices, and productivity** are presented in table 2. Measures of rates of change of compensation and wages from the Employment Cost Index

program are provided for all civilian nonfarm workers (excluding Federal and household workers) and for all private nonfarm workers. Measures of changes in consumer prices for all urban consumers; producer prices by stage of processing; overall prices by stage of processing; and overall export and import price indexes are given. Measures of productivity (output per hour of all persons) are provided for major sectors.

Alternative measures of wage and compensation rates of change, which reflect the overall trend in labor costs, are summarized in table 3. Differences in concepts and scope, related to the specific purposes of the series, contribute to the variation in changes among the individual measures.

Notes on the data

Definitions of each series and notes on the data are contained in later sections of these notes describing each set of data.

Employment and Unemployment Data

(Tables 1; 4–29)

Household survey data

Description of the series

Employment data in this section are obtained from the Current Population Survey, a program of personal interviews conducted monthly by the Bureau of the Census for the Bureau of Labor Statistics. The sample consists of about 60,000 households selected to represent the U.S. population 16 years of age and older. Households are interviewed on a rotating basis, so that three-fourths of the sample is the same for any 2 consecutive months.

Definitions

Employed persons include (1) all those who worked for pay any time during the week which includes the 12th day of the month or who worked unpaid for 15 hours or more in a family-operated enterprise and (2) those who were temporarily absent from their regular jobs because of illness, vacation, industrial dispute, or similar reasons. A person working at more than one job is counted only in the job at which he or she worked the greatest number of hours.

Unemployed persons are those who did not work during the survey week, but were available for work except for temporary illness and had looked for jobs within the preceding 4 weeks. Persons who did not look for work because they were on layoff are also counted among the unemployed. **The unemployment rate** represents the number unemployed as a percent of the civilian labor force.

The **civilian labor force** consists of all employed or unemployed persons in the civilian noninstitutional population. Persons **not in the labor force** are those not classified as employed or unemployed. This group includes discouraged workers, defined as persons who want and are available for a job and who have looked for work sometime in the past 12 months (or since the end of their last job if they held one within the past 12 months), but are not currently looking, because they believe there are no jobs available or there are none for which they would qualify. The **civilian noninstitutional population** comprises all persons 16 years of age and older who are not inmates of penal or mental institutions, sanitariums, or homes for the aged, infirm, or needy. The **civilian labor force participation** rate is the proportion of the civilian noninstitutional population that is in the labor force. The **employment-population ratio** is employment as a percent of the civilian noninstitutional population.

Notes on the data

From time to time, and especially after a decennial census, adjustments are made in the Current Population Survey figures to correct for estimating errors during the intercensal years. These adjustments affect the comparability of historical data. A description of these adjustments and their effect on the various data series appears in the Explanatory Notes of *Employment and Earnings*. For a discussion of changes introduced in January 2003, see "Revisions to the Current Population Survey Effective in January 2003" in the February 2003 issue of *Employment and Earnings* (available on the BLS Web site at **www.bls.gov/cps/rvcps03.pdf**).

Effective in January 2003, BLS began using the X-12 ARIMA seasonal adjustment program to seasonally adjust national labor force data. This program replaced the X-11 ARIMA program which had been used since January 1980. See "Revision of Seasonally Adjusted Labor Force Series in 2003," in the February 2003 issue of *Employment and Earnings* (available on the BLS Web site at **www.bls.gov/cps/cpsrs.pdf**) for a discussion of the introduction of the use of X-12 ARIMA for seasonal adjustment of the labor force data and the effects that it had on the data.

At the beginning of each calendar year, historical seasonally adjusted data usually are revised, and projected seasonal adjustment factors are calculated for use during the January–June period. The historical seasonally adjusted data usually are revised for only the most recent 5 years. In July, new seasonal adjustment factors, which incorporate the experience through June, are produced for the July–December period, but no revisions are made in the historical data.

FOR ADDITIONAL INFORMATION on national household survey data, contact the Division of Labor Force Statistics: (202) 691–6378.

Establishment survey data

Description of the series

Employment, hours, and earnings data in this section are compiled from payroll records reported monthly on a voluntary basis to the Bureau of Labor Statistics and its cooperating State agencies by about 160,000 businesses and government agencies, which represent approximately 400,000 individual worksites and represent all industries except agriculture. The active CES sample covers approximately one-third of all nonfarm payroll workers. Industries are classified in accordance with the 2007 North American Industry Classification System. In most industries, the sampling probabilities are based on the size of the establishment; most large establishments are therefore in the sample. (An establishment is not necessarily a firm; it may be a branch plant, for example, or warehouse.) Self-employed persons and others not on a regular civilian payroll are outside the scope of the survey because they are excluded from establishment records. This largely accounts for the difference in employment figures between the household and establishment surveys.

Definitions

An **establishment** is an economic unit which produces goods or services (such as a factory or store) at a single location and is engaged in one type of economic activity.

Employed persons are all persons who received pay (including holiday and sick pay) for any part of the payroll period including the 12th day of the month. Persons holding more than one job (about 5 percent of all persons in the labor force) are counted in each establishment which reports them.

Production workers in the goods-producing industries cover employees, up through the level of working supervisors, who engage directly in the manufacture or construction of the establishment's product. In private service-providing industries, data are collected for nonsupervisory workers, which include most employees except those in executive, managerial, and supervisory posi-

tions. Those workers mentioned in tables 11–16 include production workers in manufacturing and natural resources and mining; construction workers in construction; and nonsupervisory workers in all private service-providing industries. Production and nonsupervisory workers account for about four-fifths of the total employment on private nonagricultural payrolls.

Earnings are the payments production or nonsupervisory workers receive during the survey period, including premium pay for overtime or late-shift work but excluding irregular bonuses and other special payments. **Real earnings** are earnings adjusted to reflect the effects of changes in consumer prices. The deflator for this series is derived from the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W).

Hours represent the average weekly hours of production or nonsupervisory workers for which pay was received, and are different from standard or scheduled hours. **Overtime hours** represent the portion of average weekly hours which was in excess of regular hours and for which overtime premiums were paid.

The **Diffusion Index** represents the percent of industries in which employment was rising over the indicated period, plus one-half of the industries with unchanged employment; 50 percent indicates an equal balance between industries with increasing and decreasing employment. In line with Bureau practice, data for the 1-, 3-, and 6-month spans are seasonally adjusted, while those for the 12-month span are unadjusted. Table 17 provides an index on private nonfarm employment based on 278 industries, and a manufacturing index based on 84 industries. These indexes are useful for measuring the dispersion of economic gains or losses and are also economic indicators.

Notes on the data

With the release of data for January 2010, the CES program introduced its annual revision of national estimates of employment, hours, and earnings from the monthly survey of nonfarm establishments. Each year, the CES survey realigns its sample-based estimates to incorporate universe counts of employment—a process known as benchmarking. Comprehensive counts of employment, or benchmarks, are derived primarily from unemployment insurance (UI) tax reports that nearly all employers are required to file with State Workforce Agencies. With the release in June 2003, CES completed the transition from its original quota sample design to a probability-based sample design. The industry-coding update included reconstruction of historical estimates in order to preserve time series for data users. Normally 5 years of seasonally adjusted data are revised with each benchmark revision. However, with this release, the entire new time series history for all CES data series were re-seasonally adjusted due to the NAICS conversion, which resulted in the revision of all CES time series.

Also in June 2003, the CES program introduced concurrent seasonal adjustment for the national establishment data. Under this methodology, the first preliminary estimates for the current reference month and the revised estimates for the 2 prior months will be updated with concurrent factors with each new release of data. Concurrent seasonal adjustment incorporates all available data, including first preliminary estimates for the most current month, in the adjustment process. For additional information on all of the changes introduced in June 2003, see the June 2003 issue of *Employment and Earnings* and "Recent changes in the national Current Employment Statistics survey," *Monthly Labor Review,* June 2003, pp. 3–13.

Revisions in State data (table 11) occurred with the publication of January 2003 data. For information on the revisions for the State data, see the March and May 2003 issues of *Employment and Earnings*, and "Recent changes in the State and Metropolitan Area CES survey," *Monthly Labor Review*, June 2003, pp. 14–19.

Beginning in June 1996, the BLS uses the X-12-ARIMA methodology to seasonally adjust establishment survey data. This procedure, developed by the Bureau of the Census, controls for the effect of varying survey intervals (also known as the 4- versus 5-week effect), thereby providing improved measurement of over-the-month changes and underlying economic trends. Revisions of data, usually for the most recent 5-year period, are made once a year coincident with the benchmark revisions.

In the establishment survey, estimates for the most recent 2 months are based on incomplete returns and are published as preliminary in the tables (12–17 in the *Review).* When all returns have been received, the estimates are revised and published as "final" (prior to any benchmark revisions) in the third month of their appearance. Thus, December data are published as preliminary in January and February and as final in March. For the same reasons, quarterly establishment data (table 1) are preliminary for the first 2 months of publication and final in the third month. Fourth-quarter data are published as preliminary in January and February and as final in March.

FOR ADDITIONAL INFORMATION on establishment survey data, contact the Division of Current Employment Statistics: (202) 691–6555.

Unemployment data by State

Description of the series

Data presented in this section are obtained from the Local Area Unemployment Statistics (LAUS) program, which is conducted in cooperation with State employment security agencies.

Monthly estimates of the labor force, employment, and unemployment for States and sub-State areas are a key indicator of local economic conditions, and form the basis for determining the eligibility of an area for benefits under Federal economic assistance programs such as the Job Training Partnership Act. Seasonally adjusted unemployment rates are presented in table 10. Insofar as possible, the concepts and definitions underlying these data are those used in the national estimates obtained from the CPS.

Notes on the data

Data refer to State of residence. Monthly data for all States and the District of Columbia are derived using standardized procedures established by BLS. Once a year, estimates are revised to new population controls, usually with publication of January estimates, and benchmarked to annual average CPS levels.

FOR ADDITIONAL INFORMATION on data in this series, call (202) 691–6392 (table 10) or (202) 691–6559 (table 11).

Quarterly Census of Employment and Wages

Description of the series

Employment, wage, and establishment data in this section are derived from the quarterly tax reports submitted to State employment security agencies by private and State and local government employers subject to State unemployment insurance (UI) laws and from Federal, agencies subject to the Unemployment Compensation for Federal Employees (UCFE) program. Each quarter, State agencies edit and process the data and send the information to the Bureau of Labor Statistics.

The Quarterly Census of Employment and Wages (QCEW) data, also referred as ES-202 data, are the most complete enumeration of employment and wage information by

industry at the national, State, metropolitan area, and county levels. They have broad economic significance in evaluating labor market trends and major industry developments.

Definitions

In general, the Quarterly Census of Employment and Wages monthly employment data represent the number of **covered workers** who worked during, or received pay for, the pay period that included the 12th day of the month. **Covered private industry employment** includes most corporate officials, executives, supervisory personnel, professionals, clerical workers, wage earners, piece workers, and part-time workers. It excludes proprietors, the unincorporated self-employed, unpaid family members, and certain farm and domestic workers. Certain types of nonprofit employers, such as religious organizations, are given a choice of coverage or exclusion in a number of States. Workers in these organizations are, therefore, reported to a limited degree.

Persons on paid sick leave, paid holiday, paid vacation, and the like, are included. Persons on the payroll of more than one firm during the period are counted by each UI-subject employer if they meet the employment definition noted earlier. The employment count excludes workers who earned no wages during the entire applicable pay period because of work stoppages, temporary layoffs, illness, or unpaid vacations.

Federal employment data are based on reports of monthly employment and quarterly wages submitted each quarter to State agencies for all Federal installations with employees covered by the Unemployment Compensation for Federal Employees (UCFE) program, except for certain national security agencies, which are omitted for security reasons. Employment for all Federal agencies for any given month is based on the number of persons who worked during or received pay for the pay period that included the 12th of the month.

An **establishment** is an economic unit, such as a farm, mine, factory, or store, that produces goods or provides services. It is typically at a single physical location and engaged in one, or predominantly one, type of economic activity for which a single industrial classification may be applied. Occasionally, a single physical location encompasses two or more distinct and significant activities. Each activity should be reported as a separate establishment if separate records are kept and the various activities are classified under different NAICS industries.

Most employers have only one establishment; thus, the establishment is the predominant reporting unit or statistical entity for reporting employment and wages data. Most employers, including State and local governments who operate more than one establishment in a State, file a Multiple Worksite Report each quarter, in addition to their quarterly UI report. The Multiple Worksite Report is used to collect separate employment and wage data for each of the employer's establishments, which are not detailed on the UI report. Some very small multi-establishment employers do not file a Multiple Worksite Report. When the total employment in an employer's secondary establishments (all establishments other than the largest) is 10 or fewer, the employer generally will file a consolidated report for all establishments. Also, some employers either cannot or will not report at the establishment level and thus aggregate establishments into one consolidated unit, or possibly several units, though not at the establishment level.

For the Federal Government, the reporting unit is the **installation**: a single location at which a department, agency, or other government body has civilian employees. Federal agencies follow slightly different criteria than do private employers when breaking down their reports by installation. They are permitted to combine as a single statewide unit: 1) all installations with 10 or fewer workers, and 2) all installations that have a combined total in the State of fewer than 50 workers. Also, when there are fewer than 25 workers in all secondary installations in a State, the secondary installations may be combined and reported with the major installation. Last, if a Federal agency has fewer than five employees in a State, the agency headquarters office (regional office, district office) serving each State may consolidate the employment and wages data for that State with the data reported to the State in which the headquarters is located. As a result of these reporting rules, the number of reporting units is always larger than the number of employers (or government agencies) but smaller than the number of actual establishments (or installations).

Data reported for the first quarter are tabulated into **size** categories ranging from worksites of very small size to those with 1,000 employees or more. The size category is determined by the establishment's March employment level. It is important to note that each establishment of a multi-establishment firm is tabulated separately into the appropriate size category. The total employment level of the reporting multi-establishment firm is not used in the size tabulation.

Covered employers in most States report total **wages** paid during the calendar quarter, regardless of when the services were performed. A few State laws, however, specify that wages be reported for, or based on the period during which services are performed rather than the period during which compensation is paid. Under most State laws or regulations, wages include bonuses, stock options, the cash value of meals and lodging, tips and other gratuities, and, in some States, employer contributions to certain deferred compensation plans such as 401(k) plans.

Covered employer contributions for old-age, survivors, and disability insurance (OASDI), health insurance, unemployment insurance, workers' compensation, and private pension and welfare funds are not reported as wages. Employee contributions for the same purposes, however, as well as money withheld for income taxes, union dues, and so forth, are reported even though they are deducted from the worker's gross pay.

Wages of covered Federal workers represent the gross amount of all payrolls for all pay periods ending within the quarter. This includes cash allowances, the cash equivalent of any type of remuneration, severance pay, withholding taxes, and retirement deductions. Federal employee remuneration generally covers the same types of services as for workers in private industry.

Average annual wage per employee for any given industry are computed by dividing total annual wages by annual average employment. A further division by 52 yields average weekly wages per employee. Annual pay data only approximate annual earnings because an individual may not be employed by the same employer all year or may work for more than one employer at a time.

Average weekly or annual wage is affected by the ratio of full-time to part-time workers as well as the number of individuals in high-paying and low-paying occupations. When average pay levels between States and industries are compared, these factors should be taken into consideration. For example, industries characterized by high proportions of part-time workers will show average wage levels appreciably less than the weekly pay levels of regular full-time employees in these industries. The opposite effect characterizes industries with low proportions of part-time workers, or industries that typically schedule heavy weekend and overtime work. Average wage data also may be influenced by work stoppages, labor turnover rates, retroactive payments, seasonal factors, bonus payments, and so on.

Notes on the data

Beginning with the release of data for 2007, publications presenting data from the Covered Employment and Wages program have

switched to the 2007 version of the North American Industry Classification System (NAICS) as the basis for the assignment and tabulation of economic data by industry. NAICS is the product of a cooperative effort on the part of the statistical agencies of the United States, Canada, and Mexico. Due to difference in NAICS and Standard Industrial Classification (SIC) structures, industry data for 2001 is not comparable to the SIC-based data for earlier years.

Effective January 2001, the program began assigning Indian Tribal Councils and related establishments to local government ownership. This BLS action was in response to a change in Federal law dealing with the way Indian Tribes are treated under the Federal Unemployment Tax Act. This law requires federally recognized Indian Tribes to be treated similarly to State and local governments. In the past, the Covered Employment and Wage (CEW) program coded Indian Tribal Councils and related establishments in the private sector. As a result of the new law, CEW data reflects significant shifts in employment and wages between the private sector and local government from 2000 to 2001. Data also reflect industry changes. Those accounts previously assigned to civic and social organizations were assigned to tribal governments. There were no required industry changes for related establishments owned by these Tribal Councils. These tribal business establishments continued to be coded according to the economic activity of that entity.

To insure the highest possible quality of data, State employment security agencies verify with employers and update, if necessary, the industry, location, and ownership classification of all establishments on a 3-year cycle. Changes in establishment classification codes resulting from the verification process are introduced with the data reported for the first quarter of the year. Changes resulting from improved employer reporting also are introduced in the first quarter. For these reasons, some data, especially at more detailed geographic levels, may not be strictly comparable with earlier years.

County definitions are assigned according to Federal Information Processing Standards Publications as issued by the National Institute of Standards and Technology. Areas shown as counties include those designated as independent cities in some jurisdictions and, in Alaska, those areas designated by the Census Bureau where counties have not been created. County data also are presented for the New England States for comparative purposes, even though townships are the more common designation used in New England (and New Jersey).

The Office of Management and Budget (OMB) defines metropolitan areas for use in Federal statistical activities and updates these definitions as needed. Data in this table use metropolitan area criteria established by OMB in definitions issued June 30, 1999 (OMB Bulletin No. 99-04). These definitions reflect information obtained from the 1990 Decennial Census and the 1998 U.S. Census Bureau population estimate. A complete list of metropolitan area definitions is available from the National Technical Information Service (NTIS), Document Sales, 5205 Port Royal Road, Springfield, Va. 22161, telephone 1-800-553-6847.

OMB defines metropolitan areas in terms of entire counties, except in the six New England States where they are defined in terms of cities and towns. New England data in this table, however, are based on a county concept defined by OMB as New England County Metropolitan Areas (NECMA) because county-level data are the most detailed available from the Quarterly Census of Employment and Wages. The NECMA is a county-based alternative to the city- and town-based metropolitan areas in New England. The NECMA for a Metropolitan Statistical Area (MSA) include: (1) the county containing the first-named city in that MSA title (this county may include the first-named cities of other MSA, and (2) each additional county having at least half its population in the MSA in which first-named cities are in the county identified in step 1. The NECMA is officially defined areas that are meant to be used by statistical programs that cannot use the regular metropolitan area definitions in New England.

For additional information on the covered employment and wage data, contact the Division of Administrative Statistics and Labor Turnover at (202) 691–6567.

Job Openings and Labor Turnover Survey

Description of the series

Data for the **Job Openings and Labor Turnover Survey** (JOLTS) are collected and compiled from a sample of 16,000 business establishments. Each month, data are collected for total employment, job openings, hires, quits, layoffs and discharges, and other separations. The JOLTS program covers all private nonfarm establishments such as factories, offices, and stores, as well as Federal, State, and local government entities in the 50 States and the District of Columbia. The JOLTS sample design is a random sample drawn from a universe of more than eight million establishments compiled as part of the operations of the Quarterly Census of Employment and Wages, or QCEW, program. This program includes all employers subject to State unemployment insurance (UI) laws and Federal agencies subject to Unemployment Compensation for Federal Employees (UCFE).

The sampling frame is stratified by ownership, region, industry sector, and size class. Large firms fall into the sample with virtual certainty. JOLTS total employment estimates are controlled to the employment estimates of the Current Employment Statistics (CES) survey. A ratio of CES to JOLTS employment is used to adjust the levels for all other JOLTS data elements. Rates then are computed from the adjusted levels.

The monthly JOLTS data series begin with December 2000. Not seasonally adjusted data on job openings, hires, total separations, quits, layoffs and discharges, and other separations levels and rates are available for the total nonfarm sector, 16 private industry divisions and 2 government divisions based on the North American Industry Classification System (NAICS), and four geographic regions. Seasonally adjusted data on job openings, hires, total separations, and quits levels and rates are available for the total nonfarm sector, selected industry sectors, and four geographic regions.

Definitions

Establishments submit **job openings** information for the last business day of the reference month. A job opening requires that (1) a specific position exists and there is work available for that position; and (2) work could start within 30 days regardless of whether a suitable candidate is found; and (3) the employer is actively recruiting from outside the establishment to fill the position. Included are full-time, part-time, permanent, short-term, and seasonal openings. Active recruiting means that the establishment is taking steps to fill a position by advertising in newspapers or on the Internet, posting help-wanted signs, accepting applications, or using other similar methods.

Jobs to be filled only by internal transfers, promotions, demotions, or recall from layoffs are excluded. Also excluded are jobs with start dates more than 30 days in the future, jobs for which employees have been hired but have not yet reported for work, and jobs to be filled by employees of temporary help agencies, employee leasing companies, outside contractors, or consultants. The job openings rate is computed by dividing the number of job openings by the sum of employment and job openings, and multiplying that quotient

by 100.

Hires are the total number of additions to the payroll occurring at any time during the reference month, including both new and rehired employees and full-time and part-time, permanent, short-term and seasonal employees, employees recalled to the location after a layoff lasting more than 7 days, on-call or intermittent employees who returned to work after having been formally separated, and transfers from other locations. The hires count does not include transfers or promotions within the reporting site, employees returning from strike, employees of temporary help agencies or employee leasing companies, outside contractors, or consultants. The hires rate is computed by dividing the number of hires by employment, and multiplying that quotient by 100.

Separations are the total number of terminations of employment occurring at any time during the reference month, and are reported by type of separation—quits, layoffs and discharges, and other separations. Quits are voluntary separations by employees (except for retirements, which are reported as other separations). Layoffs and discharges are involuntary separations initiated by the employer and include layoffs with no intent to rehire, formal layoffs lasting or expected to last more than 7 days, discharges resulting from mergers, downsizing, or closings, firings or other discharges for cause, terminations of permanent or short-term employees, and terminations of seasonal employees. Other separations include retirements, transfers to other locations, deaths, and separations due to disability. Separations do not include transfers within the same location or employees on strike.

The separations rate is computed by dividing the number of separations by employment, and multiplying that quotient by 100. The quits, layoffs and discharges, and other separations rates are computed similarly, dividing the number by employment and multiplying by 100.

Notes on the data

The JOLTS data series on job openings, hires, and separations are relatively new. The full sample is divided into panels, with one panel enrolled each month. A full complement of panels for the original data series based on the 1987 Standard Industrial Classification (SIC) system was not completely enrolled in the survey until January 2002. The supplemental panels of establishments needed to create NAICS estimates were not completely enrolled until May 2003. The data collected up until those points are from less than a full sample. Therefore, estimates from earlier months should be used with caution, as fewer sampled units were reporting data at that time.

In March 2002, BLS procedures for collecting hires and separations data were revised to address possible underreporting. As a result, JOLTS hires and separations estimates for months prior to March 2002 may not be comparable with estimates for March 2002 and later.

The Federal Government reorganization that involved transferring approximately 180,000 employees to the new Department of Homeland Security is not reflected in the JOLTS hires and separations estimates for the Federal Government. The Office of Personnel Management's record shows these transfers were completed in March 2003. The inclusion of transfers in the JOLTS definitions of hires and separations is intended to cover ongoing movements of workers between establishments. The Department of Homeland Security reorganization was a massive one-time event, and the inclusion of these intergovernmental transfers would distort the Federal Government time series.

Data users should note that seasonal adjustment of the JOLTS series is conducted with fewer data observations than is customary. The historical data, therefore, may be subject to larger than normal revisions. Because the seasonal patterns in economic data series typically emerge over time, the standard use of moving averages as seasonal filters to capture these effects requires longer series than are currently available. As a result, the stable seasonal filter option is used in the seasonal adjustment of the JOLTS data. When calculating seasonal factors, this filter takes an average for each calendar month after detrending the series. The stable seasonal filter assumes that the seasonal factors are fixed; a necessary assumption until sufficient data are available. When the stable seasonal filter is no longer needed, other program features also may be introduced, such as outlier adjustment and extended diagnostic testing. Additionally, it is expected that more series, such as layoffs and discharges and additional industries, may be seasonally adjusted when more data are available.

JOLTS hires and separations estimates cannot be used to exactly explain net changes in payroll employment. Some reasons why it is problematic to compare changes in payroll employment with JOLTS hires and separations, especially on a monthly basis, are: (1) the reference period for payroll employment is the pay period including the 12th of the month, while the reference period for hires and separations is the calendar month; and (2) payroll employment can vary from month to month simply because part-time and on-call workers may not always work during the pay period that includes the 12th of the month. Additionally, research has found that some reporters systematically underreport separations relative to hires due to a number of factors, including the nature of their payroll systems and practices. The shortfall appears to be about 2 percent or less over a 12-month period.

FOR ADDITIONAL INFORMATION on the Job Openings and Labor Turnover Survey, contact the Division of Administrative Statistics and Labor Turnover at (202) 961–5870.

Compensation and Wage Data

(Tables 1–3; 30–37)

The National Compensation Survey (NCS) produces a variety of compensation data. These include: The Employment Cost Index (ECI) and NCS benefit measures of the incidence and provisions of selected employee benefit plans. Selected samples of these measures appear in the following tables. NCS also compiles data on occupational wages and the Employer Costs for Employee Compensation (ECEC).

Employment Cost Index

Description of the series

The **Employment Cost Index** (ECI) is a quarterly measure of the rate of change in compensation per hour worked and includes wages, salaries, and employer costs of employee benefits. It is a Laspeyres Index that uses fixed employment weights to measure change in labor costs free from the influence of employment shifts among occupations and industries.

The ECI provides data for the civilian economy, which includes the total private nonfarm economy excluding private households, and the public sector excluding the Federal government. Data are collected each quarter for the pay period including the 12th day of March, June, September, and December.

Sample establishments are classified by industry categories based on the 2007 North American Classification System (NAICS). Within a sample establishment, specific job categories are selected and classified into about 800 occupations according to the 2000 Standard Occupational Classification (SOC) System. Individual occupations are combined to represent one of ten intermediate

aggregations, such as professional and related occupations, or one of five higher level aggregations, such as management, professional, and related occupations.

Fixed employment weights are used each quarter to calculate the most aggregate series—civilian, private, and State and local government. These fixed weights are also used to derive all of the industry and occupational series indexes. Beginning with the March 2006 estimates, 2002 fixed employment weights from the Bureau's Occupational Employment Statistics survey were introduced. From March 1995 to December 2005, 1990 employment counts were used. These fixed weights ensure that changes in these indexes reflect only changes in compensation, not employment shifts among industries or occupations with different levels of wages and compensation. For the series based on bargaining status, census region and division, and metropolitan area status, fixed employment data are not available. The employment weights are reallocated within these series each quarter based on the current ECI sample. The indexes for these series, consequently, are not strictly comparable with those for aggregate, occupational, and industry series.

Definitions

Total compensation costs include wages, salaries, and the employer's costs for employee benefits.

Wages and salaries consist of earnings before payroll deductions, including production bonuses, incentive earnings, commissions, and cost-of-living adjustments.

Benefits include the cost to employers for paid leave, supplemental pay (including nonproduction bonuses), insurance, retirement and savings plans, and legally required benefits (such as Social Security, workers' compensation, and unemployment insurance).

Excluded from wages and salaries and employee benefits are such items as payment-in-kind, free room and board, and tips.

Notes on the data

The ECI data in these tables reflect the con-version to the 2002 North American Industry Classification System (NAICS) and the 2000 Standard Occupational Classification (SOC) system. The NAICS and SOC data shown prior to 2006 are for informational purposes only. ECI series based on NAICS and SOC became the official BLS estimates starting in March 2006.

The ECI for changes in wages and salaries in the private nonfarm economy was published beginning in 1975. Changes in total compensation cost—wages and salaries and benefits combined—were published beginning in 1980. The series of changes in wages and salaries and for total compensation in the State and local government sector and in the civilian nonfarm economy (excluding Federal employees) were published beginning in 1981. Historical indexes (December 2005=100) are available on the Internet: **www.bls.gov/ect/**

ADDITIONAL INFORMATION on the Employment Cost Index is available at **www.bls.gov/ncs/ect/home.htm** or by telephone at (202) 691–6199.

National Compensation Survey Benefit Measures

Description of the series

NCS benefit measures of employee benefits are published in two separate reports. The annual summary provides data on the incidence of (access to and participation in) selected benefits and provisions of paid holidays and vacations, life insurance plans, and other selected benefit programs. Data on percentages of establishments offering major employee benefits, and on the employer and employee shares of contributions to medical care premiums also are presented. Selected benefit data appear in the following tables. A second publication, published later, contains more detailed information about health and retirement plans.

Definitions

Employer-provided benefits are benefits that are financed either wholly or partly by the employer. They may be sponsored by a union or other third party, as long as there is some employer financing. However, some benefits that are fully paid for by the employee also are included. For example, long-term care insurance paid entirely by the employee are included because the guarantee of insurability and availability at group premium rates are considered a benefit.

Employees are considered as having **access** to a benefit plan if it is available for their use. For example, if an employee is permitted to participate in a medical care plan offered by the employer, but the employee declines to do so, he or she is placed in the category with those having access to medical care.

Employees in contributory plans are considered as **participating** in an insurance or retirement plan if they have paid required contributions and fulfilled any applicable service requirement. Employees in noncontributory plans are counted as participating regardless of whether they have fulfilled the service requirements.

Defined benefit pension plans use predetermined formulas to calculate a retirement benefit (if any), and obligate the employer to provide those benefits. Benefits are generally based on salary, years of service, or both.

Defined contribution plans generally specify the level of employer and employee contributions to a plan, but not the formula for determining eventual benefits. Instead, individual accounts are set up for participants, and benefits are based on amounts credited to these accounts.

Tax-deferred savings plans are a type of defined contribution plan that allow participants to contribute a portion of their salary to an employer-sponsored plan and defer income taxes until withdrawal.

Flexible benefit plans allow employees to choose among several benefits, such as life insurance, medical care, and vacation days, and among several levels of coverage within a given benefit.

Notes on the data

ADDITIONAL INFORMATION ON THE NCS benefit measures is available at **www.bls.gov/ncs/ebs/home.htm** or by telephone at (202) 691–6199.

Work stoppages

Description of the series

Data on work stoppages measure the number and duration of major strikes or lockouts (involving 1,000 workers or more) occurring during the month (or year), the number of workers involved, and the amount of work time lost because of stoppage. These data are presented in table 37.

Data are largely from a variety of published sources and cover only establishments directly involved in a stoppage. They do not measure the indirect or secondary effect of stoppages on other establishments whose employees are idle owing to material shortages or lack of service.

Definitions

Number of stoppages: The number of strikes and lockouts involving 1,000 workers or more and lasting a full shift or longer.

Workers involved: The number of workers directly involved in the stoppage.

Number of days idle: The aggregate number of workdays lost by workers involved

in the stoppages.

Days of idleness as a percent of estimated working time: Aggregate workdays lost as a percent of the aggregate number of standard workdays in the period multiplied by total employment in the period.

Notes on the data

This series is not comparable with the one terminated in 1981 that covered strikes involving six workers or more.

ADDITIONAL INFORMATION on work stop-pages data is available at **www. bls. gov/cba/home.htm** or by telephone at (202) 691–6199.

Price Data

(Tables 2; 38–46)

Price data are gathered by the Bureau of Labor Statistics from retail and primary markets in the United States. Price indexes are given in relation to a base period—December 2003 = 100 for many Producer Price Indexes (unless otherwise noted), 1982–84 = 100 for many Consumer Price Indexes (unless otherwise noted), and 1990 = 100 for International Price Indexes.

Consumer Price Indexes

Description of the series

The **Consumer Price Index** (CPI) is a measure of the average change in the prices paid by urban consumers for a fixed market basket of goods and services. The CPI is calculated monthly for two population groups, one consisting only of urban households whose primary source of income is derived from the employment of wage earners and clerical workers, and the other consisting of all urban households. The wage earner index (CPI-W) is a continuation of the historic index that was introduced well over a half-century ago for use in wage negotiations. As new uses were developed for the CPI in recent years, the need for a broader and more representative index became apparent. The all-urban consumer index (CPI-U), introduced in 1978, is representative of the 1993–95 buying habits of about 87 percent of the noninstitutional population of the United States at that time, compared with 32 percent represented in the CPI-W. In addition to wage earners and clerical workers, the CPI-U covers professional, managerial, and technical workers, the self-employed, short-term workers, the unemployed, retirees, and others not in the labor force.

The CPI is based on prices of food, clothing, shelter, fuel, drugs, transportation fares, doctors' and dentists' fees, and other goods and services that people buy for day-to-day living. The quantity and quality of these items are kept essentially unchanged between major revisions so that only price changes will be measured. All taxes directly associated with the purchase and use of items are included in the index.

Data collected from more than 23,000 retail establishments and 5,800 housing units in 87 urban areas across the country are used to develop the "U.S. city average." Separate estimates for 14 major urban centers are presented in table 39. The areas listed are as indicated in footnote 1 to the table. The area indexes measure only the average change in prices for each area since the base period, and do not indicate differences in the level of prices among cities.

Notes on the data

In January 1983, the Bureau changed the way in which homeownership costs are meaured for the CPI-U. A rental equivalence method replaced the asset-price approach to homeownership costs for that series. In January 1985, the same change was made in the CPI-W. The central purpose of the change was to separate shelter costs from the investment component of homeownership so that the index would reflect only the cost of shelter services provided by owner-occupied homes. An updated CPI-U and CPI-W were introduced with release of the January 1987 and January 1998 data.

FOR ADDITIONAL INFORMATION, contact the Division of Prices and Price Indexes: (202) 691–7000.

Producer Price Indexes

Description of the series

Producer Price Indexes (PPI) measure average changes in prices received by domestic producers of commodities in all stages of processing. The sample used for calculating these indexes currently contains about 3,200 commodities and about 80,000 quotations per month, selected to represent the movement of prices of all commodities produced in the manufacturing; agriculture, forestry, and fishing; mining; and gas and electricity and public utilities sectors. The stage-of-processing structure of PPI organizes products by class of buyer and degree of fabrication (that is, finished goods, intermediate goods, and crude materials). The traditional commodity structure of PPI organizes products by similarity of end use or material composition. The industry and product structure of PPI organizes data in accordance with the North American Industry Classification System and product codes developed by the U.S. Census Bureau.

To the extent possible, prices used in calculating Producer Price Indexes apply to the first significant commercial transaction in the United States from the production or central marketing point. Price data are generally collected monthly, primarily by mail questionnaire. Most prices are obtained directly from producing companies on a voluntary and confidential basis. Prices generally are reported for the Tuesday of the week containing the 13th day of the month.

Since January 1992, price changes for the various commodities have been averaged together with implicit quantity weights representing their importance in the total net selling value of all commodities as of 1987. The detailed data are aggregated to obtain indexes for stage-of-processing groupings, commodity groupings, durability-of-product groupings, and a number of special composite groups. All Producer Price Index data are subject to revision 4 months after original publication.

FOR ADDITIONAL INFORMATION, contact the Division of Industrial Prices and Price Indexes: (202) 691–7705.

International Price Indexes

Description of the series

The **International Price Program** produces monthly and quarterly export and import price indexes for nonmilitary goods and services traded between the United States and the rest of the world. The export price index provides a measure of price change for all products sold by U.S. residents to foreign buyers. ("Residents" is defined as in the national income accounts; it includes corporations, businesses, and individuals, but does not require the organizations to be U.S. owned nor the individuals to have U.S. citizenship.) The import price index provides a measure of price change for goods purchased from other countries by U.S. residents.

The product universe for both the import and export indexes includes raw materials, agricultural products, semifinished manufactures, and finished manufactures, including both capital and consumer goods. Price data for these items are collected primarily by mail questionnaire. In nearly all cases, the data are collected directly from the exporter or importer, although in a few cases, prices are obtained from other sources.

To the extent possible, the data gathered refer to prices at the U.S. border for exports and at either the foreign border or the U.S. border for imports. For nearly all products, the prices refer to transactions completed during

the first week of the month. Survey respondents are asked to indicate all discounts, allowances, and rebates applicable to the reported prices, so that the price used in the calculation of the indexes is the actual price for which the product was bought or sold.

In addition to general indexes of prices for U.S. exports and imports, indexes are also published for detailed product categories of exports and imports. These categories are defined according to the five-digit level of detail for the Bureau of Economic Analysis End-use Classification, the three-digit level for the Standard International Trade Classification (SITC), and the four-digit level of detail for the Harmonized System. Aggregate import indexes by country or region of origin are also available.

BLS publishes indexes for selected categories of internationally traded services, calculated on an international basis and on a balance-of-payments basis.

Notes on the data

The export and import price indexes are weighted indexes of the Laspeyres type. The trade weights currently used to compute both indexes relate to 2000.

Because a price index depends on the same items being priced from period to period, it is necessary to recognize when a product's specifications or terms of transaction have been modified. For this reason, the Bureau's questionnaire requests detailed descriptions of the physical and functional characteristics of the products being priced, as well as information on the number of units bought or sold, discounts, credit terms, packaging, class of buyer or seller, and so forth. When there are changes in either the specifications or terms of transaction of a product, the dollar value of each change is deleted from the total price change to obtain the "pure" change. Once this value is determined, a linking procedure is employed which allows for the continued repricing of the item.

FOR ADDITIONAL INFORMATION, contact the Division of International Prices: (202) 691–7155.

Productivity Data

(Tables 2; 47–50)

Business and major sectors

Description of the series

The productivity measures relate real output to real input. As such, they encompass a family of measures which include single-factor input measures, such as output per hour, output per unit of labor input, or output per unit of capital input, as well as measures of multifactor productivity (output per unit of combined labor and capital inputs). The Bureau indexes show the change in output relative to changes in the various inputs. The measures cover the business, nonfarm business, manufacturing, and nonfinancial corporate sectors.

Corresponding indexes of hourly compensation, unit labor costs, unit nonlabor payments, and prices are also provided.

Definitions

Output per hour of all persons (labor productivity) is the quantity of goods and services produced per hour of labor input. **Output per unit of capital services** (capital productivity) is the quantity of goods and services produced per unit of capital services input. **Multifactor productivity** is the quantity of goods and services produced per combined inputs. For private business and private nonfarm business, inputs include labor and capital units. For manufacturing, inputs include labor, capital, energy, nonenergy materials, and purchased business services.

Compensation per hour is total compensation divided by hours at work. Total compensation equals the wages and salaries of employees plus employers' contributions for social insurance and private benefit plans, plus an estimate of these payments for the self-employed (except for nonfinancial corporations in which there are no self-employed). **Real compensation per hour** is compensation per hour deflated by the change in the Consumer Price Index for All Urban Consumers.

Unit labor costs are the labor compensation costs expended in the production of a unit of output and are derived by dividing compensation by output. **Unit nonlabor payments** include profits, depreciation, interest, and indirect taxes per unit of output. They are computed by subtracting compensation of all persons from current-dollar value of output and dividing by output.

Unit nonlabor costs contain all the components of unit nonlabor payments except unit profits.

Unit profits include corporate profits with inventory valuation and capital consumption adjustments per unit of output.

Hours of all persons are the total hours at work of payroll workers, self-employed persons, and unpaid family workers.

Labor inputs are hours of all persons adjusted for the effects of changes in the education and experience of the labor force.

Capital services are the flow of services from the capital stock used in production. It is developed from measures of the net stock of physical assets—equipment, structures, land, and inventories—weighted by rental prices for each type of asset.

Combined units of labor and capital inputs are derived by combining changes in labor and capital input with weights which represent each component's share of total cost. Combined units of labor, capital, energy, materials, and purchased business services are similarly derived by combining changes in each input with weights that represent each input's share of total costs. The indexes for each input and for combined units are based on changing weights which are averages of the shares in the current and preceding year (the Tornquist index-number formula).

Notes on the data

Business sector output is an annually-weighted index constructed by excluding from real gross domestic product (GDP) the following outputs: general government, nonprofit institutions, paid employees of private households, and the rental value of owner-occupied dwellings. Nonfarm business also excludes farming. Private business and private nonfarm business further exclude government enterprises. The measures are supplied by the U.S. Department of Commerce's Bureau of Economic Analysis. Annual estimates of manufacturing sectoral output are produced by the Bureau of Labor Statistics. Quarterly manufacturing output indexes from the Federal Reserve Board are adjusted to these annual output measures by the BLS. Compensation data are developed from data of the Bureau of Economic Analysis and the Bureau of Labor Statistics. Hours data are developed from data of the Bureau of Labor Statistics.

The productivity and associated cost measures in tables 47–50 describe the relationship between output in real terms and the labor and capital inputs involved in its production. They show the changes from period to period in the amount of goods and services produced per unit of input.

Although these measures relate output to hours and capital services, they do not measure the contributions of labor, capital, or any other specific factor of production. Rather, they reflect the joint effect of many influences, including changes in technology; shifts in the composition of the labor force; capital investment; level of output; changes in the utilization of capacity, energy, material, and research and development; the organization of production; managerial skill; and characteristics and efforts of the work force.

FOR ADDITIONAL INFORMATION on this productivity series, contact the Division of Productivity Research: (202) 691–5606.

Industry productivity measures

Description of the series

The BLS industry productivity indexes measure the relationship between output and inputs for selected industries and industry groups, and thus reflect trends in industry efficiency over time. Industry measures include labor productivity, multifactor productivity, compensation, and unit labor costs.

The industry measures differ in methodology and data sources from the productivity measures for the major sectors because the industry measures are developed independently of the National Income and Product Accounts framework used for the major sector measures.

Definitions

Output per hour is derived by dividing an index of industry output by an index of labor input. For most industries, **output** indexes are derived from data on the value of industry output adjusted for price change. For the remaining industries, output indexes are derived from data on the physical quantity of production.

The **labor input** series is based on the hours of all workers or, in the case of some transportation industries, on the number of employees. For most industries, the series consists of the hours of all employees. For some trade and services industries, the series also includes the hours of partners, proprietors, and unpaid family workers.

Unit labor costs represent the labor compensation costs per unit of output produced, and are derived by dividing an index of labor compensation by an index of output. **Labor compensation** includes payroll as well as supplemental payments, including both legally required expenditures and payments for voluntary programs.

Multifactor productivity is derived by dividing an index of industry output by an index of combined inputs consumed in producing that output. **Combined inputs** include capital, labor, and intermediate purchases. The measure of **capital input** represents the flow of services from the capital stock used in production. It is developed from measures of the net stock of physical assets—equipment, structures, land, and inventories. The measure of **intermediate purchases** is a combination of purchased materials, services, fuels, and electricity.

Notes on the data

The industry measures are compiled from data produced by the Bureau of Labor Statistics and the Census Bureau, with additional data supplied by other government agencies, trade associations, and other sources.

FOR ADDITIONAL INFORMATION on this series, contact the Division of Industry Productivity Studies: (202) 691–5618, or visit the Web site at: **www.bls.gov/lpc/home.htm**

International Comparisons

(Tables 51–53)

Labor force and unemployment

Description of the series

Tables 51 and 52 present comparative measures of the labor force, employment, and unemployment adjusted to U.S. concepts for the United States, Canada, Australia, Japan, and six European countries. The Bureau adjusts the figures for these selected countries, for all known major definitional differences, to the extent that data to prepare adjustments are available. Although precise comparability may not be achieved, these adjusted figures provide a better basis for international comparisons than the figures regularly published by each country. For further information on adjustments and comparability issues, see Constance Sorrentino, "International unemployment rates: how comparable are they?" Monthly Labor Review, June 2000, pp. 3–20, available on the Internet at **www.bls.gov/opub/mlr/2000/06/art1full.pdf**.

Definitions

For the principal U.S. definitions of the labor force, employment, and unemployment, see the Notes section on Employment and Unemployment Data: Household survey data.

Notes on the data

Foreign-country data are adjusted as closely as possible to the U.S. definitions. Primary areas of adjustment address conceptual differences in upper age limits and definitions of employment and unemployment, provided that reliable data are available to make these adjustments. Adjustments are made where applicable to include employed and unemployed persons above upper age limits and to exclude active duty military from employment figures, although a small number of career military may be included in some European countries. Adjustments are made to exclude unpaid family workers who worked fewer than 15 hours per week from employment figures; U.S. concepts do not include them in employment, whereas most foreign countries include all unpaid family workers regardless of the number of hours worked. Adjustments are made to include full-time students seeking work and available for work as unemployed when they are classified as not in the labor force.

Where possible, lower age limits are based on the age at which compulsory schooling ends in each country, rather than based on the U.S. standard of 16. Lower age limits have ranged between 13 and 16 over the years covered; currently, the lower age limits are either 15 or 16 in all 10 countries.

Some adjustments for comparability are not made because data are unavailable for adjustment purposes. For example, no adjustments to unemployment are usually made for deviations from U.S. concepts in the treatment of persons waiting to start a new job or passive job seekers. These conceptual differences have little impact on the measures. Furthermore, BLS studies have concluded that no adjustments should be made for persons on layoff who are counted as employed in some countries because of their strong job attachment as evidenced by, for example, payment of salary or the existence of a recall date. In the United States, persons on layoff have weaker job attachment and are classified as unemployed.

The annual labor force measures are obtained from monthly, quarterly, or continuous household surveys and may be calculated as averages of monthly or quarterly data. Quarterly and monthly unemployment rates are based on household surveys. For some countries, they are calculated by applying annual adjustment factors to current published data and, therefore, are less precise indicators of unemployment under U.S. concepts than the annual figures.

The labor force measures may have breaks in series over time due to changes in surveys, sources, or estimation methods. Breaks are noted in data tables.

For up-to-date information on adjustments and breaks in series, see the Introduction and Appendix B. Country Notes in *International Comparisons of Annual Labor Force Statistics, Adjusted to U.S. Concepts, 10 Countries, 1997–2009*, on the Internet at **www.bls.gov/ilc/flscomparelf.htm**, and the Notes for Table 1 in the monthly report *International Unemployment Rates and Employment Indexes, Seasonally Adjusted, 2008–2010*,

on the Internet at **www.bls.gov/ilc/intl_unemployment_rates_monthly.htm**.

Manufacturing productivity and labor costs

Description of the series

Table 53 presents comparative indexes of manufacturing output per hour (labor productivity), output, total hours, compensation per hour, and unit labor costs for 19 countries. These measures are trend comparisons—that is, series that measure changes over time—rather than level comparisons. BLS does not recommend using these series for level comparisons because of technical problems.

BLS constructs the comparative indexes from three basic aggregate measures—output, total labor hours, and total compensation. The hours and compensation measures refer to employees (wage and salary earners) in Belgium and Taiwan. For all other economies, the measures refer to all employed persons, including employees, self-employed persons, and unpaid family workers.

The data for recent years are based on the United Nations System of National Accounts 1993 (SNA 93). Manufacturing is generally defined according to the International Standard Industrial Classification (ISIC). However, the measures for France include parts of mining as well. For the United States and Canada, manufacturing is defined according to the North American Industry Classification System (NAICS 97).

Definitions

Output. For most economies, the output measures are real value added in manufacturing from national accounts. However, output for Japan prior to 1970 and for the Netherlands prior to 1960 are indexes of industrial production. The manufacturing value added measures for the United Kingdom are essentially identical to their indexes of industrial production.

For the United States, the output measure is a chain-weighted index of real value added produced by the Bureau of Economic Analysis. BLS uses this series here to preserve international comparability. However, for its domestic industry measures, shown in tables 47–50 in this section, BLS uses a different output measures called "sectoral output," which is gross output less intrasector transactions.

Total hours refer to hours worked in all economies. The measures are developed from statistics of manufacturing employment and average hours. For most other economies, recent years' aggregate hours series are obtained from national statistical offices, usually from national accounts. However, for some economies and for earlier years, BLS calculates the aggregate hours series using employment figures published with the national accounts, or other comprehensive employment series, and data on average hours worked.

Hourly compensation is total compensation divided by total hours. Total compensation includes all payments in cash or in-kind made directly to employees plus employer expenditures for legally required insurance programs and contractual and private benefit plans. For Australia, Canada, France, Singapore, and Sweden, compensation is increased to account for important taxes on payroll or employment. For the Czech Republic, Finland, and the United Kingdom, compensation is reduced in certain years to account for subsidies.

Labor productivity is defined as real output per hour worked. Although the labor productivity measure presented in this release relates output to the hours worked of persons employed in manufacturing, it does not measure the specific contributions of labor as a single factor of production. Rather, it reflects the joint effects of many influences, including new technology, capital investment, capacity utilization, energy use, and managerial skills, as well as the skills and efforts of the workforce.

Unit labor costs are defined as the cost of labor input required to produce one unit of output. They are computed as compensation in nominal terms divided by real output.

Notes on the data

The measures for recent years may be based on current indicators of manufacturing output (such as industrial production indexes), employment, average hours, and hourly compensation until national accounts and other statistics used for the long-term measures become available. For more in-depth information on sources and methods, see **http://www.bls.gov/news.release/prod4.toc.htm**.

FOR ADDITIONAL INFORMATION on international comparisons, contact the Division of International Labor Comparisons: (202) 691–5654 or **ilchelp@bls.gov**.

Occupational Injury and Illness Data

(Tables 54–55)

Survey of Occupational Injuries and Illnesses

Description of the series

The Survey of Occupational Injuries and Illnesses collects data from employers about their workers' job-related nonfatal injuries and illnesses. The information that employers provide is based on records that they maintain under the Occupational Safety and Health Act of 1970. Self-employed individuals, farms with fewer than 11 employees, employers regulated by other Federal safety and health laws, and Federal, State, and local government agencies are excluded from the survey.

The survey is a Federal-State cooperative program with an independent sample selected for each participating State. A stratified random sample with a Neyman allocation is selected to represent all private industries in the State. The survey is stratified by Standard Industrial Classification and size of employment.

Definitions

Under the Occupational Safety and Health Act, employers maintain records of nonfatal work-related injuries and illnesses that involve one or more of the following: loss of consciousness, restriction of work or motion, transfer to another job, or medical treatment other than first aid.

Occupational injury is any injury such as a cut, fracture, sprain, or amputation that results from a work-related event or a single, instantaneous exposure in the work environment.

Occupational illness is an abnormal condition or disorder, other than one resulting from an occupational injury, caused by exposure to factors associated with employment. It includes acute and chronic illnesses or disease which may be caused by inhalation, absorption, ingestion, or direct contact.

Lost workday injuries and illnesses are cases that involve days away from work, or days of restricted work activity, or both.

Lost workdays include the number of workdays (consecutive or not) on which the employee was either away from work or at work in some restricted capacity, or both, because of an occupational injury or illness. BLS measures of the number and incidence rate of lost workdays were discontinued beginning with the 1993 survey. The number of days away from work or days of restricted work activity does not include the day of injury or onset of illness or any days on which the employee would not have worked, such as a Federal holiday, even though able to work.

Incidence rates are computed as the number of injuries and/or illnesses or lost work days per 100 full-time workers.

Notes on the data

The definitions of occupational injuries and illnesses are from *Recordkeeping Guidelines for Occupational Injuries and Illnesses* (U.S. Department of Labor, Bureau of Labor Statistics, September 1986).

Estimates are made for industries and employment size classes for total recordable cases, lost workday cases, days away from work cases, and nonfatal cases without lost workdays. These data also are shown separately for injuries. Illness data are available for seven categories: occupational skin diseases or disorders, dust diseases of the lungs, respiratory conditions due to toxic agents, poisoning (systemic effects of toxic agents), disorders due to physical agents (other than toxic materials), disorders associated with repeated trauma, and all other occupational illnesses.

The survey continues to measure the number of new work-related illness cases which are recognized, diagnosed, and reported during the year. Some conditions, for example, long-term latent illnesses caused by exposure to carcinogens, often are difficult to relate to the workplace and are not adequately recognized and reported. These long-term latent illnesses are believed to be understated in the survey's illness measure. In contrast, the overwhelming majority of the reported new illnesses are those which are easier to directly relate to workplace activity (for example, contact dermatitis and carpal tunnel syndrome).

Most of the estimates are in the form of incidence rates, defined as the number of injuries and illnesses per 100 equivalent full-time workers. For this purpose, 200,000 employee hours represent 100 employee years (2,000 hours per employee). Full detail on the available measures is presented in the annual bulletin, *Occupational Injuries and Illnesses: Counts, Rates, and Characteristics.*

Comparable data for more than 40 States and territories are available from the BLS Office of Safety, Health and Working Conditions. Many of these States publish data on State and local government employees in addition to private industry data.

Mining and railroad data are furnished to BLS by the Mine Safety and Health Administration and the Federal Railroad Administration. Data from these organizations are included in both the national and State data published annually.

With the 1992 survey, BLS began publishing details on serious, nonfatal incidents resulting in days away from work. Included are some major characteristics of the injured and ill workers, such as occupation, age, gender, race, and length of service, as well as the circumstances of their injuries and illnesses (nature of the disabling condition, part of body affected, event and exposure, and the source directly producing the condition). In general, these data are available nationwide for detailed industries and for individual States at more aggregated industry levels.

FOR ADDITIONAL INFORMATION on occupational injuries and illnesses, contact the Office of Occupational Safety, Health and Working Conditions at (202) 691–6180, or access the Internet at: **www.bls. gov/iif/**.

Census of Fatal Occupational Injuries

The Census of Fatal Occupational Injuries compiles a complete roster of fatal job-related injuries, including detailed data about the fatally injured workers and the fatal events. The program collects and cross checks fatality information from multiple sources, including death certificates, State and Federal workers' compensation reports, Occupational Safety and Health Administration and Mine Safety and Health Administration records, medical examiner and autopsy reports, media accounts, State motor vehicle fatality records, and follow-up questionnaires to employers.

In addition to private wage and salary workers, the self-employed, family members, and Federal, State, and local government workers are covered by the program. To be included in the fatality census, the decedent must have been employed (that is working for pay, compensation, or profit) at the time of the event, engaged in a legal work activity, or present at the site of the incident as a requirement of his or her job.

Definition

A fatal work injury is any intentional or unintentional wound or damage to the body resulting in death from acute exposure to energy, such as heat or electricity, or kinetic energy from a crash, or from the absence of such essentials as heat or oxygen caused by a specific event or incident or series of events within a single workday or shift. Fatalities that occur during a person's commute to or from work are excluded from the census, as well as work-related illnesses,which can be difficult to identify due to long latency periods.

Notes on the data

Twenty-eight data elements are collected, coded, and tabulated in the fatality program, including information about the fatally injured worker, the fatal incident, and the machinery or equipment involved. Summary worker demographic data and event characteristics are included in a national news release that is available about 8 months after the end of the reference year. The Census of Fatal Occupational Injuries was initiated in 1992 as a joint Federal-State effort. Most States issue summary information at the time of the national news release.

FOR ADDITIONAL INFORMATION on the Census of Fatal Occupational Injuries contact the BLS Office of Safety, Health, and Working Conditions at (202) 691–6175, or the Internet at: **www.bls.gov/iif/**

1. Labor market indicators

Selected indicators	2010	2011	2009	2010				2011			
			IV	I	II	III	IV	I	II	III	IV
Employment data											
Employment status of the civilian noninstitutional population (household survey):[1]											
Labor force participation rate	64.7	64.1	64.9	64.9	64.9	64.6	64.4	64.2	64.1	64.1	64.0
Employment-population ratio	58.5	58.4	58.4	58.5	58.6	58.5	58.3	58.4	58.3	58.3	58.5
Unemployment rate	9.6	8.9	9.9	9.8	9.6	9.5	9.6	9.0	9.1	9.1	8.7
Men	10.5	9.4	11.1	10.9	10.6	10.4	10.2	9.4	9.6	9.5	9.0
16 to 24 years	20.8	18.7	21.9	21.7	21.0	20.5	20.1	18.9	18.8	19.0	18.2
25 years and older	8.9	7.9	9.4	9.2	9.0	8.9	8.8	7.9	8.1	8.1	7.6
Women	8.6	8.5	8.7	8.6	8.6	8.5	8.8	8.4	8.5	8.5	8.4
16 to 24 years	15.8	15.7	15.9	15.4	16.1	15.5	16.4	16.4	15.8	15.7	15.1
25 years and older	7.4	7.3	7.5	7.4	7.4	7.4	7.6	7.2	7.3	7.4	7.3
Employment, nonfarm (payroll data), in thousands:[1]											
Total nonfarm	129,874	131,358	129,319	129,438	130,021	129,885	130,346	130,922	131,311	131,694	132,166
Total private	107,384	109,253	106,840	106,914	107,283	107,618	108,088	108,725	109,199	109,642	110,179
Goods-producing	17,751	18,021	17,784	17,704	17,754	17,764	17,785	17,942	18,019	18,100	18,185
Manufacturing	11,528	11,733	11,466	11,470	11,546	11,551	11,575	11,690	11,738	11,768	11,812
Service-providing	112,123	113,337	111,535	111,729	112,267	112,121	112,561	112,980	113,292	113,594	113,981
Average hours:											
Total private	33.4	33.6	33.2	33.3	33.4	33.5	33.5	33.6	33.7	33.6	33.7
Manufacturing	41.1	41.4	40.6	41.0	41.0	41.3	41.3	41.5	41.4	41.3	41.6
Overtime	3.8	4.1	3.5	3.6	3.9	3.9	4.0	4.2	4.0	4.0	4.1
Employment Cost Index[1, 2, 3]											
Total compensation:											
Civilian nonfarm[4]	2.0	2.0	.2	.7	.4	.5	.3	.7	.7	.3	.3
Private nonfarm	2.1	2.2	.2	.8	.5	.4	.3	.7	.9	.3	.3
Goods-producing[5]	2.3	2.4	.2	1.0	.5	.6	.1	.8	1.1	.2	.4
Service-providing[5]	2.0	2.0	.3	.7	.4	.4	.4	.7	.7	.3	.3
State and local government	1.8	1.3	.3	.3	.2	1.0	.3	.3	.1	.8	.1
Workers by bargaining status (private nonfarm):											
Union	3.3	2.7	.5	1.5	.8	.8	.2	.7	1.3	.3	.4
Nonunion	1.8	2.1	.2	.7	.5	.4	.3	.8	.7	.4	.3

[1] Quarterly data seasonally adjusted.

[2] Annual changes are December-to-December changes. Quarterly changes are calculated using the last month of each quarter.

[3] The Employment Cost Index data reflect the conversion to the 2002 North American Classification System (NAICS) and the 2000 Standard Occupational Classification (SOC) system. The NAICS and SOC data shown prior to 2006 are for informational purposes only. Series based on NAICS and SOC became the official BLS estimates starting in March 2006.

[4] Excludes Federal and private household workers.

[5] Goods-producing industries include mining, construction, and manufacturing. Service-providing industries include all other private sector industries.

NOTE: Beginning in January 2003, household survey data reflect revised population controls. Nonfarm data reflect the conversion to the 2002 version of the North American Industry Classification System (NAICS), replacing the Standard Industrial Classification (SIC) system. NAICS-based data by industry are not comparable with SIC-based data.

2. Annual and quarterly percent changes in compensation, prices, and productivity

Selected measures	2010	2011	2009	2010				2011			
			IV	I	II	III	IV	I	II	III	IV
Compensation data[1, 2, 3]											
Employment Cost Index—compensation:											
Civilian nonfarm	2.0	2.0	0.2	0.7	0.4	0.5	0.3	0.7	0.7	0.3	0.3
Private nonfarm	2.1	2.2	.2	.8	.5	.4	.3	.7	.9	.3	.3
Employment Cost Index—wages and salaries:											
Civilian nonfarm	1.6	1.4	.3	.4	.4	.4	.4	.4	.4	.4	.2
Private nonfarm	1.8	1.6	.2	.5	.4	.4	.4	.4	.5	.4	.3
Price data[1]											
Consumer Price Index (All Urban Consumers): All Items	1.5	3.0	.0	.8	.2	.2	.3	2.0	1.0	.5	-.5
Producer Price Index:											
Finished goods	3.8	4.8	1.6	1.8	-.1	.6	1.4	3.6	1.2	.6	-.7
Finished consumer goods	5.0	5.7	1.9	2.4	-.1	.7	1.8	4.6	1.4	.7	-1.2
Capital equipment	.4	2.3	.8	.0	-.1	.0	.5	.6	.4	.2	1.0
Intermediate materials, supplies, and components	6.3	6.1	1.1	2.6	1.2	.4	2.0	5.2	2.9	.0	-1.9
Crude materials	16.1	6.4	12.7	8.8	-4.2	2.7	8.5	9.3	3.5	-2.2	-3.8
Productivity data[4]											
Output per hour of all persons:											
Business sector	4.1	.4	5.3	4.3	1.1	2.5	1.7	-1.4	.1	1.5	.6
Nonfarm business sector	4.1	.7	5.5	4.6	1.2	2.1	2.2	-.6	-.1	1.9	.7
Nonfinancial corporations[5]	4.8	–	9.7	8.8	-1.5	-.3	-3.2	2.3	3.2	-2.6	–

[1] Annual changes are December-to-December changes. Quarterly changes are calculated using the last month of each quarter. Compensation and price data are not seasonally adjusted, and the price data are not compounded.

[2] Excludes Federal and private household workers.

[3] The Employment Cost Index data reflect the conversion to the 2002 North American Classification System (NAICS) and the 2000 Standard Occupational Classification (SOC) system. The NAICS and SOC data shown prior to 2006 are for informational purposes only. Series based on NAICS and SOC became the official BLS estimates starting in March 2006.

[4] Annual rates of change are computed by comparing annual averages. Quarterly percent changes reflect annual rates of change in quarterly indexes. The data are seasonally adjusted.

[5] Output per hour of all employees.

3. Alternative measures of wage and compensation changes

Components	Quarterly change					Four quarters ending—				
	2010	2011				2010	2011			
	IV	I	II	III	IV	IV	I	II	III	IV
Average hourly compensation:[1]										
All persons, business sector	0.4	5.4	0.2	-0.6	2.0	1.5	2.6	2.0	1.3	1.7
All persons, nonfarm business sector	.6	5.6	-.2	-.3	1.9	1.6	2.6	1.9	1.4	1.7
Employment Cost Index—compensation:[2]										
Civilian nonfarm[3]	.3	.7	.7	.3	.3	2.0	2.0	2.2	2.0	2.0
Private nonfarm	.3	.7	.9	.3	.3	2.1	2.0	2.3	2.1	2.2
Union	.2	.7	1.3	.3	.4	3.3	2.5	3.0	2.4	2.7
Nonunion	.3	.8	.7	.4	.3	1.8	1.9	2.2	2.1	2.1
State and local government	.3	.3	.1	.8	.1	1.8	1.8	1.7	1.5	1.3
Employment Cost Index—wages and salaries:[2]										
Civilian nonfarm[3]	.4	.4	.4	.4	.2	1.6	1.6	1.6	1.6	1.4
Private nonfarm	.4	.4	.5	.4	.3	1.8	1.6	1.7	1.7	1.6
Union	.2	.6	.4	.5	.3	1.8	1.9	1.7	1.7	1.8
Nonunion	.3	.4	.5	.4	.3	1.6	1.6	1.7	1.7	1.7
State and local government	.2	.3	.1	.4	.2	1.2	1.2	1.2	1.0	1.0

[1] Seasonally adjusted. "Quarterly average" is percent change from a quarter ago, at an annual rate.

[2] The Employment Cost Index data reflect the conversion to the 2002 North American Classification System (NAICS) and the 2000 Standard Occupational Classification (SOC) system. The NAICS and SOC data shown prior to 2006 are for informational purposes only. Series based on NAICS and SOC became the official BLS estimates starting in March 2006.

[3] Excludes Federal and private household workers.

4. Employment status of the population, by sex, age, race, and Hispanic origin, monthly data seasonally adjusted

[Numbers in thousands]

Employment status	Annual average		2011											2012	
	2010	2011	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
TOTAL															
Civilian noninstitutional population[1]	237,830	239,618	238,851	239,000	239,146	239,313	239,489	239,671	239,871	240,071	240,269	240,441	240,584	242,269	242,435
Civilian labor force	153,889	153,617	153,302	153,392	153,420	153,700	153,409	153,358	153,674	154,004	154,057	153,937	153,887	154,395	154,871
Participation rate	64.7	64.1	64.2	64.2	64.2	64.2	64.1	64.0	64.1	64.1	64.1	64.0	64.0	63.7	63.9
Employed	139,064	139,869	139,551	139,764	139,628	139,808	139,385	139,450	139,754	140,107	140,297	140,614	140,790	141,637	142,065
Employment-population ratio[2]	58.5	58.4	58.4	58.5	58.4	58.4	58.2	58.2	58.3	58.4	58.4	58.5	58.5	58.5	58.6
Unemployed	14,825	13,747	13,751	13,628	13,792	13,892	14,024	13,908	13,920	13,897	13,759	13,323	13,097	12,758	12,806
Unemployment rate	9.6	8.9	9.0	8.9	9.0	9.0	9.1	9.1	9.1	9.0	8.9	8.7	8.5	8.3	8.3
Not in the labor force	83,941	86,001	85,550	85,608	85,726	85,613	86,080	86,313	86,198	86,067	86,213	86,503	86,697	87,874	87,564
Men, 20 years and over															
Civilian noninstitutional population[1]	106,596	107,736	107,292	107,381	107,469	107,566	107,668	107,773	107,884	107,994	108,104	108,203	108,290	108,087	108,188
Civilian labor force	78,994	79,080	78,832	78,805	78,895	79,204	79,116	78,977	79,089	79,241	79,291	79,440	79,436	79,234	79,317
Participation rate	74.1	73.4	73.5	73.4	73.4	73.6	73.5	73.3	73.3	73.4	73.3	73.4	73.4	73.3	73.3
Employed	71,230	72,182	71,901	71,918	71,942	72,161	71,981	71,930	72,098	72,340	72,379	72,846	73,080	73,170	73,240
Employment-population ratio[2]	66.8	67.0	67.0	67.0	66.9	67.1	66.9	66.7	66.8	67.0	67.0	67.3	67.5	67.7	67.7
Unemployed	7,763	6,898	6,931	6,887	6,953	7,043	7,135	7,047	6,991	6,901	6,912	6,594	6,356	6,064	6,077
Unemployment rate	9.8	8.7	8.8	8.7	8.8	8.9	9.0	8.9	8.8	8.7	8.7	8.3	8.0	7.7	7.7
Not in the labor force	27,603	28,656	28,460	28,576	28,573	28,362	28,553	28,795	28,795	28,753	28,813	28,763	28,854	28,853	28,870
Women, 20 years and over															
Civilian noninstitutional population[1]	114,333	115,107	114,714	114,792	114,868	114,954	115,045	115,138	115,238	115,338	115,437	115,526	115,602	117,082	117,170
Civilian labor force	68,990	68,810	68,818	68,852	68,860	68,878	68,570	68,706	68,784	68,989	68,981	68,711	68,748	69,449	69,815
Participation rate	60.3	59.8	60.0	60.0	59.9	59.9	59.6	59.7	59.7	59.8	59.8	59.5	59.5	59.3	59.6
Employed	63,456	63,360	63,351	63,515	63,431	63,385	63,088	63,257	63,322	63,406	63,520	63,352	63,323	64,078	64,454
Employment-population ratio[2]	55.5	55.0	55.2	55.3	55.2	55.1	54.8	54.9	54.9	55.0	55.0	54.8	54.8	54.7	55.0
Unemployed	5,534	5,450	5,467	5,336	5,430	5,493	5,482	5,449	5,462	5,584	5,461	5,359	5,425	5,370	5,361
Unemployment rate	8.0	7.9	7.9	7.8	7.9	8.0	8.0	7.9	7.9	8.1	7.9	7.8	7.9	7.7	7.7
Not in the labor force	45,343	46,297	45,896	45,940	46,008	46,077	46,475	46,432	46,454	46,349	46,457	46,815	46,854	47,634	47,355
Both sexes, 16 to 19 years															
Civilian noninstitutional population[1]	16,901	16,774	16,845	16,827	16,809	16,792	16,776	16,760	16,749	16,739	16,728	16,711	16,693	17,100	17,078
Civilian labor force	5,906	5,727	5,651	5,735	5,665	5,618	5,724	5,675	5,801	5,774	5,785	5,786	5,704	5,713	5,739
Participation rate	34.9	34.1	33.5	34.1	33.7	33.5	34.1	33.9	34.6	34.5	34.6	34.6	34.2	33.4	33.6
Employed	4,378	4,327	4,299	4,332	4,255	4,262	4,316	4,262	4,333	4,362	4,398	4,416	4,387	4,389	4,371
Employment-population ratio[2]	25.9	25.8	25.5	25.7	25.3	25.4	25.7	25.4	25.9	26.1	26.3	26.4	26.3	25.7	25.6
Unemployed	1,528	1,400	1,352	1,404	1,410	1,356	1,408	1,412	1,467	1,412	1,386	1,370	1,316	1,324	1,367
Unemployment rate	25.9	24.4	23.9	24.5	24.9	24.1	24.6	24.9	25.3	24.5	24.0	23.7	23.1	23.2	23.8
Not in the labor force	10,995	11,048	11,194	11,092	11,145	11,174	11,052	11,085	10,949	10,965	10,943	10,925	10,989	11,387	11,339
White[3]															
Civilian noninstitutional population[1]	192,075	193,077	192,601	192,688	192,771	192,877	192,989	193,106	193,236	193,365	193,493	193,598	193,682	192,600	192,691
Civilian labor force	125,084	124,579	124,273	124,489	124,642	124,812	124,526	124,557	124,604	124,701	124,804	124,652	124,543	123,579	123,848
Participation rate	65.1	64.5	64.5	64.6	64.7	64.7	64.5	64.5	64.5	64.5	64.5	64.4	64.3	64.2	64.3
Employed	114,168	114,690	114,294	114,652	114,603	114,827	114,428	114,497	114,704	114,818	114,837	115,130	115,254	114,458	114,754
Employment-population ratio[2]	59.4	59.4	59.3	59.5	59.5	59.5	59.3	59.3	59.4	59.4	59.3	59.5	59.5	59.4	59.6
Unemployed	10,916	9,889	9,979	9,837	10,039	9,985	10,098	10,061	9,901	9,883	9,967	9,522	9,288	9,121	9,094
Unemployment rate	8.7	7.9	8.0	7.9	8.1	8.0	8.1	8.1	7.9	7.9	8.0	7.6	7.5	7.4	7.3
Not in the labor force	66,991	68,498	68,328	68,199	68,129	68,065	68,463	68,549	68,631	68,664	68,689	68,945	69,139	69,021	68,843
Black or African American[3]															
Civilian noninstitutional population[1]	28,708	29,114	28,976	29,005	29,035	29,063	29,093	29,123	29,158	29,193	29,228	29,259	29,286	29,727	29,760
Civilian labor force	17,862	17,881	17,823	17,829	17,847	17,730	17,740	17,614	17,957	18,096	18,067	17,934	18,110	18,206	18,363
Participation rate	62.2	61.4	61.5	61.5	61.5	61.0	61.0	60.5	61.6	62.0	61.8	61.3	61.8	61.2	61.7
Employed	15,010	15,051	15,078	15,047	14,964	14,862	14,875	14,812	14,965	15,224	15,351	15,151	15,248	15,725	15,769
Employment-population ratio[2]	52.3	51.7	52.0	51.9	51.5	51.1	51.1	50.9	51.3	52.1	52.5	51.8	52.1	52.9	53.0
Unemployed	2,852	2,831	2,745	2,782	2,883	2,868	2,865	2,803	2,992	2,872	2,716	2,783	2,862	2,482	2,593
Unemployment rate	16.0	15.8	15.4	15.6	16.2	16.2	16.2	15.9	16.7	15.9	15.0	15.5	15.8	13.6	14.1
Not in the labor force	10,846	11,233	11,153	11,176	11,187	11,333	11,353	11,509	11,202	11,097	11,161	11,325	11,176	11,521	11,398

See footnotes at end of table.

4. Continued—Employment status of the population, by sex, age, race, and Hispanic origin, monthly data seasonally adjusted

[Numbers in thousands]

Employment status	Annual average		2011											2012	
	2010	2011	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
Hispanic or Latino ethnicity															
Civilian noninstitutional population[1]	33,713	34,438	34,079	34,155	34,233	34,311	34,391	34,470	34,555	34,640	34,724	34,808	34,885	36,301	36,384
Civilian labor force	22,748	22,898	22,487	22,643	22,783	22,754	22,832	22,778	22,938	23,014	23,253	23,222	23,270	24,045	24,206
Participation rate	67.5	66.5	66.0	66.3	66.6	66.3	66.4	66.1	66.4	66.4	67.0	66.7	66.7	66.2	66.5
Employed	19,906	20,269	19,877	20,083	20,102	20,060	20,189	20,207	20,353	20,411	20,601	20,574	20,699	21,513	21,628
Employment-population ratio[2]	59.0	58.9	58.3	58.8	58.7	58.5	58.7	58.6	58.9	58.9	59.3	59.1	59.3	59.3	59.4
Unemployed	2,843	2,629	2,611	2,560	2,680	2,695	2,643	2,570	2,585	2,603	2,652	2,648	2,571	2,532	2,579
Unemployment rate	12.5	11.5	11.6	11.3	11.8	11.8	11.6	11.3	11.3	11.3	11.4	11.4	11.0	10.5	10.7
Not in the labor force	10,964	11,540	11,592	11,512	11,450	11,557	11,558	11,692	11,617	11,626	11,471	11,586	11,615	12,256	12,178

[1] The population figures are not seasonally adjusted.
[2] Civilian employment as a percent of the civilian noninstitutional population.
[3] Beginning in 2003, persons who selected this race group only; persons who selected more than one race group are not included. Prior to 2003, persons who reported more than one race were included in the group they identified as the main race.

NOTE: Estimates for the above race groups (white and black or African American) do not sum to totals because data are not presented for all races. In addition, persons whose ethnicity is identified as Hispanic or Latino may be of any race and, therefore, are classified by ethnicity as well as by race. Beginning in January 2003, data reflect revised population controls used in the household survey.

5. Selected employment indicators, monthly data seasonally adjusted

[In thousands]

Selected categories	Annual average		2011											2012	
	2010	2011	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
Characteristic															
Employed, 16 years and older	139,064	139,869	139,551	139,764	139,628	139,808	139,385	139,450	139,754	140,107	140,297	140,614	140,790	141,637	142,065
Men	73,359	74,290	74,053	74,051	73,969	74,217	74,068	74,011	74,209	74,435	74,492	74,975	75,235	75,288	75,318
Women	65,705	65,579	65,498	65,714	65,659	65,591	65,316	65,439	65,545	65,672	65,805	65,639	65,555	66,349	66,747
Married men, spouse present	43,292	43,283	42,959	42,914	43,015	43,043	43,075	43,210	43,259	43,640	43,661	43,933	43,709	43,658	43,556
Married women, spouse present	34,582	34,110	34,384	34,173	34,029	33,847	33,723	33,809	33,947	34,091	34,225	34,442	34,177	34,445	34,341
Persons at work part time[1]															
All industries:															
Part time for economic reasons	8,874	8,560	8,383	8,459	8,571	8,541	8,545	8,437	8,787	9,270	8,790	8,469	8,098	8,230	8,119
Slack work or business conditions	6,174	5,711	5,661	5,634	5,714	5,836	5,807	5,695	5,815	5,900	5,839	5,578	5,305	5,372	5,446
Could only find part-time work	2,375	2,514	2,410	2,355	2,444	2,475	2,474	2,538	2,707	2,844	2,538	2,496	2,419	2,551	2,404
Part time for noneconomic reasons	18,251	18,334	18,280	18,425	18,326	18,481	18,461	18,280	18,276	18,329	18,401	18,363	18,372	18,636	18,827
Nonagricultural industries:															
Part time for economic reasons	8,744	8,423	8,293	8,297	8,453	8,396	8,400	8,264	8,640	9,115	8,664	8,358	7,952	8,083	7,988
Slack work or business conditions	6,087	5,617	5,595	5,542	5,602	5,729	5,704	5,586	5,714	5,803	5,762	5,502	5,199	5,278	5,356
Could only find part-time work	2,358	2,494	2,376	2,326	2,448	2,452	2,308	2,510	2,702	2,869	2,566	2,518	2,423	2,563	2,365
Part time for noneconomic reasons	17,911	17,957	17,930	18,035	18,004	18,113	18,093	17,883	17,867	17,915	18,003	17,941	17,969	18,298	18,399

[1] Excludes persons "with a job but not at work" during the survey period for such reasons as vacation, illness, or industrial disputes.

NOTE: Beginning in January 2003, data reflect revised population controls used in the household survey.

6. Selected unemployment indicators, monthly data seasonally adjusted

[Unemployment rates]

Selected categories	Annual average		2011											2012	
	2010	2011	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
Characteristic															
Total, 16 years and older	9.6	8.9	9.0	8.9	9.0	9.0	9.1	9.1	9.1	9.0	8.9	8.7	8.5	8.3	8.3
Both sexes, 16 to 19 years	25.9	24.4	23.9	24.5	24.9	24.1	24.6	24.9	25.3	24.5	24.0	23.7	23.1	23.2	23.8
Men, 20 years and older	9.8	8.7	8.8	8.7	8.8	8.9	9.0	8.9	8.8	8.7	8.7	8.3	8.0	7.7	7.7
Women, 20 years and older	8.0	7.9	7.9	7.8	7.9	8.0	8.0	7.9	7.9	8.1	7.9	7.8	7.9	7.7	7.7
White, total [1]	8.7	7.9	8.0	7.9	8.1	8.0	8.1	8.1	7.9	7.9	8.0	7.6	7.5	7.4	7.3
Both sexes, 16 to 19 years	23.2	21.7	21.4	21.5	22.1	20.3	21.8	23.1	22.8	21.2	21.7	21.3	20.3	21.1	21.3
Men, 16 to 19 years	26.3	24.5	22.9	23.4	24.9	22.5	25.0	25.3	26.8	24.9	25.5	24.6	23.2	24.5	23.8
Women, 16 to 19 years	20.0	18.9	19.7	19.5	19.4	18.3	18.6	20.8	18.5	17.4	17.7	18.0	17.3	17.7	18.7
Men, 20 years and older	8.9	7.7	7.9	7.8	8.0	7.9	8.0	7.9	7.7	7.7	7.8	7.3	7.1	6.9	6.8
Women, 20 years and older	7.2	7.0	7.1	6.9	7.0	7.1	7.0	7.0	7.0	7.1	7.0	6.9	6.8	6.8	6.8
Black or African American, total [1]	16.0	15.8	15.4	15.6	16.2	16.2	16.2	15.9	16.7	15.9	15.0	15.5	15.8	13.6	14.1
Both sexes, 16 to 19 years	43.0	41.3	38.4	41.9	41.3	40.8	39.8	39.1	46.3	43.6	37.5	39.6	42.1	38.5	34.7
Men, 16 to 19 years	45.4	43.1	41.6	40.3	45.5	44.8	41.3	37.9	44.9	43.5	38.7	42.7	48.3	35.9	43.6
Women, 16 to 19 years	40.5	39.4	35.2	43.5	37.3	36.3	38.3	40.3	48.0	43.6	36.4	36.8	34.6	41.0	26.8
Men, 20 years and older	17.3	16.7	16.4	16.8	17.0	17.4	16.9	17.0	18.0	16.6	16.0	16.4	15.7	12.7	14.3
Women, 20 years and older	12.8	13.2	13.0	12.5	13.5	13.4	13.7	13.4	13.4	13.2	12.6	13.0	13.9	12.6	12.4
Hispanic or Latino ethnicity	12.5	11.5	11.6	11.3	11.8	11.8	11.6	11.3	11.3	11.3	11.4	11.4	11.0	10.5	10.7
Married men, spouse present	6.8	5.8	5.8	6.0	6.1	6.0	6.1	6.1	5.8	5.8	5.8	5.3	5.1	5.1	5.0
Married women, spouse present	5.9	5.6	5.4	5.7	5.7	5.8	5.6	5.6	5.7	5.8	5.7	5.3	5.4	5.6	5.5
Full-time workers	10.4	9.6	9.5	9.5	9.6	9.7	9.7	9.8	9.7	9.8	9.5	9.2	9.0	8.8	8.8
Part-time workers	6.3	6.3	6.5	6.3	6.3	6.2	6.7	6.1	6.5	6.0	6.4	6.0	6.3	5.9	6.0
Educational attainment [2]															
Less than a high school diploma	14.9	14.1	13.7	13.8	14.6	14.6	14.2	14.9	14.1	13.9	13.8	13.3	13.8	13.1	12.9
High school graduates, no college [3]	10.3	9.4	9.5	9.5	9.7	9.5	10.0	9.3	9.5	9.6	9.5	8.8	8.7	8.4	8.3
Some college or associate degree	8.4	8.0	7.8	7.4	7.5	8.0	8.4	8.2	8.2	8.4	8.2	7.6	7.7	7.2	7.3
Bachelor's degree and higher [4]	4.7	4.3	4.3	4.4	4.5	4.5	4.4	4.3	4.3	4.2	4.4	4.4	4.1	4.2	4.2

[1] Beginning in 2003, persons who selected this race group only; persons who selected more than one race group are not included. Prior to 2003, persons who reported more than one race were included in the group they identified as the main race.

[2] Data refer to persons 25 years and older.

7. Duration of unemployment, monthly data seasonally adjusted

[Numbers in thousands]

Weeks of unemployment	Annual average		2011											2012	
	2010	2011	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
Less than 5 weeks	2,771	2,677	2,408	2,437	2,725	2,687	3,068	2,675	2,734	2,743	2,676	2,510	2,669	2,486	2,541
5 to 14 weeks	3,267	2,993	3,080	2,927	2,931	2,912	2,976	3,063	3,019	2,902	3,285	2,896	2,858	2,884	2,807
15 weeks and over	8,786	8,077	8,208	8,122	7,919	8,197	8,137	8,134	8,218	8,227	7,869	7,766	7,628	7,498	7,397
15 to 26 weeks	2,371	2,061	2,195	1,991	2,058	1,994	1,874	1,972	2,203	2,029	2,029	2,087	2,039	1,980	1,971
27 weeks and over	6,415	6,016	6,014	6,130	5,860	6,204	6,263	6,162	6,015	6,197	5,839	5,680	5,588	5,518	5,426
Mean duration, in weeks	33.0	39.3	37.4	38.9	38.3	39.6	39.8	40.2	40.3	40.4	39.2	40.9	40.8	40.1	40.0
Median duration, in weeks	21.4	21.4	21.1	21.6	20.8	21.9	22.1	21.2	21.7	21.8	20.8	21.5	21.0	21.1	20.3

NOTE: Beginning in January 2003, data reflect revised population controls used in the household survey.

8. Unemployed persons by reason for unemployment, monthly data seasonally adjusted

[Numbers in thousands]

Reason for unemployment	Annual average		2011											2012	
	2010	2011	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
Job losers[1]	9,250	8,106	8,337	8,244	8,181	8,250	8,233	8,146	8,120	8,028	7,924	7,599	7,602	7,321	7,209
On temporary layoff	1,431	1,230	1,261	1,209	1,241	1,218	1,253	1,246	1,237	1,195	1,226	1,181	1,216	1,284	1,135
Not on temporary layoff	7,819	6,876	7,076	7,035	6,941	7,031	6,980	6,900	6,883	6,833	6,699	6,418	6,386	6,037	6,075
Job leavers	889	956	904	900	944	919	971	936	973	972	1,068	1,005	953	939	1,031
Reentrants	3,466	3,401	3,354	3,278	3,387	3,436	3,431	3,424	3,519	3,484	3,387	3,355	3,399	3,325	3,361
New entrants	1,220	1,284	1,315	1,335	1,322	1,229	1,227	1,274	1,249	1,323	1,291	1,276	1,280	1,253	1,392
Percent of unemployed															
Job losers[1]	62.4	59.0	59.9	59.9	59.1	59.6	59.4	59.1	58.6	58.1	58.0	57.4	57.4	57.0	55.5
On temporary layoff	9.6	8.9	9.1	8.8	9.0	8.8	9.0	9.0	8.9	8.7	9.0	8.9	9.2	10.0	8.7
Not on temporary layoff	52.7	50.0	50.9	51.1	50.2	50.8	50.4	50.1	49.7	49.5	49.0	48.5	48.3	47.0	46.7
Job leavers	6.0	7.0	6.5	6.5	6.8	6.6	7.0	6.8	7.0	7.0	7.8	7.6	7.2	7.3	7.9
Reentrants	23.4	24.7	24.1	23.8	24.5	24.8	24.8	24.8	25.4	25.2	24.8	25.3	25.7	25.9	25.9
New entrants	8.2	9.3	9.5	9.7	9.6	8.9	8.9	9.2	9.0	9.6	9.4	9.6	9.7	9.8	10.7
Percent of civilian labor force															
Job losers[1]	6.0	5.3	5.4	5.4	5.3	5.4	5.4	5.3	5.3	5.2	5.1	4.9	4.9	4.7	4.7
Job leavers	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.7	.7	.6	.6	.7
Reentrants	2.3	2.2	2.2	2.1	2.2	2.2	2.2	2.2	2.3	2.3	2.2	2.2	2.2	2.2	2.2
New entrants	.8	.8	.9	.9	.9	.8	.8	.8	.8	.9	.8	.8	.8	.8	.9

[1] Includes persons who completed temporary jobs.

NOTE: Beginning in January 2003, data reflect revised population controls used in the household survey.

9. Unemployment rates by sex and age, monthly data seasonally adjusted

[Civilian workers]

Sex and age	Annual average		2011											2012	
	2010	2011	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
Total, 16 years and older	9.6	8.9	9.0	8.9	9.0	9.0	9.1	9.1	9.1	9.0	8.9	8.7	8.5	8.3	8.3
16 to 24 years	18.4	17.3	17.6	17.5	17.6	17.2	17.3	17.4	17.6	17.3	16.7	16.8	16.7	16.0	16.5
16 to 19 years	25.9	24.4	23.9	24.5	24.9	24.1	24.6	24.9	25.3	24.5	24.0	23.7	23.1	23.2	23.8
16 to 17 years	29.1	27.7	28.8	28.7	30.7	28.9	27.9	28.2	28.7	26.3	25.2	23.3	27.8	28.8	29.9
18 to 19 years	24.2	22.9	21.6	22.5	22.3	22.0	22.8	23.2	24.4	23.2	23.2	23.4	21.3	20.5	20.8
20 to 24 years	15.5	14.6	15.3	14.9	14.9	14.6	14.5	14.6	14.7	14.6	13.9	14.2	14.4	13.3	13.8
25 years and older	8.2	7.6	7.6	7.5	7.6	7.8	7.9	7.8	7.7	7.7	7.7	7.3	7.2	7.0	7.0
25 to 54 years	8.6	7.9	7.9	7.8	8.0	8.1	8.2	8.0	8.1	8.1	8.0	7.6	7.6	7.4	7.3
55 years and older	7.0	6.6	6.5	6.5	6.5	6.7	6.9	6.8	6.6	6.7	7.0	6.4	6.2	5.9	5.9
Men, 16 years and older	10.5	9.4	9.4	9.4	9.5	9.5	9.7	9.6	9.5	9.4	9.4	8.9	8.7	8.3	8.3
16 to 24 years	20.8	18.7	18.9	18.9	19.1	18.6	18.7	18.8	19.5	18.9	17.9	18.5	18.3	17.1	18.6
16 to 19 years	28.8	27.2	25.9	26.4	28.1	27.0	27.4	27.2	28.1	27.8	27.3	26.6	26.6	25.3	27.0
16 to 17 years	31.8	29.1	28.6	28.4	32.3	31.0	30.2	29.4	28.2	27.6	27.4	26.7	30.5	32.0	33.5
18 to 19 years	27.4	26.3	24.9	25.4	26.4	25.3	25.8	25.7	28.9	27.1	27.4	26.7	25.1	22.3	23.9
20 to 24 years	17.8	15.7	16.3	16.3	16.0	15.7	15.6	15.8	16.3	15.7	14.6	15.6	15.3	14.2	15.6
25 years and older	8.9	7.9	7.9	7.8	8.0	8.1	8.4	8.2	8.1	8.0	8.1	7.4	7.2	6.9	6.7
25 to 54 years	9.3	8.2	8.1	8.1	8.3	8.4	8.6	8.4	8.4	8.3	8.4	7.7	7.5	7.2	7.1
55 years and older	7.7	7.0	7.1	6.8	6.9	7.0	7.8	7.3	6.9	6.9	7.2	6.7	6.1	5.9	5.7
Women, 16 years and older	8.6	8.5	8.5	8.3	8.4	8.5	8.5	8.5	8.5	8.6	8.4	8.3	8.3	8.3	8.2
16 to 24 years	15.8	15.7	16.2	16.0	15.9	15.7	15.7	15.9	15.6	15.6	15.2	15.0	15.0	14.8	14.2
16 to 19 years	22.8	21.7	21.8	22.6	21.6	21.3	21.7	22.5	22.4	21.1	20.6	20.7	19.3	21.1	20.7
16 to 17 years	26.5	26.3	29.2	29.0	29.4	27.0	25.8	27.0	29.2	25.1	23.2	20.0	25.0	25.8	26.1
18 t0 19 years	20.9	19.3	18.1	19.6	18.0	18.7	19.7	20.6	19.3	19.0	18.6	20.1	17.1	18.6	17.8
20 to 24 years	13.0	13.4	14.1	13.4	13.6	13.5	13.3	13.2	12.8	13.4	13.1	12.6	13.4	12.3	11.7
25 years and older	7.4	7.3	7.2	7.1	7.3	7.4	7.4	7.3	7.3	7.5	7.3	7.2	7.3	7.2	7.2
25 to 54 years	7.8	7.6	7.7	7.5	7.6	7.7	7.8	7.6	7.7	7.8	7.5	7.5	7.6	7.6	7.6
55 years and older[1]	6.2	6.2	5.7	5.8	5.4	6.0	6.3	7.3	7.1	6.6	6.5	5.8	5.7	5.9	6.1

[1] Data are not seasonally adjusted.

NOTE: Beginning in January 2003, data reflect revised population controls used in the household survey.

10. Unemployment rates by State, seasonally adjusted

State	Jan. 2011	Dec. 2011[p]	Jan. 2012[p]	State	Jan. 2011	Dec. 2011[p]	Jan. 2012[p]
Alabama	9.3	8.0	7.8	Missouri	9.0	8.0	7.5
Alaska	7.8	7.4	7.2	Montana	6.9	6.6	6.5
Arizona	9.9	9.0	8.7	Nebraska	4.5	4.2	4.1
Arkansas	8.1	7.8	7.6	Nevada	13.8	13.0	12.7
California	12.1	11.2	10.9	New Hampshire	5.6	5.2	5.1
Colorado	8.8	7.9	7.8	New Jersey	9.4	9.1	9.0
Connecticut	9.3	8.1	8.0	New Mexico	7.7	7.0	7.0
Delaware	7.5	7.2	7.0	New York	8.2	8.2	8.3
District of Columbia	10.0	10.1	9.9	North Carolina	10.5	10.4	10.2
Florida	10.9	9.9	9.6	North Dakota	3.6	3.3	3.2
Georgia	10.1	9.4	9.2	Ohio	9.0	7.9	7.7
Hawaii	6.7	6.6	6.5	Oklahoma	6.2	6.3	6.1
Idaho	8.8	8.3	8.1	Oregon	9.9	9.0	8.8
Illinois	9.4	9.7	9.4	Pennsylvania	8.0	7.7	7.6
Indiana	9.0	8.9	8.7	Rhode Island	11.4	11.0	10.9
Iowa	6.1	5.6	5.4	South Carolina	10.6	9.6	9.3
Kansas	6.9	6.4	6.1	South Dakota	5.0	4.3	4.2
Kentucky	9.9	9.0	8.8	Tennessee	9.5	8.5	8.2
Louisiana	7.7	7.0	6.9	Texas	8.1	7.4	7.3
Maine	8.0	7.0	7.0	Utah	7.5	5.8	5.7
Maryland	7.3	6.6	6.5	Vermont	6.0	5.2	5.1
Massachusetts	7.8	6.9	6.9	Virginia	6.4	6.1	5.8
Michigan	10.9	9.3	9.0	Washington	9.6	8.6	8.4
Minnesota	6.8	5.7	5.6	West Virginia	8.3	7.8	7.4
Mississippi	10.5	10.4	10.0	Wisconsin	7.7	7.0	6.9
				Wyoming	6.3	5.6	5.5

[p] = preliminary

11. Employment of workers on nonfarm payrolls by State, seasonally adjusted

State	Jan. 2011	Dec. 2011[p]	Jan. 2012[p]	State	Jan. 2011	Dec. 2011[p]	Jan. 2012[p]
Alabama	2,203,287	2,171,557	2,160,092	Missouri	3,052,808	3,052,303	3,041,934
Alaska	366,333	369,118	367,907	Montana	501,786	506,810	506,541
Arizona	3,061,756	3,018,964	3,005,922	Nebraska	997,225	1,016,584	1,015,709
Arkansas	1,368,215	1,378,488	1,383,037	Nevada	1,387,620	1,384,519	1,377,473
California	18,358,135	18,475,013	18,462,438	New Hampshire	737,445	741,412	742,129
Colorado	2,723,157	2,734,014	2,730,248	New Jersey	4,546,195	4,580,268	4,572,935
Connecticut	1,921,263	1,918,795	1,916,038	New Mexico	930,670	927,292	928,517
Delaware	438,245	441,593	440,458	New York	9,527,610	9,522,287	9,513,528
District of Columbia	345,920	345,328	346,567	North Carolina	4,632,233	4,677,236	4,683,094
Florida	9,209,189	9,303,297	9,298,687	North Dakota	379,251	388,832	389,701
Georgia	4,715,566	4,740,075	4,743,544	Ohio	5,824,563	5,791,333	5,788,948
Hawaii	659,819	662,713	660,843	Oklahoma	1,767,255	1,786,632	1,785,029
Idaho	767,270	775,335	775,534	Oregon	1,992,553	1,995,202	1,992,848
Illinois	6,554,439	6,585,486	6,579,964	Pennsylvania	6,400,489	6,387,712	6,382,830
Indiana	3,168,924	3,214,449	3,210,675	Rhode Island	565,457	562,007	560,147
Iowa	1,668,647	1,666,642	1,666,454	South Carolina	2,152,042	2,159,404	2,152,122
Kansas	1,505,569	1,512,416	1,510,203	South Dakota	445,822	449,055	449,371
Kentucky	2,069,616	2,069,043	2,066,634	Tennessee	3,124,246	3,140,414	3,134,679
Louisiana	2,073,216	2,062,689	2,057,899	Texas	12,390,781	12,518,554	12,518,550
Maine	702,676	708,085	708,735	Utah	1,349,461	1,330,741	1,330,781
Maryland	3,069,957	3,084,359	3,079,072	Vermont	360,157	360,436	360,580
Massachusetts	3,463,924	3,457,193	3,456,267	Virginia	4,278,310	4,347,644	4,341,962
Michigan	4,678,436	4,630,431	4,633,005	Washington	3,494,829	3,492,396	3,492,453
Minnesota	2,969,472	2,981,754	2,976,126	West Virginia	801,153	802,648	802,677
Mississippi	1,335,304	1,350,639	1,349,014	Wisconsin	3,069,656	3,056,367	3,054,610
				Wyoming	303,338	306,229	306,677

NOTE: Some data in this table may differ from data published elsewhere because of the continual updating of the database.

12. Employment of workers on nonfarm payrolls by industry, monthly data seasonally adjusted

[In thousands]

Industry	Annual average		2011											2012	
	2010	2011	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.[p]	Feb.[p]
TOTAL NONFARM	129,874	131,359	130,676	130,922	131,173	131,227	131,311	131,407	131,492	131,694	131,806	131,963	132,186	132,461	132,701
TOTAL PRIVATE	107,384	109,254	108,464	108,725	108,989	109,097	109,199	109,374	109,426	109,642	109,781	109,959	110,193	110,470	110,703
GOODS-PRODUCING	17,751	18,021	17,894	17,942	17,981	18,001	18,019	18,071	18,067	18,100	18,106	18,114	18,176	18,254	18,283
Natural resources and mining	705	784	741	756	768	777	786	795	798	804	810	814	822	830	834
Logging	49.7	48.3	49.2	50.3	49.0	48.2	47.9	48.4	47.9	47.9	47.0	48.7	48.7	49.0	48.2
Mining	654.8	735.4	692.1	705.6	718.9	728.3	738.2	746.1	749.7	756.3	762.9	764.9	773.3	781.0	786.0
Oil and gas extraction	158.7	174.4	164.4	166.8	170.0	171.4	173.4	175.2	176.8	180.0	182.6	183.2	186.3	188.4	190.0
Mining, except oil and gas[1]	204.5	217.0	211.1	212.8	215.4	217.8	218.7	218.4	219.8	219.9	220.6	219.1	220.5	220.8	221.0
Coal mining	80.8	86.2	83.5	84.5	85.8	87.2	87.5	86.4	87.2	87.5	87.4	86.9	86.6	86.5	86.4
Support activities for mining	291.6	344.0	316.6	326.0	333.5	339.1	346.1	352.5	353.1	356.4	359.7	362.6	366.5	371.8	375.0
Construction	5,518	5,504	5,489	5,496	5,495	5,498	5,495	5,508	5,498	5,528	5,519	5,520	5,546	5,564	5,558
Construction of buildings	1,229.7	1,219.0	1,214.3	1,218.6	1,217.3	1,211.4	1,214.4	1,215.8	1,216.7	1,228.9	1,230.4	1,226.9	1,226.7	1,231.5	1,239.0
Heavy and civil engineering	825.1	829.0	823.4	825.3	830.1	831.6	827.7	827.0	824.8	829.4	832.3	834.2	840.0	840.7	840.7
Speciality trade contractors	3,463.4	3,455.4	3,451.7	3,452.4	3,448.0	3,455.4	3,453.2	3,464.9	3,456.2	3,469.9	3,456.4	3,458.5	3,479.6	3,491.3	3,477.9
Manufacturing	11,528	11,733	11,664	11,690	11,718	11,726	11,738	11,768	11,771	11,768	11,777	11,780	11,808	11,860	11,891
Production workers	8,077	8,231	8,170	8,197	8,225	8,228	8,230	8,259	8,259	8,260	8,268	8,268	8,297	8,336	8,374
Durable goods	7,064	7,274	7,203	7,226	7,245	7,264	7,281	7,303	7,300	7,304	7,317	7,331	7,361	7,401	7,429
Production workers	4,829	4,986	4,927	4,949	4,966	4,977	4,984	5,007	5,007	5,010	5,021	5,035	5,059	5,090	5,119
Wood products	342.1	335.2	342.6	341.9	339.6	337.3	333.3	328.8	330.8	331.4	332.0	331.4	332.0	333.3	335.2
Nonmetallic mineral products	370.9	366.6	368.1	368.5	367.0	367.8	367.4	367.1	365.5	364.4	364.1	364.2	367.0	370.3	372.2
Primary metals	362.3	389.5	378.8	381.2	385.8	389.1	390.7	393.0	393.3	395.2	397.7	399.6	400.7	402.9	403.7
Fabricated metal products	1,281.7	1,344.2	1,322.6	1,331.6	1,337.7	1,345.2	1,350.0	1,355.3	1,350.6	1,349.6	1,349.6	1,359.4	1,367.8	1,377.3	1,385.5
Machinery	996.1	1,056.7	1,034.9	1,040.6	1,046.5	1,051.8	1,056.8	1,059.5	1,064.5	1,067.4	1,070.4	1,076.0	1,082.0	1,088.2	1,093.2
Computer and electronic products[1]	1,094.6	1,107.0	1,101.4	1,102.5	1,106.0	1,106.3	1,107.4	1,110.5	1,111.7	1,111.6	1,111.0	1,107.1	1,107.4	1,107.9	1,107.7
Computer and peripheral equipment	157.6	159.2	158.0	157.1	157.9	157.6	159.2	159.9	160.1	160.0	160.7	161.1	162.2	162.4	162.7
Communications equipment	117.4	115.1	115.5	116.1	117.1	116.1	115.9	115.1	114.6	114.3	113.2	113.1	112.2	111.1	111.0
Semiconductors and electronic components	369.4	384.0	378.9	381.2	382.2	383.2	382.8	385.2	386.9	387.7	388.2	387.0	386.5	387.0	387.7
Electronic instruments	406.4	404.2	406.1	405.0	405.0	404.3	404.4	404.7	404.1	403.8	403.6	401.1	401.4	402.0	401.1
Electrical equipment and appliances	359.5	366.8	365.3	364.5	365.8	366.5	367.2	368.1	368.0	367.6	367.8	367.3	369.1	370.6	372.6
Transportation equipment	1,333.1	1,381.7	1,361.2	1,367.6	1,371.2	1,372.6	1,377.9	1,387.2	1,384.5	1,389.3	1,400.8	1,405.1	1,414.2	1,424.0	1,431.4
Furniture and related products	357.2	352.8	353.4	353.7	352.9	354.4	354.0	357.3	354.5	353.4	351.0	349.8	348.6	349.7	351.5
Miscellaneous manufacturing	566.8	573.4	574.5	573.4	572.5	573.4	576.1	576.2	576.1	574.5	572.4	571.0	572.6	577.2	575.6
Nondurable goods	4,464	4,460	4,461	4,464	4,473	4,462	4,457	4,465	4,471	4,464	4,460	4,449	4,447	4,459	4,462
Production workers	3,248	3,245	3,243	3,248	3,259	3,251	3,246	3,252	3,252	3,250	3,247	3,233	3,238	3,246	3,255
Food manufacturing	1,450.6	1,456.3	1,461.6	1,460.8	1,467.5	1,460.7	1,455.9	1,460.7	1,456.0	1,454.7	1,456.2	1,446.0	1,442.2	1,446.6	1,449.1
Beverages and tobacco products	183.4	188.2	184.0	183.7	185.4	186.9	189.1	189.7	193.2	191.5	191.2	191.7	191.9	193.8	195.1
Textile mills	119.0	120.5	120.2	120.6	121.4	121.1	121.2	122.2	121.3	120.6	119.4	119.2	119.6	120.5	120.4
Textile product mills	119.0	116.8	118.0	118.2	118.3	118.0	118.3	117.6	118.0	115.4	114.8	115.2	114.3	112.8	113.7
Apparel	156.6	151.8	152.6	152.1	152.9	152.7	151.9	149.9	150.9	151.9	152.5	151.2	150.1	150.3	149.7
Leather and allied products	27.8	29.3	29.0	29.1	29.0	28.9	29.2	29.5	28.8	29.5	29.7	30.3	30.3	30.6	30.5
Paper and paper products	394.7	391.3	390.9	391.0	391.3	389.5	390.9	391.0	391.8	392.0	391.4	391.4	392.2	392.6	391.7
Printing and related support activities	487.6	469.3	475.9	475.7	474.4	471.5	469.4	468.3	471.6	465.6	463.5	460.7	459.6	460.5	457.9
Petroleum and coal products	113.9	112.2	112.2	112.3	112.1	112.3	111.8	111.7	111.0	111.8	113.3	113.5	113.9	115.2	115.1
Chemicals	786.5	788.3	782.3	784.3	786.5	785.0	787.0	788.8	792.1	794.2	793.2	791.0	793.8	796.8	796.4
Plastics and rubber products	624.8	635.6	634.6	636.2	634.0	635.2	632.3	635.9	636.5	637.1	634.7	638.6	639.5	639.5	642.3
SERVICE-PROVIDING	112,123	113,338	112,782	112,980	113,192	113,226	113,292	113,336	113,425	113,594	113,700	113,849	114,010	114,207	114,418
PRIVATE SERVICE-PROVIDING	89,633	91,234	90,570	90,783	91,008	91,096	91,180	91,303	91,359	91,542	91,675	91,845	92,017	92,216	92,420
Trade, transportation, and utilities	24,636	25,019	24,866	24,896	24,982	24,993	25,027	25,052	25,060	25,075	25,102	25,154	25,181	25,239	25,232
Wholesale trade	5,452.1	5,528.8	5,496.2	5,510.4	5,517.6	5,525.2	5,531.0	5,533.3	5,538.3	5,535.3	5,547.2	5,554.1	5,568.8	5,583.4	5,590.3
Durable goods	2,713.5	2,752.8	2,738.2	2,745.0	2,747.5	2,754.0	2,757.4	2,755.9	2,758.4	2,755.6	2,761.3	2,761.9	2,770.5	2,776.7	2,778.6
Nondurable goods	1,928.1	1,940.4	1,931.5	1,934.9	1,937.4	1,937.3	1,936.8	1,940.1	1,943.2	1,943.3	1,946.5	1,948.9	1,952.8	1,957.5	1,961.0
Electronic markets and agents and brokers	810.5	835.6	826.5	830.5	832.7	833.9	836.8	837.3	836.7	836.4	839.4	843.3	845.5	849.2	850.7
Retail trade	14,440.4	14,642.9	14,555.5	14,563.2	14,630.7	14,626.1	14,641.9	14,668.8	14,664.4	14,678.6	14,690.9	14,724.7	14,731.5	14,756.4	14,727.8
Motor vehicles and parts dealers[1]	1,629.2	1,687.9	1,669.5	1,674.7	1,680.5	1,684.0	1,685.3	1,692.4	1,693.8	1,696.1	1,701.4	1,705.6	1,709.3	1,713.7	1,717.6
Automobile dealers	1,011.5	1,055.4	1,041.2	1,045.3	1,049.7	1,053.0	1,055.5	1,058.1	1,059.6	1,061.5	1,066.1	1,069.0	1,071.4	1,077.1	1,079.3
Furniture and home furnishings stores	437.9	442.2	439.0	439.9	440.4	441.0	441.3	442.6	442.3	443.8	447.0	446.8	446.5	448.3	449.7
Electronics and appliance stores	522.3	525.5	530.6	529.9	532.8	531.7	531.5	531.6	524.2	517.0	516.6	515.8	514.8	512.8	512.9

See notes at end of table.

12. Continued—Employment of workers on nonfarm payrolls by industry, monthly data seasonally adjusted
[In thousands]

Industry	Annual average		2011											2012	
	2010	2011	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.[p]	Feb.[p]
Building material and garden supply stores	1,131.8	1,140.7	1,131.6	1,145.7	1,153.9	1,145.3	1,142.1	1,138.6	1,139.3	1,137.8	1,137.9	1,142.8	1,141.8	1,147.1	1,150.3
Food and beverage stores	2,808.2	2,829.1	2,811.2	2,812.7	2,826.7	2,824.6	2,828.6	2,830.5	2,834.3	2,840.4	2,841.1	2,839.1	2,848.5	2,856.0	2,858.0
Health and personal care stores	980.5	980.5	975.9	975.3	977.6	978.1	975.7	982.7	983.4	986.0	985.8	987.0	984.2	990.5	993.2
Gasoline stations	819.3	828.0	822.2	824.0	826.4	829.2	831.9	830.1	830.0	826.5	828.6	833.3	830.5	828.4	827.5
Clothing and clothing accessories stores	1,352.5	1,356.0	1,345.0	1,343.0	1,347.4	1,348.3	1,351.5	1,346.9	1,354.7	1,362.0	1,364.3	1,375.2	1,384.5	1,365.8	1,363.1
Sporting goods, hobby, book, and music stores	579.1	574.3	579.2	579.7	578.6	577.5	577.1	579.7	579.4	578.6	571.6	565.1	558.2	553.2	561.4
General merchandise stores[1]	2,997.7	3,080.1	3,061.2	3,042.7	3,071.1	3,067.3	3,075.7	3,078.4	3,078.5	3,085.1	3,091.9	3,118.3	3,116.0	3,136.1	3,085.1
Department stores	1,501.6	1,546.7	1,538.0	1,532.3	1,542.3	1,538.7	1,541.6	1,545.6	1,544.8	1,547.7	1,550.9	1,570.1	1,567.1	1,591.8	1,551.1
Miscellaneous store retailers	761.5	766.9	762.1	766.7	766.2	767.2	768.6	781.8	769.3	771.5	769.4	760.6	761.5	766.1	770.1
Nonstore retailers	420.6	431.7	428.0	428.9	429.1	431.9	432.6	433.5	435.2	433.8	435.3	435.1	435.7	438.4	438.9
Transportation and warehousing	4,190.7	4,292.2	4,261.4	4,269.5	4,279.5	4,287.0	4,298.5	4,295.0	4,301.9	4,303.7	4,306.8	4,316.7	4,321.8	4,338.9	4,353.3
Air transportation	458.3	456.0	454.0	454.4	454.9	456.2	457.5	459.4	457.3	457.4	456.1	455.8	456.1	457.9	456.3
Rail transportation	216.4	228.8	225.0	226.8	227.4	228.9	230.3	229.5	231.7	230.9	231.5	231.2	231.7	232.1	231.9
Water transportation	62.3	62.5	64.3	62.7	62.4	62.5	61.6	61.5	61.9	62.5	63.1	63.1	63.3	65.6	67.3
Truck transportation	1,250.4	1,298.9	1,284.2	1,291.1	1,295.3	1,298.7	1,302.4	1,303.8	1,302.5	1,304.4	1,307.1	1,311.1	1,318.1	1,322.7	1,334.4
Transit and ground passenger transportation	429.7	436.1	435.3	433.8	438.0	436.8	439.5	437.0	439.4	437.2	435.7	431.4	433.5	437.5	435.3
Pipeline transportation	42.3	42.9	42.3	42.8	42.8	42.9	43.1	42.9	42.6	42.9	43.0	43.2	43.4	43.5	43.8
Scenic and sightseeing transportation	27.3	28.6	27.3	27.8	26.6	29.3	29.6	28.5	28.6	28.5	29.6	29.7	29.6	30.4	32.0
Support activities for transportation	542.5	563.9	557.6	559.4	562.7	561.7	563.5	563.6	564.5	566.2	569.8	574.5	574.1	578.7	578.5
Couriers and messengers	528.1	528.5	526.8	527.4	525.2	525.5	525.8	521.7	525.5	525.3	523.3	528.3	521.9	522.9	524.7
Warehousing and storage	633.4	645.8	644.6	643.3	644.2	644.5	645.2	647.1	647.9	648.4	647.6	648.4	650.1	647.6	649.1
Utilities	552.8	555.2	552.9	552.8	554.3	554.7	555.6	555.3	555.7	557.0	556.7	558.2	559.1	559.9	560.5
Information	2,707	2,659	2,674	2,672	2,671	2,671	2,669	2,665	2,615	2,649	2,646	2,644	2,645	2,628	2,641
Publishing industries, except Internet	759.0	749.0	751.6	749.6	750.3	749.1	749.2	749.4	748.7	747.6	748.6	745.8	746.1	741.6	740.8
Motion picture and sound recording industries	370.2	361.3	359.7	362.4	358.8	361.7	359.7	360.6	361.8	356.6	356.5	359.5	363.8	352.3	370.7
Broadcasting, except Internet.	290.3	281.5	284.5	283.0	282.6	281.9	281.8	281.4	280.9	280.9	280.3	279.0	279.6	280.4	279.8
Internet publishing and broadcasting															
Telecommunications	902.9	865.3	885.6	882.8	882.0	878.2	876.3	868.9	818.2	858.2	853.1	850.3	846.9	847.0	841.2
ISPs, search portals, and data processing	243.0	243.0	242.7	243.1	242.9	244.2	242.5	242.9	243.0	242.2	242.4	244.1	242.5	240.6	241.2
Other information services	141.7	158.7	149.5	151.1	154.2	156.2	159.3	161.4	162.6	163.5	165.3	165.1	166.5	166.3	166.9
Financial activities	7,652	7,681	7,669	7,683	7,679	7,693	7,680	7,676	7,681	7,675	7,680	7,691	7,696	7,697	7,706
Finance and insurance	5,718.3	5,751.8	5,749.1	5,756.3	5,749.2	5,758.4	5,754.6	5,749.9	5,751.9	5,746.4	5,744.1	5,750.7	5,756.8	5,757.2	5,760.6
Monetary authorities—central bank	20.0	18.9	18.7	18.6	18.6	18.7	18.8	19.0	19.2	19.2	19.4	19.2	18.9	18.9	18.9
Credit intermediation and related activities[1]	2,550.0	2,558.9	2,556.2	2,554.8	2,554.4	2,564.2	2,559.8	2,558.0	2,556.8	2,555.5	2,552.2	2,563.4	2,570.1	2,575.0	2,578.8
Depository credit intermediation[1]	1,728.8	1,738.4	1,731.6	1,732.1	1,735.6	1,741.7	1,740.2	1,740.9	1,741.1	1,740.3	1,738.2	1,742.0	1,745.9	1,748.3	1,752.2
Commercial banking	1,305.9	1,314.6	1,309.1	1,309.7	1,312.2	1,319.8	1,315.4	1,315.8	1,316.4	1,315.9	1,314.7	1,316.9	1,319.7	1,321.0	1,324.2
Securities, commodity contracts, investments	800.5	807.0	805.7	806.6	807.7	806.8	810.0	810.5	811.5	809.3	807.1	805.1	803.7	801.8	802.3
Insurance carriers and related activities	2,261.1	2,281.6	2,282.0	2,289.9	2,282.4	2,283.0	2,281.0	2,276.1	2,280.1	2,278.3	2,281.5	2,278.9	2,279.6	2,277.1	2,276.2
Funds, trusts, and other financial vehicles	86.8	85.3	86.5	86.4	86.1	85.7	85.0	86.3	84.3	84.1	83.9	84.1	84.5	84.4	84.4
Real estate and rental and leasing	1,933.8	1,928.7	1,920.0	1,926.3	1,929.4	1,934.8	1,925.7	1,926.2	1,929.1	1,928.5	1,935.9	1,940.6	1,939.0	1,939.9	1,945.7
Real estate	1,395.7	1,401.6	1,395.1	1,396.7	1,402.4	1,409.7	1,403.8	1,404.1	1,404.0	1,397.8	1,404.4	1,408.9	1,408.5	1,410.4	1,412.5
Rental and leasing services	513.5	503.0	500.9	505.6	503.0	501.0	497.9	498.3	501.0	506.5	507.2	507.4	506.3	505.6	509.4
Lessors of nonfinancial intangible assets	24.6	24.1	24.0	24.0	24.0	24.1	24.0	23.8	24.1	24.2	24.3	24.3	24.2	23.9	23.8
Professional and business services	16,728	17,331	17,104	17,192	17,242	17,298	17,303	17,342	17,382	17,441	17,482	17,521	17,593	17,672	17,758
Professional and technical services[1]	7,441.3	7,691.3	7,558.2	7,606.0	7,636.1	7,684.6	7,698.1	7,715.7	7,732.5	7,759.2	7,772.1	7,787.1	7,815.5	7,841.9	7,873.9
Legal services	1,114.2	1,115.1	1,114.7	1,114.3	1,114.0	1,115.1	1,111.2	1,116.0	1,115.7	1,114.5	1,115.0	1,116.7	1,115.6	1,117.5	1,117.7
Accounting and bookkeeping services	886.5	920.5	876.2	899.7	905.0	931.5	931.0	928.8	929.1	935.6	940.4	943.6	957.8	963.6	971.1
Architectural and engineering services	1,275.4	1,293.8	1,284.2	1,286.7	1,290.4	1,291.6	1,292.8	1,294.3	1,298.2	1,301.4	1,299.3	1,301.9	1,303.1	1,310.0	1,314.3

See notes at end of table

12. Continued—Employment of workers on nonfarm payrolls by industry, monthly data seasonally adjusted

[In thousands]

Industry	Annual average		2011											2012	
	2010	2011	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.[p]	Feb.[p]
Computer systems design and related services	1,449.0	1,530.1	1,500.0	1,509.9	1,516.9	1,523.9	1,530.1	1,535.8	1,540.8	1,546.1	1,548.5	1,553.1	1,557.8	1,558.8	1,570.0
Management and technical consulting services	999.4	1,070.2	1,043.3	1,048.5	1,060.2	1,066.0	1,070.2	1,076.2	1,082.0	1,085.9	1,091.6	1,092.7	1,099.6	1,107.0	1,114.8
Management of companies and enterprises	1,872.3	1,914.8	1,898.7	1,905.8	1,906.8	1,914.9	1,914.5	1,916.3	1,917.9	1,923.9	1,926.8	1,928.3	1,932.5	1,936.1	1,934.6
Administrative and waste services	7,414.0	7,724.4	7,647.2	7,680.6	7,699.2	7,698.4	7,690.7	7,709.6	7,731.2	7,758.1	7,782.9	7,806.0	7,844.9	7,893.5	7,949.8
Administrative and support services[1]	7,056.7	7,359.2	7,284.4	7,317.3	7,335.7	7,334.2	7,326.9	7,344.8	7,364.6	7,389.4	7,413.5	7,439.1	7,477.0	7,522.7	7,577.9
Employment services[1]	2,722.5	2,952.1	2,897.9	2,929.0	2,931.4	2,930.5	2,922.9	2,935.3	2,954.5	2,975.8	2,985.5	3,014.1	3,047.9	3,083.9	3,150.9
Temporary help services	2,093.6	2,316.2	2,259.3	2,295.5	2,294.2	2,295.9	2,288.2	2,297.1	2,317.7	2,341.4	2,357.9	2,377.6	2,396.3	2,432.7	2,487.6
Business support services	808.6	812.3	811.5	809.9	811.7	811.0	812.2	811.9	813.0	812.9	811.3	814.4	819.9	821.3	817.3
Services to buildings and dwellings	1,745.0	1,777.0	1,770.9	1,770.1	1,776.3	1,775.8	1,772.5	1,774.9	1,777.0	1,779.2	1,787.4	1,784.1	1,780.5	1,788.5	1,783.6
Waste management and remediation services	357.3	365.2	362.8	363.3	363.5	364.2	363.8	364.8	366.6	368.7	369.4	366.9	367.9	370.8	371.9
Educational and health services	19,531	19,884	19,725	19,749	19,804	19,823	19,848	19,898	19,931	19,989	20,026	20,046	20,079	20,110	20,176
Educational services	3,155.1	3,240.7	3,219.9	3,215.1	3,233.2	3,226.1	3,225.8	3,239.3	3,243.1	3,253.4	3,261.1	3,275.3	3,278.9	3,278.4	3,292.1
Health care and social assistance	16,375.4	16,642.8	16,505.0	16,533.4	16,571.0	16,596.7	16,622.4	16,658.5	16,688.3	16,735.8	16,764.6	16,770.8	16,800.3	16,831.1	16,883.9
Ambulatory health care services[1]	5,974.7	6,145.5	6,066.5	6,084.7	6,104.3	6,115.2	6,134.7	6,156.0	6,174.8	6,199.6	6,217.3	6,222.8	6,237.0	6,250.8	6,277.0
Offices of physicians	2,312.7	2,355.4	2,324.8	2,333.6	2,338.7	2,342.6	2,348.4	2,356.9	2,363.6	2,374.8	2,382.1	2,386.6	2,389.9	2,392.9	2,401.9
Outpatient care centers	599.9	623.7	615.2	615.9	618.3	620.9	621.2	621.3	623.7	628.4	632.1	635.8	637.9	642.4	647.2
Home health care services	1,084.6	1,139.1	1,124.1	1,125.8	1,129.1	1,130.2	1,136.7	1,140.7	1,147.7	1,154.0	1,156.1	1,154.3	1,160.0	1,164.8	1,170.1
Hospitals	4,678.5	4,731.0	4,697.0	4,706.0	4,717.6	4,721.3	4,720.4	4,731.2	4,735.6	4,752.4	4,757.6	4,765.2	4,774.3	4,787.2	4,800.5
Nursing and residential care facilities[1]	3,123.7	3,169.2	3,154.4	3,158.8	3,163.5	3,167.1	3,174.7	3,174.8	3,177.7	3,182.3	3,183.3	3,174.2	3,174.1	3,181.2	3,183.7
Nursing care facilities	1,657.1	1,668.4	1,666.8	1,668.6	1,668.9	1,668.9	1,674.3	1,672.3	1,670.9	1,671.4	1,671.8	1,661.0	1,661.4	1,663.9	1,659.9
Social assistance[1]	2,598.5	2,597.2	2,587.1	2,583.9	2,585.6	2,593.1	2,592.6	2,596.5	2,600.2	2,601.5	2,606.4	2,608.6	2,614.9	2,611.9	2,622.7
Child day care services	848.0	844.2	846.4	847.3	847.8	847.5	840.8	843.1	843.7	842.9	842.8	839.5	841.5	836.4	839.2
Leisure and hospitality	13,049	13,320	13,195	13,259	13,295	13,280	13,315	13,332	13,344	13,364	13,394	13,436	13,464	13,503	13,548
Arts, entertainment, and recreation	1,913.3	1,909.5	1,903.7	1,916.3	1,916.1	1,899.3	1,910.9	1,916.2	1,909.6	1,908.3	1,909.9	1,910.7	1,911.0	1,925.2	1,926.6
Performing arts and spectator sports	406.2	394.3	399.9	403.1	398.4	386.6	391.8	389.0	388.9	394.1	395.1	397.9	392.9	400.4	399.2
Museums, historical sites, zoos, and parks	127.7	132.3	130.6	131.1	132.8	130.7	131.6	132.1	132.8	131.9	133.2	134.3	135.4	135.5	135.4
Amusements, gambling, and recreation	1,379.4	1,383.0	1,373.2	1,382.1	1,384.9	1,382.0	1,387.5	1,395.1	1,387.9	1,382.3	1,381.6	1,378.5	1,382.7	1,389.3	1,392.0
Accommodations and food services	11,135.4	11,410.3	11,291.1	11,342.6	11,378.9	11,380.2	11,404.1	11,415.7	11,434.1	11,455.9	11,484.4	11,525.4	11,552.5	11,578.1	11,621.7
Accommodations	1,759.6	1,797.2	1,774.5	1,787.8	1,791.4	1,790.6	1,807.6	1,814.2	1,812.6	1,806.8	1,811.8	1,799.9	1,802.0	1,801.4	1,805.0
Food services and drinking places	9,375.8	9,613.1	9,516.6	9,554.8	9,587.5	9,589.6	9,596.5	9,601.5	9,621.5	9,649.1	9,672.6	9,725.5	9,750.5	9,776.7	9,816.7
Other services	5,331	5,342	5,337	5,332	5,335	5,338	5,338	5,338	5,346	5,349	5,345	5,353	5,359	5,367	5,359
Repair and maintenance	1,138.8	1,160.1	1,156.1	1,158.5	1,156.2	1,158.9	1,158.9	1,159.7	1,159.7	1,162.9	1,164.4	1,166.0	1,165.3	1,166.9	1,160.4
Personal and laundry services	1,265.3	1,284.6	1,277.8	1,280.6	1,281.0	1,282.8	1,285.4	1,288.2	1,290.1	1,294.1	1,289.7	1,288.6	1,292.3	1,291.4	1,290.8
Membership associations and organizations	2,926.4	2,896.8	2,903.4	2,892.5	2,898.0	2,896.1	2,894.0	2,889.9	2,896.3	2,892.4	2,891.1	2,898.7	2,901.1	2,908.9	2,908.0
Government	22,490	22,104	22,212	22,197	22,184	22,130	22,112	22,033	22,066	22,052	22,025	22,004	21,993	21,991	21,998
Federal	2,977	2,858	2,877	2,879	2,873	2,869	2,858	2,851	2,847	2,844	2,844	2,839	2,836	2,831	2,826
Federal, except U.S. Postal Service	2,318.1	2,226.4	2,233.5	2,237.9	2,234.0	2,232.5	2,224.9	2,219.2	2,219.3	2,221.8	2,219.9	2,218.3	2,216.2	2,211.5	2,206.3
U.S. Postal Service	658.5	630.9	643.2	640.6	639.1	636.8	633.0	631.9	627.6	621.8	623.7	620.3	619.5	619.3	619.3
State	5,137	5,082	5,107	5,104	5,098	5,087	5,081	5,054	5,075	5,084	5,063	5,056	5,048	5,052	5,063
Education	2,373.1	2,383.7	2,379.2	2,383.2	2,382.5	2,376.6	2,377.1	2,384.1	2,392.5	2,394.8	2,390.1	2,383.0	2,377.9	2,389.9	2,405.6
Other State government	2,764.1	2,698.0	2,728.2	2,720.3	2,715.9	2,710.2	2,704.2	2,670.1	2,682.6	2,689.0	2,673.3	2,673.2	2,670.3	2,662.0	2,657.3
Local	14,376	14,165	14,228	14,214	14,213	14,174	14,173	14,128	14,144	14,124	14,118	14,109	14,109	14,108	14,109
Education	8,013.4	7,892.9	7,931.2	7,923.0	7,930.5	7,899.2	7,903.1	7,862.5	7,880.7	7,866.7	7,866.0	7,858.1	7,859.5	7,858.4	7,862.9
Other local government	6,362.9	6,272.0	6,297.0	6,291.4	6,282.8	6,274.3	6,270.2	6,265.9	6,263.1	6,257.0	6,252.3	6,251.2	6,249.5	6,249.8	6,246.0

[1] Includes other industries not shown separately.

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

p = preliminary.

13. Average weekly hours of production or nonsupervisory workers[1] on private nonfarm payrolls, by industry, monthly data seasonally adjusted

Industry	Annual average		2011											2012	
	2010	2011	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.[p]	Feb.[p]
TOTAL PRIVATE	33.4	33.6	33.6	33.6	33.7	33.6	33.7	33.7	33.6	33.6	33.7	33.7	33.7	33.8	33.8
GOODS-PRODUCING	40.4	40.9	40.7	40.7	40.8	40.9	40.8	40.9	40.8	40.8	40.9	40.9	41.1	41.2	41.3
Natural resources and mining	44.6	46.7	45.7	45.8	46.6	46.5	47.2	46.4	46.3	46.7	47.5	47.0	47.6	47.7	47.2
Construction	38.4	39.0	38.7	38.6	38.8	39.1	38.9	39.1	39.0	39.0	38.8	38.9	39.2	39.1	39.2
Manufacturing	41.1	41.4	41.4	41.5	41.4	41.5	41.4	41.4	41.3	41.3	41.5	41.5	41.6	41.8	41.9
Overtime hours	3.8	4.1	4.2	4.2	4.1	4.1	4.0	4.1	4.1	4.0	4.1	4.1	4.1	4.2	4.2
Durable goods	41.4	41.9	41.8	41.9	41.8	41.8	41.8	41.8	41.7	41.8	41.9	41.9	42.1	42.2	42.3
Overtime hours	3.8	4.2	4.3	4.4	4.2	4.2	4.2	4.2	4.2	4.1	4.2	4.2	4.3	4.4	4.4
Wood products	39.1	39.7	39.6	40.0	39.9	39.5	39.3	39.2	39.3	39.7	39.5	39.8	40.4	41.3	41.1
Nonmetallic mineral products	41.7	42.3	42.0	42.4	42.2	42.8	42.5	42.6	42.5	42.6	42.3	41.7	42.0	42.3	43.2
Primary metals	43.7	44.6	44.7	45.0	45.0	45.2	45.1	44.8	44.5	44.1	43.9	44.0	44.2	44.2	44.1
Fabricated metal products	41.4	42.0	41.7	41.9	42.0	42.0	42.1	42.1	41.9	41.9	42.0	42.1	42.3	42.3	42.5
Machinery	42.1	43.1	43.2	43.1	42.9	43.3	43.3	43.1	43.2	43.0	42.9	43.0	43.1	43.0	43.1
Computer and electronic products	40.9	40.5	40.3	40.4	40.5	40.5	40.4	40.6	40.5	40.4	40.6	40.4	40.8	41.0	40.8
Electrical equipment and appliances	41.1	40.8	40.4	41.2	40.7	40.8	41.1	40.3	40.3	40.6	41.4	41.0	41.0	41.2	41.5
Transportation equipment	42.9	43.2	43.4	43.6	42.9	42.8	42.8	43.1	43.0	43.2	43.3	43.5	43.7	43.8	43.9
Furniture and related products	38.5	39.9	39.9	40.0	39.9	40.1	39.3	39.7	40.0	39.8	40.0	40.1	40.3	40.9	40.4
Miscellaneous manufacturing	38.7	38.9	39.3	38.8	38.7	38.8	38.7	38.8	38.6	38.9	39.1	39.0	38.9	39.2	39.1
Nondurable goods	40.8	40.8	40.8	40.7	40.9	40.9	40.7	40.9	40.6	40.7	40.9	40.8	40.9	41.1	41.2
Overtime hours	3.8	4.0	4.0	4.0	4.0	4.0	3.8	4.0	4.0	3.9	4.0	4.0	3.9	4.0	4.0
Food manufacturing	40.7	40.2	40.0	39.9	40.3	40.0	40.0	40.2	40.0	40.2	40.2	40.5	40.4	40.5	40.6
Beverage and tobacco products	37.5	39.2	38.8	39.0	38.8	39.1	39.1	39.9	38.7	39.0	39.6	39.5	39.0	39.0	38.7
Textile mills	41.2	41.7	41.8	40.7	42.1	42.2	42.0	42.0	41.8	42.0	42.6	42.4	42.7	42.9	42.8
Textile product mills	39.0	39.1	39.1	39.1	39.1	38.7	38.6	38.0	39.0	39.6	39.7	39.9	40.8	40.5	40.7
Apparel	36.6	38.2	38.8	38.3	38.3	38.9	38.7	38.5	38.3	37.6	37.9	37.7	37.2	38.0	37.8
Leather and allied products	39.1	39.8	40.0	39.0	39.0	39.5	40.3	39.9	39.3	39.2	39.7	40.0	40.2	40.1	40.0
Paper and paper products	42.9	42.9	43.5	43.7	42.8	43.2	43.0	43.1	42.8	42.6	42.8	42.7	42.1	42.9	42.9
Printing and related support activities	38.2	38.0	38.1	37.9	38.0	38.0	37.9	38.3	37.8	37.8	37.8	37.9	38.4	38.4	38.4
Petroleum and coal products	43.0	43.8	42.9	42.8	43.4	44.3	43.6	44.3	43.4	42.8	43.9	44.7	46.2	47.2	48.4
Chemicals	42.2	42.5	42.4	42.6	43.3	43.1	42.5	42.2	42.2	42.3	42.6	41.9	41.9	42.2	42.1
Plastics and rubber products	41.9	42.0	42.0	42.0	41.9	42.1	41.9	42.0	41.9	41.7	42.3	41.8	42.0	42.0	42.4
PRIVATE SERVICE-PROVIDING	32.2	32.4	32.4	32.4	32.5	32.4	32.4	32.5	32.4	32.4	32.5	32.5	32.5	32.5	32.5
Trade, transportation, and utilities	33.3	33.7	33.6	33.7	33.8	33.7	33.7	33.7	33.7	33.7	33.8	33.8	33.8	33.9	33.9
Wholesale trade	37.9	38.5	38.4	38.5	38.5	38.6	38.6	38.5	38.4	38.6	38.7	38.6	38.7	38.6	38.9
Retail trade	30.2	30.5	30.4	30.4	30.6	30.4	30.5	30.6	30.5	30.5	30.7	30.7	30.7	30.8	30.8
Transportation and warehousing	37.1	37.8	38.0	38.2	38.0	37.9	37.9	37.8	37.8	37.7	37.8	37.8	37.7	37.7	37.7
Utilities	42.0	42.1	42.3	42.5	42.7	42.4	42.0	41.9	41.9	42.3	41.9	41.7	40.5	40.8	40.6
Information	36.3	36.2	36.4	36.3	36.5	36.4	36.3	36.4	36.0	36.1	36.3	36.2	36.0	36.2	36.0
Financial activities	36.2	36.4	36.4	36.3	36.3	36.4	36.4	36.5	36.4	36.6	36.6	36.5	36.6	36.6	36.6
Professional and business services	35.1	35.2	35.2	35.1	35.3	35.2	35.3	35.2	35.1	35.2	35.3	35.2	35.2	35.3	35.3
Education and health services	32.1	32.3	32.2	32.2	32.3	32.3	32.3	32.4	32.3	32.4	32.4	32.4	32.3	32.4	32.4
Leisure and hospitality	24.8	24.8	24.8	24.9	24.8	24.8	24.8	24.8	24.7	24.7	24.8	24.8	24.9	24.9	25.0
Other services	30.7	30.7	30.8	30.8	30.8	30.8	30.9	30.7	30.7	30.8	30.9	30.7	30.8	30.8	30.7

[1] Data relate to production workers in natural resources and mining and manufacturing, construction workers in construction, and nonsupervisory workers in the service-providing industries.

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.
p = preliminary.

14. Average hourly earnings of production or nonsupervisory workers[1] on private nonfarm payrolls, by industry, monthly data seasonally adjusted

Industry	Annual average		2011											2012	
	2010	2011	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.[p]	Feb.[p]
TOTAL PRIVATE															
Current dollars	$19.07	$19.47	$19.33	$19.34	$19.39	$19.43	$19.45	$19.52	$19.50	$19.53	$19.57	$19.58	$19.59	$19.61	$19.65
Constant (1982) dollars	8.91	8.79	8.85	8.80	8.79	8.78	8.78	8.78	8.74	8.73	8.75	8.75	8.76	8.75	8.72
GOODS-PRODUCING	20.28	20.66	20.56	20.58	20.59	20.63	20.63	20.68	20.71	20.71	20.75	20.73	20.78	20.78	20.84
Natural resources and mining	23.82	24.51	24.22	24.39	24.04	24.46	24.43	24.62	24.61	24.66	24.85	24.87	24.89	24.89	25.56
Construction	23.22	23.64	23.52	23.51	23.57	23.57	23.58	23.65	23.78	23.76	23.72	23.68	23.75	23.74	23.82
Manufacturing	18.61	18.94	18.88	18.90	18.90	18.92	18.92	18.95	18.93	18.94	19.00	18.98	19.02	19.03	19.03
Excluding overtime	17.78	18.04	17.97	17.99	18.01	18.03	18.05	18.06	18.03	18.07	18.11	18.09	18.13	18.12	18.12
Durable goods	19.81	20.12	20.09	20.10	20.11	20.11	20.10	20.12	20.09	20.12	20.20	20.15	20.15	20.16	20.16
Nondurable goods	16.80	17.07	17.00	17.01	17.02	17.05	17.06	17.10	17.09	17.06	17.10	17.11	17.19	17.20	17.21
PRIVATE SERVICE-PRIVATE SERVICE-PROVIDING	18.81	19.21	19.07	19.08	19.14	19.18	19.20	19.28	19.25	19.28	19.32	19.34	19.34	19.37	19.39
Trade,transportation, and utilities	16.82	17.15	17.06	17.06	17.10	17.12	17.14	17.22	17.18	17.21	17.25	17.26	17.25	17.28	17.30
Wholesale trade	21.54	21.97	21.90	21.86	21.93	21.98	22.00	22.14	22.02	22.02	22.07	22.00	21.97	22.06	22.03
Retail trade	13.24	13.51	13.41	13.42	13.46	13.43	13.46	13.54	13.49	13.51	13.59	13.69	13.67	13.68	13.72
Transportation and warehousing	19.16	19.50	19.43	19.34	19.39	19.45	19.47	19.55	19.60	19.66	19.67	19.55	19.60	19.63	19.62
Utilities	30.04	30.82	30.19	30.68	31.12	30.84	30.87	30.94	30.96	31.20	30.96	31.15	30.99	31.01	30.94
Information	25.87	26.61	26.40	26.50	26.72	26.61	26.42	26.55	26.58	26.71	26.83	26.76	26.80	26.74	26.67
Financial activities	21.52	21.91	21.69	21.77	21.86	21.80	21.76	21.87	21.83	21.95	21.99	22.20	22.26	22.36	22.43
Professional and business services	22.78	23.12	23.02	23.01	23.08	23.10	23.17	23.24	23.14	23.11	23.15	23.21	23.12	23.14	23.13
Education and health services	20.12	20.78	20.53	20.56	20.59	20.71	20.76	20.86	20.92	20.94	20.99	20.98	21.01	21.04	21.09
Leisure and hospitality	11.31	11.45	11.37	11.40	11.42	11.49	11.47	11.49	11.48	11.48	11.50	11.48	11.53	11.54	11.57
Other services	17.06	17.32	17.22	17.22	17.27	17.28	17.34	17.36	17.36	17.38	17.41	17.39	17.42	17.40	17.44

[1] Data relate to production workers in natural resources and mining and manufacturing, construction workers in construction, and nonsupervisory workers in the service-providing industries.

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.
p = preliminary.

15. Average hourly earnings of production or nonsupervisory workers[1] on private nonfarm payrolls, by industry

Industry	Annual average		2011											2012	
	2010	2011	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.[p]	Feb.[p]
TOTAL PRIVATE	$19.07	$19.47	$19.40	$19.35	$19.42	$19.46	$19.31	$19.41	$19.37	$19.53	$19.68	$19.59	$19.59	$19.79	$19.71
Seasonally adjusted	–	–	19.33	19.34	19.39	19.43	19.45	19.52	19.50	19.53	19.57	19.58	19.59	19.61	19.65
GOODS-PRODUCING	20.28	20.66	20.46	20.48	20.56	20.61	20.62	20.73	20.76	20.81	20.84	20.75	20.80	20.72	20.74
Natural resources and mining	23.82	24.51	24.27	24.68	24.09	24.30	24.15	24.56	24.41	24.56	24.71	24.85	25.03	25.01	25.87
Construction	23.22	23.64	23.43	23.38	23.49	23.48	23.49	23.67	23.91	23.90	23.90	23.73	23.80	23.60	23.69
Manufacturing	18.61	18.94	18.93	18.90	18.92	18.92	18.88	18.91	18.83	18.95	18.98	18.96	19.09	19.12	19.06
Durable goods	19.81	20.12	20.18	20.12	20.14	20.10	20.03	20.04	19.97	20.13	20.18	20.14	20.26	20.25	20.22
Wood products	14.85	14.81	14.88	14.82	14.90	14.80	14.78	14.90	14.83	14.72	14.74	14.67	14.73	14.78	14.75
Nonmetallic mineral products	17.48	18.16	17.92	17.81	18.04	18.02	18.21	18.34	18.41	18.30	18.51	18.40	18.04	17.99	17.92
Primary metals	20.13	19.96	20.18	19.99	20.14	20.01	20.09	20.16	19.79	19.68	19.66	19.58	20.07	20.48	20.26
Fabricated metal products	17.94	18.13	18.08	18.07	18.06	18.12	18.05	18.11	18.06	18.15	18.20	18.19	18.33	18.20	18.15
Machinery	18.96	19.53	19.37	19.38	19.40	19.38	19.30	19.39	19.50	19.68	19.74	19.89	19.85	19.94	19.94
Computer and electronic products	22.78	23.32	23.43	23.23	23.41	23.45	23.20	23.27	23.09	23.26	23.36	23.15	23.40	23.55	23.53
Electrical equipment and appliances	16.87	17.96	18.15	17.99	17.92	17.84	17.87	17.86	17.91	17.95	18.03	18.07	18.13	17.96	18.04
Transportation equipment	25.23	25.36	25.46	25.49	25.54	25.58	25.49	25.32	25.03	25.41	25.33	25.12	25.18	25.05	24.96
Furniture and related products	15.06	15.24	15.13	15.24	15.38	15.22	15.04	15.18	15.14	15.21	15.33	15.47	15.43	15.38	15.42
Miscellaneous manufacturing	16.56	16.83	17.02	16.93	16.93	16.73	16.66	16.74	16.77	16.69	16.75	16.74	16.92	16.96	17.08
Nondurable goods	16.80	17.07	16.98	16.97	17.01	17.05	17.04	17.15	17.04	17.10	17.08	17.08	17.20	17.31	17.17
Food manufacturing	14.41	14.63	14.58	14.57	14.63	14.61	14.59	14.68	14.62	14.68	14.57	14.66	14.76	14.94	14.88
Beverages and tobacco products	21.78	20.02	20.77	20.58	20.35	19.95	19.68	19.81	19.75	19.74	19.85	19.82	19.50	19.48	19.16
Textile mills	13.56	13.79	14.14	14.00	13.95	13.86	13.80	13.75	13.75	13.74	13.48	13.56	13.41	13.28	13.43
Textile product mills	11.79	12.21	12.07	12.19	12.32	12.17	12.21	12.36	12.17	12.20	12.36	12.29	12.41	12.35	12.39
Apparel	11.43	11.96	11.89	11.71	11.64	11.68	11.75	11.80	11.87	12.06	12.23	12.32	12.63	12.73	12.76
Leather and allied products	13.03	13.48	13.05	13.35	13.28	13.38	13.41	13.59	13.48	13.76	13.75	13.70	13.99	13.71	13.54
Paper and paper products	20.04	20.26	20.11	19.96	20.15	20.21	20.11	20.41	20.32	20.51	20.39	20.41	20.28	20.44	20.06
Printing and related support activities	16.91	17.28	17.30	17.24	17.21	17.22	17.21	17.22	17.33	17.35	17.28	17.35	17.35	17.19	17.05
Petroleum and coal products	31.31	31.71	32.15	31.79	31.79	31.90	31.99	31.97	31.49	31.36	31.60	31.28	31.31	31.29	31.25
Chemicals	21.07	21.46	21.10	21.34	21.25	21.47	21.60	21.80	21.46	21.50	21.49	21.33	21.72	21.74	21.44
Plastics and rubber products	15.71	15.95	15.93	15.84	15.84	15.86	15.91	15.89	15.91	16.03	16.01	15.96	16.08	16.10	16.02
PRIVATE SERVICE-PROVIDING	18.81	19.21	19.18	19.12	19.18	19.22	19.02	19.12	19.07	19.25	19.43	19.34	19.33	19.60	19.50
Trade, transportation, and utilities	16.82	17.15	17.12	17.05	17.16	17.16	17.06	17.16	17.12	17.25	17.35	17.18	17.07	17.40	17.36
Wholesale trade	21.54	21.97	21.98	21.70	21.96	21.98	21.83	22.11	21.90	21.95	22.10	21.97	22.01	22.29	22.09
Retail trade	13.24	13.51	13.43	13.43	13.52	13.44	13.42	13.51	13.46	13.59	13.72	13.60	13.51	13.76	13.76
Transportation and warehousing	19.16	19.50	19.41	19.30	19.37	19.50	19.41	19.58	19.58	19.63	19.62	19.49	19.55	19.74	19.57
Utilities	30.04	30.82	29.92	30.84	31.28	30.98	30.41	30.79	30.79	31.39	31.02	31.30	30.96	30.88	30.87
Information	25.87	26.61	26.37	26.42	26.71	26.83	26.15	26.41	26.44	26.79	27.24	26.73	26.69	26.95	26.59
Financial activities	21.52	21.91	21.68	21.79	21.89	21.93	21.59	21.75	21.72	21.94	22.14	22.20	22.26	22.59	22.43
Professional and business services	22.78	23.12	23.23	23.00	23.08	23.24	22.95	23.09	22.87	22.95	23.31	23.12	23.13	23.58	23.31
Education and health services	20.12	20.78	20.49	20.55	20.60	20.67	20.69	20.93	20.89	20.96	21.00	20.98	21.03	21.08	21.06
Leisure and hospitality	11.31	11.45	11.46	11.42	11.42	11.51	11.38	11.36	11.37	11.45	11.51	11.54	11.63	11.59	11.64
Other services	17.06	17.32	17.18	17.34	17.37	17.38	17.28	17.23	17.21	17.37	17.41	17.37	17.44	17.44	17.43

1 Data relate to production workers in natural resources and mining and manufacturing, construction workers in construction, and nonsupervisory workers in the service-providing industries.

16. Average weekly earnings of production or nonsupervisory workers[1] on private nonfarm payrolls, by industry

Industry	Annual average		2011											2012	
	2010	2011	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.[p]	Feb.[p]
TOTAL PRIVATE	$636.92	$654.87	$644.08	$644.36	$650.57	$659.69	$650.75	$656.06	$654.71	$658.16	$669.12	$658.22	$660.18	$666.92	$658.31
Seasonally adjusted	–	–	649.49	649.82	653.44	652.85	655.47	657.82	655.2	656.21	659.51	659.85	660.18	662.82	664.17
GOODS-PRODUCING	819	845	818	829	837	847	850	848	857	859	861	855	859	845	844
Natural resources and mining	1,063.11	1,144.04	1,097.00	1,118.00	1,115.37	1,132.38	1,159.20	1,134.67	1,149.71	1,149.41	1,188.55	1,170.44	1,186.42	1,200.48	1,215.89
CONSTRUCTION	891.83	921.66	871.6	890.78	911.41	927.46	934.9	939.7	961.18	951.22	946.44	925.47	923.44	894.44	900.22
Manufacturing	765.2	784.7	776.1	780.6	781.4	785.2	783.5	777.2	781.5	790.2	791.5	792.5	801.8	793.5	789.1
Durable goods	819.1	842.2	835.5	843.0	839.8	842.2	841.3	829.7	836.7	845.5	849.6	849.9	863.1	848.5	847.2
Wood products	580.7	587.8	571.4	589.8	596.0	597.9	594.2	587.1	590.2	590.3	586.7	582.4	592.2	595.6	591.5
Nonmetallic mineral products	728.2	768.4	720.4	737.3	761.3	776.7	784.9	796.0	808.2	797.9	795.9	776.5	745.1	730.4	741.9
Primary metals	880.5	890.3	894.0	901.6	910.3	906.5	910.1	895.1	882.6	867.9	857.2	867.4	903.2	905.2	883.3
Fabricated metal products	742.8	762.2	744.9	755.3	760.3	761.0	763.5	758.8	760.3	762.3	768.0	773.1	784.5	764.4	762.3
Machinery	798	843	837	835	832	837	834	826	835	850	849	861	871	859	857
Computer and electronic products	932.3	943.9	939.5	938.5	938.7	949.7	935.0	933.1	932.8	944.4	955.4	949.2	964.1	960.8	950.6
Electrical equipment and appliances	693	732	722	738	731	731	736	707	718	725	752	750	749	740	740
Transportation equipment	1,082	1,095	1,102	1,111	1,091	1,095	1,096	1,066	1,084	1,108	1,104	1,098	1,121	1,087	1,096
Furniture and related products	580	608	595	614	615	616	594	603	612	607	606	617	633	620	617
Miscellaneous manufacturing	640.9	655.2	665.5	658.6	656.9	649.1	649.7	642.8	649.0	652.6	658.3	656.2	663.3	663.1	661.0
Nondurable goods	685.2	696.4	684.3	687.3	692.3	697.4	695.2	696.3	695.2	704.5	703.7	703.7	708.6	708.0	698.8
Food manufacturing	586.4	587.9	573.0	574.1	580.8	584.4	583.6	588.7	587.7	604.8	594.5	601.1	602.2	600.6	590.7
Beverages and tobacco products	816.5	784.9	793.4	798.5	787.6	792.0	781.3	806.3	778.2	769.9	807.9	784.9	741.0	748.0	718.5
Textile mills	559.1	574.6	582.6	569.8	588.7	591.8	582.4	572.0	580.3	578.5	568.9	576.3	571.3	567.1	572.1
Textile product mills	459.4	477.5	471.9	480.3	478.0	471.0	471.3	466.0	473.4	486.8	489.5	492.8	513.8	494.0	501.8
Apparel	418.3	457.1	456.6	452.0	451.6	456.7	459.4	451.9	457.0	445.0	461.1	466.9	474.9	483.7	483.6
Leather and allied products	509.2	536.9	522.0	524.7	521.9	528.5	540.4	536.8	531.1	535.3	547.3	550.7	566.6	551.1	538.9
Paper and paper products	858.7	869.3	866.7	864.3	858.4	871.1	864.7	873.6	867.7	881.9	876.8	879.7	866.0	878.9	854.6
Printing and related support activities	646.1	655.8	650.5	651.7	652.3	652.6	647.1	652.6	660.3	669.7	660.1	659.3	671.5	654.9	653.0
Petroleum and coal products	1,345.7	1,389.1	1,340.7	1,328.8	1,367.0	1,422.7	1,398.0	1,454.6	1,379.3	1,373.6	1,412.5	1,398.2	1,412.1	1,480.0	1,487.5
Chemicals	888.3	910.9	894.6	909.1	918.0	923.2	915.8	911.2	901.3	907.3	915.5	900.1	918.8	921.8	898.3
Plastics and rubber products	658.6	669.5	664.3	663.7	665.3	667.7	669.8	659.4	666.6	671.7	677.2	670.3	685.0	674.6	674.4
PRIVATE SERVICE-PROVIDING	606	622	616	616	620	627	616	621	620	622	637	625	626	637	630
Trade, transportation, and utilities	559.6	577.8	566.7	569.5	576.6	581.7	576.6	585.2	578.7	581.3	589.9	577.3	578.7	584.6	579.8
Wholesale trade	816.5	845.4	835.2	828.9	843.3	857.2	842.6	846.8	838.8	845.1	864.1	845.9	847.4	862.6	850.5
Retail trade	400.0	412.1	400.2	404.2	411.0	409.9	410.7	421.5	413.2	415.9	421.2	413.4	418.8	419.7	416.9
Transportation and warehousing	710.9	737.4	724.0	729.5	730.3	741.0	737.6	744.0	746.0	742.0	749.5	740.6	739.0	738.3	726.1
Utilities	1,262.9	1,296.9	1,268.6	1,307.6	1,345.0	1,316.7	1,277.2	1,283.9	1,287.0	1,337.2	1,305.9	1,314.6	1,247.7	1,250.6	1,247.2
Information	939.9	964.0	954.6	951.1	966.9	982.0	944.0	958.7	949.2	967.1	999.7	967.6	955.5	983.7	951.9
Financial activities	778.4	797.8	784.8	782.3	790.2	811.4	781.6	787.4	786.3	796.4	823.6	803.6	808.0	844.9	816.5
Professional and business services	798.5	813.7	810.7	802.7	814.7	829.7	810.1	808.2	805.0	805.6	832.2	811.5	809.6	830.0	815.9
Education and health services	646.7	670.8	655.7	657.6	661.3	669.7	666.2	680.2	674.8	677.0	684.6	677.7	679.3	687.2	678.1
Leisure and hospitality	281	284	280	282	282	288	285	289	288	282	289	283	284	283	286
Other services	524	532	526	531	533	537	532	531	532	533	540	532	534	537	532

1 Data relate to production workers in natural resources and mining and manufacturing, construction workers in construction, and nonsupervisory workers in the service-providing industries.

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.
Dash indicates data not available.
p = preliminary.

17. Diffusion indexes of employment change, seasonally adjusted

[In percent]

Timespan and year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
	Private nonfarm payrolls, 278 industries											
Over 1-month span:												
2008	52.8	48.7	50.6	40.4	40.8	33.5	32.7	33.3	29.3	33.6	24.2	22.9
2009	20.1	18.4	15.8	17.5	28.6	23.5	31.2	33.6	35.9	28.4	39.5	37.8
2010	44.5	47.9	56.6	60.2	55.1	53.9	54.1	53.2	51.1	59.6	57.1	60.2
2011	61.8	68.8	65.8	65.2	54.5	57.0	62.2	57.3	57.9	56.8	55.6	63.7
2012	70.3	60.7										
Over 3-month span:												
2008	56.2	47.9	49.1	41.5	38.3	32.0	31.8	27.1	25.9	27.3	21.6	20.3
2009	18.2	13.3	13.2	13.9	17.5	19.2	20.3	20.7	28.8	28.4	30.1	29.9
2010	34.4	41.2	48.7	55.8	59.8	60.0	55.5	54.7	57.5	56.6	56.4	64.3
2011	60.7	66.0	71.8	69.9	67.1	64.3	64.1	61.7	61.3	60.9	61.7	61.1
2012	66.0	72.2										
Over 6-month span:												
2008	52.4	51.3	51.9	49.2	43.0	36.8	32.5	30.6	27.6	27.4	23.7	23.3
2009	18.4	13.9	13.5	11.8	12.8	13.2	13.0	15.4	18.0	22.0	22.0	24.4
2010	27.1	28.8	34.4	44.4	50.9	53.8	58.5	60.5	61.1	59.6	60.3	63.0
2011	65.6	65.2	71.2	68.8	66.5	68.2	70.5	66.4	65.8	63.5	62.8	63.5
2012	68.6	70.1										
Over 12-month span:												
2008	54.7	56.0	52.8	46.4	47.6	43.6	40.4	39.5	36.1	32.7	28.6	26.7
2009	25.0	17.5	15.2	15.0	15.4	15.8	14.5	12.8	13.9	14.5	13.9	15.6
2010	15.8	15.6	18.6	24.1	28.2	35.0	39.5	40.0	44.7	50.2	53.2	58.5
2011	59.2	67.5	68.4	67.7	66.4	69.0	68.2	69.4	69.0	66.4	66.9	65.2
2012	70.9	69.5										
	Manufacturing payrolls, 84 industries											
Over 1-month span:												
2008	44.4	42.6	44.4	34.0	39.5	21.0	21.0	22.8	17.3	23.5	11.7	8.0
2009	6.8	8.0	8.6	12.3	8.6	9.3	24.1	27.2	25.3	24.1	34.0	38.3
2010	38.3	52.5	56.2	63.6	65.4	52.5	52.5	45.7	50.0	51.9	56.2	62.3
2011	70.4	67.9	66.7	66.7	54.3	57.4	63.6	50.0	53.7	49.4	48.1	64.8
2012	77.8	59.9										
Over 3-month span:												
2008	50.6	35.8	36.4	33.3	30.9	24.7	17.9	11.1	14.2	15.4	12.3	7.4
2009	6.8	2.5	3.7	8.6	7.4	8.0	5.6	9.3	19.8	19.1	19.8	24.1
2010	31.5	43.8	46.3	55.6	59.3	62.3	57.4	51.2	51.2	44.4	44.4	56.8
2011	68.5	74.7	78.4	72.8	66.7	63.0	62.3	59.3	56.8	55.6	50.0	58.0
2012	65.4	74.7										
Over 6-month span:												
2008	27.8	29.0	39.5	38.3	37.7	28.4	19.8	19.8	12.3	14.2	11.1	12.3
2009	8.0	4.9	3.7	6.2	2.5	5.6	6.2	6.2	7.4	7.4	8.6	14.2
2010	19.1	22.8	32.1	42.6	51.2	53.7	56.8	56.8	57.4	54.3	50.0	54.3
2011	65.4	69.8	69.1	77.2	74.1	71.6	71.0	68.5	66.7	59.3	54.9	48.8
2012	64.2	62.3										
Over 12-month span:												
2008	28.4	29.6	26.5	24.7	30.2	25.9	22.2	19.8	23.5	19.1	15.4	13.6
2009	7.4	3.7	4.9	6.2	3.7	4.9	7.4	3.7	4.9	4.9	3.7	4.3
2010	5.6	1.2	6.2	7.4	19.8	29.6	37.0	34.6	38.3	47.5	48.8	54.9
2011	58.0	63.6	63.6	69.1	64.8	69.8	69.8	69.1	70.4	67.9	64.2	62.3
2012	67.9	65.4										

NOTE: Figures are the percent of industries with employment increasing plus one-half of the industries with unchanged employment, where 50 percent indicates an equal balance between industries with increasing and decreasing employment.

See the "Definitions" in this section. See "Notes on the data" for a description of the most recent benchmark revision.

Data for the two most recent months are preliminary.

18. Job openings levels and rates by industry and region, seasonally adjusted

Industry and region	Levels[1] (in thousands)							Percent						
	2011					2012		2011					2012	
	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.[p]	Feb.[p]	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.[p]	Feb.[p]
Total[2]	3,152	3,501	3,408	3,274	3,540	3,477	3,498	2.3	2.6	2.5	2.4	2.6	2.6	2.6
Industry														
Total private[2]	2,818	3,100	3,062	2,925	3,188	3,119	3,125	2.5	2.7	2.7	2.6	2.8	2.7	2.7
Construction	103	78	80	83	78	86	84	1.8	1.4	1.4	1.5	1.4	1.5	1.5
Manufacturing	238	249	240	240	252	261	253	2.0	2.1	2.0	2.0	2.1	2.2	2.1
Trade, transportation, and utilities	491	599	594	581	574	584	599	1.9	2.3	2.3	2.3	2.2	2.3	2.3
Professional and business services	622	692	644	561	785	695	691	3.5	3.8	3.6	3.1	4.3	3.8	3.7
Education and health services	606	600	622	616	605	630	654	3.0	2.9	3.0	3.0	2.9	3.0	3.1
Leisure and hospitality	362	392	404	434	441	432	418	2.6	2.9	2.9	3.1	3.2	3.1	3.0
Government	334	400	345	349	352	358	373	1.5	1.8	1.5	1.6	1.6	1.6	1.7
Region[3]														
Northeast	552	606	573	557	595	590	632	2.2	2.4	2.2	2.2	2.3	2.3	2.4
South	1,135	1,335	1,310	1,306	1,443	1,442	1,398	2.3	2.7	2.7	2.7	2.9	2.9	2.8
Midwest	714	736	715	730	763	738	766	2.3	2.4	2.3	2.4	2.5	2.4	2.5
West	750	824	811	682	740	707	702	2.5	2.8	2.7	2.3	2.5	2.4	2.4

[1] Detail will not necessarily add to totals because of the independent seasonal adjustment of the various series.
[2] Includes natural resources and mining, information, financial activities, and other services, not shown separately.
[3] **Northeast:** Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont; **South:** Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, West Virginia; **Midwest**: Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin; **West:** Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming.
NOTE: The job openings level is the number of job openings on the last business day of the month; the job openings rate is the number of job openings on the last business day of the month as a percent of total employment plus job openings.
[p] = preliminary.

19. Hires levels and rates by industry and region, seasonally adjusted

Industry and region	Levels[1] (in thousands)							Percent						
	2011					2012		2011					2012	
	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.[p]	Feb.[p]	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.[p]	Feb.[p]
Total[2]	4,221	4,276	4,220	4,268	4,188	4,239	4,385	3.2	3.2	3.2	3.2	3.2	3.2	3.3
Industry														
Total private[2]	3,932	4,002	3,979	3,986	3,889	3,945	4,075	3.6	3.6	3.6	3.6	3.5	3.6	3.7
Construction	325	360	333	312	315	331	310	5.9	6.5	6.0	5.7	5.7	5.9	5.6
Manufacturing	257	240	240	237	269	253	259	2.2	2.0	2.0	2.0	2.3	2.1	2.2
Trade, transportation, and utilities	823	810	840	849	812	836	819	3.3	3.2	3.3	3.4	3.2	3.3	3.2
Professional and business services	890	911	893	858	818	831	959	5.1	5.2	5.1	4.9	4.6	4.7	5.4
Education and health services	489	486	484	483	494	517	540	2.5	2.4	2.4	2.4	2.5	2.6	2.7
Leisure and hospitality	711	736	719	779	743	757	765	5.3	5.5	5.4	5.8	5.5	5.6	5.6
Government	290	275	241	281	299	294	311	1.3	1.2	1.1	1.3	1.4	1.3	1.4
Region[3]														
Northeast	685	664	684	691	676	710	725	2.7	2.6	2.7	2.7	2.7	2.8	2.9
South	1,617	1,626	1,656	1,626	1,634	1,667	1,827	3.4	3.4	3.5	3.4	3.4	3.5	3.8
Midwest	978	996	960	1,004	986	977	925	3.3	3.3	3.2	3.3	3.3	3.2	3.1
West	942	990	919	947	891	884	908	3.3	3.4	3.2	3.3	3.1	3.0	3.1

[1] Detail will not necessarily add to totals because of the independent seasonal adjustment of the various series.
[2] Includes natural resources and mining, information, financial activities, and other services, not shown separately.
[3] **Northeast**: Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont; **South:** Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, West Virginia; **Midwest:** Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin; **West:** Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming.

NOTE: The hires level is the number of hires during the entire month; the hires rate is the number of hires during the entire month as a percent of total employment.
[p] = preliminary.

20. Total separations levels and rates by industry and region, seasonally adjusted

Industry and region	Levels[1] (in thousands)							Percent						
	2011					2012		2011					2012	
	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.[p]	Feb.[p]	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.[p]	Feb.[p]
Total[2]	4,112	4,089	4,065	4,057	4,023	4,017	4,092	3.1	3.1	3.1	3.1	3.0	3.0	3.1
Industry														
Total private[2]	3,835	3,808	3,781	3,750	3,695	3,729	3,787	3.5	3.5	3.4	3.4	3.4	3.4	3.4
Construction	338	324	325	300	303	308	322	6.1	5.9	5.9	5.4	5.5	5.5	5.8
Manufacturing	247	236	227	236	239	217	236	2.1	2.0	1.9	2.0	2.0	1.8	2.0
Trade, transportation, and utilities	805	811	813	770	773	837	781	3.2	3.2	3.2	3.1	3.1	3.3	3.1
Professional and business services	845	857	831	807	792	745	833	4.9	4.9	4.8	4.6	4.5	4.2	4.7
Education and health services	460	409	450	462	468	501	467	2.3	2.0	2.2	2.3	2.3	2.5	2.3
Leisure and hospitality	716	716	663	715	695	700	723	5.4	5.4	5.0	5.3	5.2	5.2	5.3
Government	276	281	285	307	328	288	305	1.3	1.3	1.3	1.4	1.5	1.3	1.4
Region[3]														
Northeast	677	660	702	667	631	692	699	2.7	2.6	2.8	2.7	2.5	2.7	2.8
South	1,578	1,607	1,537	1,609	1,592	1,598	1,618	3.3	3.4	3.2	3.4	3.3	3.3	3.4
Midwest	951	897	949	881	905	866	902	3.2	3.0	3.2	2.9	3.0	2.9	3.0
West	906	925	877	899	895	862	873	3.1	3.2	3.0	3.1	3.1	3.0	3.0

[1] Detail will not necessarily add to totals because of the independent seasonal adjustment of the various series.
[2] Includes natural resources and mining, information, financial activities, and other services, not shown separately.
[3] **Northeast:** Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont; **South:** Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, West Virginia; **Midwest:** Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin; **West:** Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming.

NOTE: The total separations level is the number of total separations during the entire month; the total separations rate is the number of total separations during the entire month as a percent of total employment.
[p]= preliminary

21. Quits levels and rates by industry and region, seasonally adjusted

Industry and region	Levels[1] (in thousands)							Percent						
	2011					2012		2011					2012	
	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.[p]	Feb.[p]	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.[p]	Feb.[p]
Total[2]	2,048	2,015	1,983	1,976	2,008	2,002	2,090	1.6	1.5	1.5	1.5	1.5	1.5	1.6
Industry														
Total private[2]	1,932	1,902	1,869	1,860	1,867	1,876	1,961	1.8	1.7	1.7	1.7	1.7	1.7	1.8
Construction	69	80	80	91	76	70	67	1.3	1.4	1.5	1.7	1.4	1.3	1.2
Manufacturing	99	99	105	121	113	97	101	.8	.8	.9	1.0	1.0	.8	.8
Trade, transportation, and utilities	439	456	461	413	447	449	457	1.8	1.8	1.8	1.6	1.8	1.8	1.8
Professional and business services	387	395	368	380	363	352	373	2.2	2.3	2.1	2.2	2.1	2.0	2.1
Education and health services	270	244	242	247	265	282	295	1.4	1.2	1.2	1.2	1.3	1.4	1.5
Leisure and hospitality	439	403	374	370	388	398	436	3.3	3.0	2.8	2.8	2.9	2.9	3.2
Government	116	114	114	116	141	125	129	.5	.5	.5	.5	.6	.6	.6
Region[3]														
Northeast	283	281	288	275	279	343	324	1.1	1.1	1.1	1.1	1.1	1.4	1.3
South	831	877	782	830	816	827	861	1.7	1.8	1.6	1.7	1.7	1.7	1.8
Midwest	495	425	477	443	469	412	469	1.7	1.4	1.6	1.5	1.6	1.4	1.6
West	439	433	436	428	445	419	436	1.5	1.5	1.5	1.5	1.5	1.4	1.5

[1] Detail will not necessarily add to totals because of the independent seasonal adjustment of the various series.
[2] Includes natural resources and mining, information, financial activities, and other services, not shown separately.
[3] **Northeast:** Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont; **South:** Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, West Virginia; **Midwest**: Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin; **West:** Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming.

NOTE: The quits level is the number of quits during the entire month; the quits rate is the number of quits during the entire month as a percent of total employment.
[p] = preliminary.

22. Quarterly Census of Employment and Wages: 10 largest counties, third quarter 2010.

County by NAICS supersector	Establishments, third quarter 2010 (thousands)	Employment		Average weekly wage[1]	
		September 2010 (thousands)	Percent change, September 2009-10[2]	Third quarter 2010	Percent change, third quarter 2009-10[2]
United States[3]	9,044.4	128,440.4	0.2	$870	3.4
Private industry	8,746.3	107,007.4	.4	861	4.0
Natural resources and mining	126.9	1,926.7	3.3	884	5.7
Construction	796.6	5,686.9	-4.6	946	1.3
Manufacturing	343.4	11,584.3	-.3	1,074	6.8
Trade, transportation, and utilities	1,877.4	24,381.8	-.2	742	4.4
Information	144.5	2,701.5	-2.3	1,416	7.4
Financial activities	818.0	7,379.9	-1.7	1,235	4.6
Professional and business services	1,544.9	16,869.8	3.3	1,093	3.1
Education and health services	893.5	18,661.9	1.9	842	2.8
Leisure and hospitality	748.6	13,292.8	.7	370	3.6
Other services	1,267.9	4,342.8	-.1	562	3.5
Government	298.0	21,433.0	-.8	918	1.2
Los Angeles, CA	427.0	3,844.5	-.8	972	3.1
Private industry	421.4	3,311.1	-.3	948	3.6
Natural resources and mining	.5	10.8	5.9	1,903	45.9
Construction	13.0	104.2	-9.3	1,010	-1.6
Manufacturing	13.5	374.1	-1.7	1,079	4.6
Trade, transportation, and utilities	52.2	732.2	.1	783	2.9
Information	8.5	196.9	1.2	1,644	3.1
Financial activities	22.4	209.4	-1.1	1,456	8.4
Professional and business services	42.0	528.2	.9	1,145	1.1
Education and health services	29.0	508.8	2.6	931	2.6
Leisure and hospitality	27.1	390.4	.9	544	2.6
Other services	200.8	248.5	-5.9	451	7.9
Government	5.6	533.4	-4.0	1,123	1.1
Cook, IL	143.4	2,354.8	-.4	1,008	3.2
Private industry	142.0	2,055.8	-.1	1,000	3.5
Natural resources and mining	.1	1.0	-8.4	1,051	7.5
Construction	12.2	67.2	-10.0	1,228	-3.3
Manufacturing	6.7	194.3	-1.0	1,069	6.3
Trade, transportation, and utilities	27.7	428.9	.2	784	3.2
Information	2.6	51.0	-3.5	1,439	6.4
Financial activities	15.4	187.9	-2.8	1,644	7.6
Professional and business services	30.2	407.7	2.6	1,259	1.7
Education and health services	14.9	391.0	([4])	903	([4])
Leisure and hospitality	12.4	230.9	.2	463	4.5
Other services	15.4	92.5	([4])	761	5.3
Government	1.4	298.9	-2.5	1,067	1.5
New York, NY	120.9	2,273.0	1.2	1,572	4.7
Private industry	120.6	1,834.9	1.6	1,685	4.6
Natural resources and mining	.0	.1	-5.0	1,853	-9.3
Construction	2.2	30.5	-7.0	1,608	3.5
Manufacturing	2.5	26.7	-2.5	1,256	6.1
Trade, transportation, and utilities	21.1	233.4	2.2	1,130	2.4
Information	4.4	131.0	-.8	2,042	7.8
Financial activities	19.0	348.8	1.3	2,903	5.5
Professional and business services	25.6	458.2	1.9	1,880	3.8
Education and health services	9.1	290.0	1.7	1,147	5.5
Leisure and hospitality	12.3	223.3	3.2	756	3.7
Other services	18.6	86.3	.2	1,026	9.5
Government	.3	438.1	-.6	1,098	3.8
Harris, TX	100.0	1,995.8	1.1	1,083	3.9
Private industry	99.4	1,734.1	1.0	1,095	4.6
Natural resources and mining	1.6	75.2	4.0	2,692	3.9
Construction	6.5	133.6	-3.4	1,038	.6
Manufacturing	4.5	169.0	.4	1,357	6.6
Trade, transportation, and utilities	22.5	415.8	.2	969	5.4
Information	1.3	27.9	-5.1	1,298	6.1
Financial activities	10.4	111.4	-2.8	1,283	5.5
Professional and business services	19.8	322.3	2.8	1,310	4.6
Education and health services	11.1	238.7	3.5	902	3.7
Leisure and hospitality	8.0	179.2	1.2	398	2.3
Other services	13.2	59.8	3.0	620	2.1
Government	.6	261.7	([4])	1,003	([4])
Maricopa, AZ	95.0	1,597.0	-.5	859	2.4
Private industry	94.3	1,382.4	-.3	851	2.9
Natural resources and mining	.5	6.5	-12.0	787	9.8
Construction	8.9	80.4	-10.0	892	2.4
Manufacturing	3.2	106.6	-2.6	1,250	9.6
Trade, transportation, and utilities	22.0	328.7	-1.0	797	4.2
Information	1.5	26.7	1.3	1,118	2.2
Financial activities	11.3	131.2	-2.1	1,025	2.9
Professional and business services	22.0	259.5	.7	896	.4
Education and health services	10.4	231.5	([4])	919	([4])
Leisure and hospitality	6.9	165.5	.3	409	3.0
Other services	6.8	45.1	-.3	571	2.5
Government	.7	214.6	-1.8	915	-.7

22. Continued—Quarterly Census of Employment and Wages: 10 largest counties, third quarter 2010.

County by NAICS supersector	Establishments, third quarter 2010 (thousands)	Employment		Average weekly wage[1]	
		September 2010 (thousands)	Percent change, September 2009-10[2]	Third quarter 2010	Percent change, third quarter 2009-10[2]
Dallas, TX	67.8	1,415.0	0.9	$1,032	2.0
Private industry	67.3	1,246.2	.9	1,035	2.0
Natural resources and mining	.6	8.4	10.9	2,861	.1
Construction	4.0	69.2	-3.6	944	-.4
Manufacturing	2.9	113.1	-3.8	1,174	2.2
Trade, transportation, and utilities	14.9	279.8	.1	961	2.9
Information	1.6	45.1	-.3	1,507	3.5
Financial activities	8.5	136.0	-.8	1,329	2.5
Professional and business services	14.8	261.7	3.7	1,175	1.2
Education and health services	7.0	165.3	3.4	962	2.2
Leisure and hospitality	5.5	128.5	1.7	462	2.0
Other services	7.0	38.2	1.7	642	1.4
Government	.5	168.9	1.0	1,005	1.5
Orange, CA	101.7	1,348.8	-.1	975	2.8
Private industry	100.4	1,215.9	.3	966	3.2
Natural resources and mining	.2	3.9	-1.9	620	-2.7
Construction	6.4	67.9	-5.0	1,073	-3.1
Manufacturing	5.0	151.0	-.4	1,244	9.0
Trade, transportation, and utilities	16.4	243.5	-.4	905	4.3
Information	1.3	24.3	-8.2	1,463	8.0
Financial activities	9.8	104.0	.2	1,363	5.2
Professional and business services	18.8	244.0	2.0	1,092	.3
Education and health services	10.4	154.5	2.9	940	1.4
Leisure and hospitality	7.1	171.7	.1	431	4.9
Other services	20.7	48.4	.5	539	2.5
Government	1.4	132.9	-2.9	1,060	.2
San Diego, CA	97.7	1,238.6	.4	943	2.7
Private industry	96.3	1,021.5	.4	917	2.8
Natural resources and mining	.7	10.7	5.6	582	.7
Construction	6.4	55.7	-5.5	1,045	.6
Manufacturing	3.0	93.0	.1	1,326	7.2
Trade, transportation, and utilities	13.7	196.4	-.3	742	1.6
Information	1.2	25.0	-2.8	1,572	10.1
Financial activities	8.6	66.9	-1.4	1,119	4.0
Professional and business services	16.2	210.8	1.8	1,223	.2
Education and health services	8.4	145.5	2.8	907	2.4
Leisure and hospitality	7.0	157.4	.3	425	4.9
Other services	27.3	57.7	.1	540	11.6
Government	1.4	217.1	.2	1,069	([4])
King, WA	83.0	1,121.8	.1	1,234	4.7
Private industry	82.4	967.6	.1	1,248	4.6
Natural resources and mining	.4	2.9	-4.4	1,162	9.5
Construction	6.0	49.1	-8.8	1,134	1.1
Manufacturing	2.3	97.3	-2.4	1,455	10.4
Trade, transportation, and utilities	14.9	204.5	.4	977	6.8
Information	1.8	79.9	1.0	3,605	6.4
Financial activities	6.6	64.6	-4.4	1,297	-1.3
Professional and business services	14.3	177.8	3.2	1,329	4.7
Education and health services	7.0	130.3	.2	930	3.6
Leisure and hospitality	6.5	109.8	-.1	456	.2
Other services	22.8	51.4	8.6	572	-4.7
Government	.6	154.2	.1	1,142	([4])
Miami-Dade, FL	85.0	940.9	.3	853	1.5
Private industry	84.7	797.9	.7	819	1.7
Natural resources and mining	.5	6.8	-.2	489	.6
Construction	5.3	31.4	-9.3	859	-.2
Manufacturing	2.6	34.7	-4.3	805	5.6
Trade, transportation, and utilities	24.1	236.4	1.9	757	1.6
Information	1.5	17.1	-1.5	1,289	5.5
Financial activities	9.0	60.4	-1.0	1,216	5.6
Professional and business services	17.8	121.5	.4	993	-2.8
Education and health services	9.6	149.6	1.0	862	4.5
Leisure and hospitality	6.3	104.8	3.7	497	4.6
Other services	7.7	34.8	1.5	553	2.6
Government	.4	143.0	-1.8	1,047	1.1

[1] Average weekly wages were calculated using unrounded data.

[2] Percent changes were computed from quarterly employment and pay data adjusted for noneconomic county reclassifications. See Notes on Current Labor Statistics.

[3] Totals for the United States do not include data for Puerto Rico or the Virgin Islands.

[4] Data do not meet BLS or State agency disclosure standards.

NOTE: Includes workers covered by Unemployment Insurance (UI) and Unemployment Compensation for Federal Employees (UCFE) programs. Data are preliminary.

23. Quarterly Census of Employment and Wages: by State, third quarter 2010.

State	Establishments, third quarter 2010 (thousands)	Employment		Average weekly wage[1]	
		September 2010 (thousands)	Percent change, September 2009-10	Third quarter 2010	Percent change, third quarter 2009-10
United States[2]	9,044.4	128,440.4	0.2	$870	3.4
Alabama	116.8	1,813.9	-.1	774	4.0
Alaska	21.4	333.5	1.3	926	4.4
Arizona	147.2	2,342.3	-.9	821	2.6
Arkansas	85.6	1,147.0	.8	684	3.8
California	1,347.5	14,469.7	-.3	982	3.3
Colorado	173.2	2,183.8	-.2	898	2.5
Connecticut	111.4	1,611.9	.0	1,069	4.3
Delaware	28.4	404.7	.8	902	2.4
District of Columbia	35.0	693.8	2.0	1,471	1.2
Florida	595.2	7,045.3	.0	780	2.8
Georgia	268.2	3,749.9	-.1	823	2.7
Hawaii	38.9	585.6	-.1	804	2.2
Idaho	55.0	616.8	-1.1	667	3.1
Illinois	378.6	5,539.5	.0	916	4.0
Indiana	157.2	2,736.7	.8	742	3.9
Iowa	94.3	1,439.8	-.5	719	3.6
Kansas	87.5	1,296.1	-1.0	731	3.5
Kentucky	110.1	1,728.3	.8	729	3.3
Louisiana	131.0	1,834.8	.0	790	3.9
Maine	49.2	589.4	-.6	714	3.6
Maryland	163.8	2,469.7	.5	966	2.7
Massachusetts	221.1	3,169.8	.8	1,069	4.5
Michigan	247.6	3,825.9	.9	840	3.8
Minnesota	164.7	2,574.3	.4	875	4.7
Mississippi	69.5	1,077.4	.0	653	2.8
Missouri	174.5	2,596.8	-.5	764	2.7
Montana	42.4	428.7	.0	647	1.6
Nebraska	60.0	899.8	-.2	708	2.8
Nevada	71.2	1,106.8	-1.7	815	1.2
New Hampshire	48.4	608.9	.1	854	2.9
New Jersey	265.6	3,759.0	-.4	1,024	2.8
New Mexico	54.8	785.9	-1.0	745	2.9
New York	591.6	8,364.2	.5	1,057	4.3
North Carolina	251.7	3,806.2	-.3	768	3.1
North Dakota	26.4	366.1	3.0	726	6.8
Ohio	286.4	4,942.1	.3	791	3.4
Oklahoma	102.2	1,487.5	-.2	726	4.0
Oregon	131.0	1,620.5	.3	791	3.1
Pennsylvania	341.0	5,500.9	.9	860	4.1
Rhode Island	35.2	456.0	.8	826	4.2
South Carolina	111.4	1,763.7	.5	714	3.9
South Dakota	30.9	393.7	.4	660	4.3
Tennessee	139.6	2,578.3	.8	777	4.3
Texas	572.4	10,204.5	1.5	876	3.7
Utah	83.7	1,160.6	.5	740	2.2
Vermont	24.4	294.3	.5	752	2.6
Virginia	232.9	3,544.1	.4	930	3.8
Washington	237.0	2,855.7	-.3	953	4.0
West Virginia	48.4	699.4	1.1	702	4.3
Wisconsin	157.6	2,657.7	.5	752	3.6
Wyoming	25.2	278.9	.0	793	4.9
Puerto Rico	49.6	910.0	-2.7	502	1.6
Virgin Islands	3.6	43.5	2.3	754	4.3

[1] Average weekly wages were calculated using unrounded data.

[2] Totals for the United States do not include data for Puerto Rico or the Virgin Islands.

NOTE: Includes workers covered by Unemployment Insurance (UI) and Unemployment Compensation for Federal Employees (UCFE) programs. Data are preliminary.

24. Annual data: Quarterly Census of Employment and Wages, by ownership

Year	Average establishments	Average annual employment	Total annual wages (in thousands)	Average annual wage per employee	Average weekly wage
	Total covered (UI and UCFE)				
2000	7,879,116	129,877,063	$4,587,708,584	$35,323	$679
2001	7,984,529	129,635,800	4,695,225,123	36,219	697
2002	8,101,872	128,233,919	4,714,374,741	36,764	707
2003	8,228,840	127,795,827	4,826,251,547	37,765	726
2004	8,364,795	129,278,176	5,087,561,796	39,354	757
2005	8,571,144	131,571,623	5,351,949,496	40,677	782
2006	8,784,027	133,833,834	5,692,569,465	42,535	818
2007	8,971,897	135,366,106	6,018,089,108	44,458	855
2008	9,082,049	134,805,659	6,142,159,200	45,563	876
2009	9,003,197	128,607,842	5,859,232,422	45,559	876
	UI covered				
2000	7,828,861	127,005,574	$4,454,966,824	$35,077	$675
2001	7,933,536	126,883,182	4,560,511,280	35,943	691
2002	8,051,117	125,475,293	4,570,787,218	36,428	701
2003	8,177,087	125,031,551	4,676,319,378	37,401	719
2004	8,312,729	126,538,579	4,929,262,369	38,955	749
2005	8,518,249	128,837,948	5,188,301,929	40,270	774
2006	8,731,111	131,104,860	5,522,624,197	42,124	810
2007	8,908,198	132,639,806	5,841,231,314	44,038	847
2008	9,017,717	132,043,604	5,959,055,276	45,129	868
2009	8,937,616	125,781,130	5,667,704,722	45,060	867
	Private industry covered				
2000	7,622,274	110,015,333	$3,887,626,769	$35,337	$680
2001	7,724,965	109,304,802	3,952,152,155	36,157	695
2002	7,839,903	107,577,281	3,930,767,025	36,539	703
2003	7,963,340	107,065,553	4,015,823,311	37,508	721
2004	8,093,142	108,490,066	4,245,640,890	39,134	753
2005	8,294,662	110,611,016	4,480,311,193	40,505	779
2006	8,505,496	112,718,858	4,780,833,389	42,414	816
2007	8,681,001	114,012,221	5,057,840,759	44,362	853
2008	8,789,360	113,188,643	5,135,487,891	45,371	873
2009	8,709,115	106,947,104	4,829,211,805	45,155	868
	State government covered				
2000	65,096	4,370,160	$158,618,365	$36,296	$698
2001	64,583	4,452,237	168,358,331	37,814	727
2002	64,447	4,485,071	175,866,492	39,212	754
2003	64,467	4,481,845	179,528,728	40,057	770
2004	64,544	4,484,997	184,414,992	41,118	791
2005	66,278	4,527,514	191,281,126	42,249	812
2006	66,921	4,565,908	200,329,294	43,875	844
2007	67,381	4,611,395	211,677,002	45,903	883
2008	67,675	4,642,650	222,754,925	47,980	923
2009	67,075	4,639,715	226,148,903	48,742	937
	Local government covered				
2000	141,491	12,620,081	$408,721,690	$32,387	$623
2001	143,989	13,126,143	440,000,795	33,521	645
2002	146,767	13,412,941	464,153,701	34,605	665
2003	149,281	13,484,153	480,967,339	35,669	686
2004	155,043	13,563,517	499,206,488	36,805	708
2005	157,309	13,699,418	516,709,610	37,718	725
2006	158,695	13,820,093	541,461,514	39,179	753
2007	159,816	14,016,190	571,713,553	40,790	784
2008	160,683	14,212,311	600,812,461	42,274	813
2009	161,427	14,194,311	612,344,014	43,140	830
	Federal government covered (UCFE)				
2000	50,256	2,871,489	$132,741,760	$46,228	$889
2001	50,993	2,752,619	134,713,843	48,940	941
2002	50,755	2,758,627	143,587,523	52,050	1,001
2003	51,753	2,764,275	149,932,170	54,239	1,043
2004	52,066	2,739,596	158,299,427	57,782	1,111
2005	52,895	2,733,675	163,647,568	59,864	1,151
2006	52,916	2,728,974	169,945,269	62,274	1,198
2007	63,699	2,726,300	176,857,794	64,871	1,248
2008	64,332	2,762,055	183,103,924	66,293	1,275
2009	65,581	2,826,713	191,527,700	67,756	1,303

NOTE: Data are final. Detail may not add to total due to rounding.

25. Annual data: Quarterly Census of Employment and Wages, establishment size and employment, private ownership, by supersector, first quarter 2009

Industry, establishments, and employment	Total	Size of establishments								
		Fewer than 5 workers[1]	5 to 9 workers	10 to 19 workers	20 to 49 workers	50 to 99 workers	100 to 249 workers	250 to 499 workers	500 to 999 workers	1,000 or more workers
Total all industries[2]										
Establishments, first quarter	8,673,470	5,396,379	1,372,066	917,124	619,710	208,342	116,230	28,460	10,018	5,141
Employment, March	106,811,928	7,655,167	9,090,916	12,402,665	18,661,722	14,311,905	17,267,316	9,739,523	6,812,850	10,869,864
Natural resources and mining										
Establishments, first quarter	125,678	71,920	23,395	14,867	9,674	3,218	1,798	557	189	60
Employment, March	1,671,238	114,506	154,613	200,225	290,721	219,346	272,879	190,717	127,225	101,006
Construction										
Establishments, first quarter	841,895	593,637	117,797	69,486	42,421	12,009	5,208	1,004	254	79
Employment, March	5,927,257	750,065	771,369	934,164	1,265,441	817,103	768,721	335,349	170,276	114,769
Manufacturing										
Establishments, first quarter	353,643	145,720	59,845	52,049	48,545	22,752	16,627	5,187	1,972	946
Employment, March	12,092,961	244,232	401,010	715,491	1,510,229	1,588,920	2,528,984	1,779,448	1,333,297	1,991,350
Trade, transportation, and utilities										
Establishments, first quarter	1,894,905	1,033,036	375,292	246,643	148,518	49,772	32,487	7,193	1,500	464
Employment, March	24,586,392	1,677,443	2,499,579	3,315,288	4,451,666	3,466,697	4,754,309	2,475,362	986,198	959,850
Information										
Establishments, first quarter	146,483	86,433	20,709	15,824	13,049	5,437	3,310	1,046	458	217
Employment, March	2,855,390	116,231	137,955	215,809	401,856	374,575	498,814	363,892	311,123	435,135
Financial activities										
Establishments, first quarter	841,782	557,483	151,027	76,069	37,169	11,153	5,768	1,759	907	447
Employment, March	7,643,521	858,488	993,689	1,001,354	1,107,323	763,190	864,862	608,781	630,533	815,301
Professional and business services										
Establishments, first quarter	1,517,365	1,055,297	196,348	124,698	83,581	30,884	18,369	5,326	2,047	815
Employment, March	16,516,273	1,410,994	1,290,519	1,682,005	2,542,519	2,131,798	2,769,134	1,819,751	1,394,329	1,475,224
Education and health services										
Establishments, first quarter	858,136	417,186	184,310	120,602	78,973	28,774	20,050	4,427	1,976	1,838
Employment, March	18,268,572	733,986	1,225,826	1,623,193	2,380,692	2,002,526	3,016,357	1,503,953	1,376,575	4,405,464
Leisure and hospitality										
Establishments, first quarter	733,354	283,960	124,005	140,576	133,542	38,935	9,942	1,532	603	259
Employment, March	12,723,443	448,520	837,732	1,973,561	4,006,199	2,578,345	1,402,865	518,812	411,444	545,965
Other services										
Establishments, first quarter	1,193,934	988,947	116,718	55,617	24,052	5,381	2,663	428	112	16
Employment, March	4,361,271	1,168,997	762,081	732,752	699,997	367,591	389,163	143,040	71,850	25,800

[1] Includes establishments that reported no workers in March 2009.

[2] Includes data for unclassified establishments, not shown separately.

NOTE: Data are final. Detail may not add to total due to rounding.

26. Average annual wages for 2008 and 2009 for all covered workers[1] by metropolitan area

Metropolitan area[2]	Average annual wages[3]		
	2008	2009	Percent change, 2008-09
Metropolitan areas[4]	$47,194	$47,127	-0.1
Abilene, TX	32,649	32,807	0.5
Aguadilla-Isabela-San Sebastian, PR	20,714	21,887	5.7
Akron, OH	40,376	40,447	0.2
Albany, GA	34,314	35,160	2.5
Albany-Schenectady-Troy, NY	43,912	44,859	2.2
Albuquerque, NM	39,342	40,301	2.4
Alexandria, LA	34,783	35,446	1.9
Allentown-Bethlehem-Easton, PA-NJ	42,500	42,577	0.2
Altoona, PA	32,986	33,827	2.5
Amarillo, TX	38,215	37,938	-0.7
Ames, IA	38,558	39,301	1.9
Anchorage, AK	46,935	48,345	3.0
Anderson, IN	31,326	31,363	0.1
Anderson, SC	32,322	32,599	0.9
Ann Arbor, MI	48,987	48,925	-0.1
Anniston-Oxford, AL	36,227	36,773	1.5
Appleton, WI	37,522	37,219	-0.8
Asheville, NC	34,070	34,259	0.6
Athens-Clarke County, GA	35,503	35,948	1.3
Atlanta-Sandy Springs-Marietta, GA	48,064	48,156	0.2
Atlantic City, NJ	40,337	39,810	-1.3
Auburn-Opelika, AL	32,651	33,367	2.2
Augusta-Richmond County, GA-SC	38,068	38,778	1.9
Austin-Round Rock, TX	47,355	47,183	-0.4
Bakersfield, CA	39,476	40,046	1.4
Baltimore-Towson, MD	48,438	49,214	1.6
Bangor, ME	33,829	34,620	2.3
Barnstable Town, MA	38,839	38,970	0.3
Baton Rouge, LA	41,961	42,677	1.7
Battle Creek, MI	42,782	43,555	1.8
Bay City, MI	36,489	36,940	1.2
Beaumont-Port Arthur, TX	43,302	43,224	-0.2
Bellingham, WA	35,864	36,757	2.5
Bend, OR	35,044	35,336	0.8
Billings, MT	36,155	36,660	1.4
Binghamton, NY	37,731	38,200	1.2
Birmingham-Hoover, AL	43,651	43,783	0.3
Bismarck, ND	35,389	36,082	2.0
Blacksburg-Christiansburg-Radford, VA	35,272	35,344	0.2
Bloomington, IN	33,220	33,828	1.8
Bloomington-Normal, IL	43,918	44,925	2.3
Boise City-Nampa, ID	37,315	37,410	0.3
Boston-Cambridge-Quincy, MA-NH	61,128	60,549	-0.9
Boulder, CO	53,455	52,433	-1.9
Bowling Green, KY	34,861	34,824	-0.1
Bremerton-Silverdale, WA	40,421	42,128	4.2
Bridgeport-Stamford-Norwalk, CT	80,018	77,076	-3.7
Brownsville-Harlingen, TX	28,342	28,855	1.8
Brunswick, GA	34,458	34,852	1.1
Buffalo-Niagara Falls, NY	38,984	39,218	0.6
Burlington, NC	34,283	33,094	-3.5
Burlington-South Burlington, VT	43,559	44,101	1.2
Canton-Massillon, OH	34,897	34,726	-0.5
Cape Coral-Fort Myers, FL	37,866	37,641	-0.6
Carson City, NV	43,858	44,532	1.5
Casper, WY	43,851	42,385	-3.3
Cedar Rapids, IA	42,356	41,874	-1.1
Champaign-Urbana, IL	37,408	38,478	2.9
Charleston, WV	40,442	41,436	2.5
Charleston-North Charleston, SC	38,035	38,766	1.9
Charlotte-Gastonia-Concord, NC-SC	47,332	46,291	-2.2
Charlottesville, VA	41,777	42,688	2.2
Chattanooga, TN-GA	37,258	37,839	1.6
Cheyenne, WY	37,452	38,378	2.5
Chicago-Naperville-Joliet, IL-IN-WI	51,775	51,048	-1.4
Chico, CA	34,310	35,179	2.5
Cincinnati-Middletown, OH-KY-IN	43,801	44,012	0.5
Clarksville, TN-KY	32,991	33,282	0.9
Cleveland, TN	35,010	35,029	0.1
Cleveland-Elyria-Mentor, OH	43,467	43,256	-0.5
Coeur d'Alene, ID	31,353	31,513	0.5
College Station-Bryan, TX	33,967	34,332	1.1
Colorado Springs, CO	40,973	41,885	2.2
Columbia, MO	34,331	35,431	3.2
Columbia, SC	37,514	38,314	2.1
Columbus, GA-AL	35,067	35,614	1.6
Columbus, IN	42,610	41,540	-2.5
Columbus, OH	43,533	43,877	0.8
Corpus Christi, TX	38,771	38,090	-1.8
Corvallis, OR	42,343	42,700	0.8

See footnotes at end of table.

26. Continued — Average annual wages for 2008 and 2009 for all covered workers[1] by metropolitan area

Metropolitan area[2]	Average annual wages[3]		
	2008	2009	Percent change, 2008-09
Cumberland, MD-WV	$32,583	$33,409	2.5
Dallas-Fort Worth-Arlington, TX	50,331	49,965	-0.7
Dalton, GA	34,403	35,024	1.8
Danville, IL	35,602	35,552	-0.1
Danville, VA	30,580	30,778	0.6
Davenport-Moline-Rock Island, IA-IL	40,425	40,790	0.9
Dayton, OH	40,824	40,972	0.4
Decatur, AL	36,855	37,145	0.8
Decatur, IL	42,012	41,741	-0.6
Deltona-Daytona Beach-Ormond Beach, FL	32,938	33,021	0.3
Denver-Aurora, CO	51,270	51,733	0.9
Des Moines, IA	43,918	44,073	0.4
Detroit-Warren-Livonia, MI	50,081	48,821	-2.5
Dothan, AL	32,965	33,888	2.8
Dover, DE	36,375	37,039	1.8
Dubuque, IA	35,656	35,665	0.0
Duluth, MN-WI	36,307	36,045	-0.7
Durham, NC	53,700	54,857	2.2
Eau Claire, WI	33,549	34,186	1.9
El Centro, CA	33,239	34,220	3.0
Elizabethtown, KY	33,728	34,970	3.7
Elkhart-Goshen, IN	35,858	35,823	-0.1
Elmira, NY	36,984	36,995	0.0
El Paso, TX	31,837	32,665	2.6
Erie, PA	35,992	35,995	0.0
Eugene-Springfield, OR	35,380	35,497	0.3
Evansville, IN-KY	38,304	38,219	-0.2
Fairbanks, AK	44,225	45,328	2.5
Fajardo, PR	22,984	23,467	2.1
Fargo, ND-MN	36,745	37,309	1.5
Farmington, NM	41,155	40,437	-1.7
Fayetteville, NC	34,619	35,755	3.3
Fayetteville-Springdale-Rogers, AR-MO	39,025	40,265	3.2
Flagstaff, AZ	35,353	36,050	2.0
Flint, MI	39,206	38,682	-1.3
Florence, SC	34,841	35,509	1.9
Florence-Muscle Shoals, AL	32,088	32,471	1.2
Fond du Lac, WI	36,166	35,667	-1.4
Fort Collins-Loveland, CO	40,154	40,251	0.2
Fort Smith, AR-OK	32,130	32,004	-0.4
Fort Walton Beach-Crestview-Destin, FL	36,454	37,823	3.8
Fort Wayne, IN	36,806	37,038	0.6
Fresno, CA	36,038	36,427	1.1
Gadsden, AL	31,718	32,652	2.9
Gainesville, FL	37,282	38,863	4.2
Gainesville, GA	37,929	37,924	0.0
Glens Falls, NY	34,531	35,215	2.0
Goldsboro, NC	30,607	30,941	1.1
Grand Forks, ND-MN	32,207	33,455	3.9
Grand Junction, CO	39,246	38,450	-2.0
Grand Rapids-Wyoming, MI	39,868	40,341	1.2
Great Falls, MT	31,962	32,737	2.4
Greeley, CO	38,700	37,656	-2.7
Green Bay, WI	39,247	39,387	0.4
Greensboro-High Point, NC	37,919	38,020	0.3
Greenville, NC	34,672	35,542	2.5
Greenville, SC	37,592	37,921	0.9
Guayama, PR	27,189	28,415	4.5
Gulfport-Biloxi, MS	35,700	36,251	1.5
Hagerstown-Martinsburg, MD-WV	36,472	36,459	0.0
Hanford-Corcoran, CA	35,374	35,402	0.1
Harrisburg-Carlisle, PA	42,330	43,152	1.9
Harrisonburg, VA	34,197	34,814	1.8
Hartford-West Hartford-East Hartford, CT	54,446	54,534	0.2
Hattiesburg, MS	31,629	32,320	2.2
Hickory-Lenoir-Morganton, NC	32,810	32,429	-1.2
Hinesville-Fort Stewart, GA	33,854	35,032	3.5
Holland-Grand Haven, MI	37,953	37,080	-2.3
Honolulu, HI	42,090	42,814	1.7
Hot Springs, AR	29,042	29,414	1.3
Houma-Bayou Cane-Thibodaux, LA	44,345	44,264	-0.2
Houston-Baytown-Sugar Land, TX	55,407	54,779	-1.1
Huntington-Ashland, WV-KY-OH	35,717	36,835	3.1
Huntsville, AL	47,427	49,240	3.8
Idaho Falls, ID	30,485	30,875	1.3
Indianapolis, IN	43,128	43,078	-0.1
Iowa City, IA	39,070	39,703	1.6
Ithaca, NY	41,689	42,779	2.6
Jackson, MI	38,672	38,635	-0.1
Jackson, MS	36,730	37,118	1.1

See footnotes at end of table.

26. Continued — Average annual wages for 2008 and 2009 for all covered workers[1] by metropolitan area

Metropolitan area[2]	Average annual wages[3]		
	2008	2009	Percent change, 2008-09
Jackson, TN	$35,975	$35,959	0.0
Jacksonville, FL	41,524	41,804	0.7
Jacksonville, NC	27,893	29,006	4.0
Janesville, WI	36,906	36,652	-0.7
Jefferson City, MO	33,766	34,474	2.1
Johnson City, TN	32,759	33,949	3.6
Johnstown, PA	32,464	33,238	2.4
Jonesboro, AR	31,532	31,793	0.8
Joplin, MO	32,156	32,741	1.8
Kalamazoo-Portage, MI	40,333	40,044	-0.7
Kankakee-Bradley, IL	34,451	34,539	0.3
Kansas City, MO-KS	44,155	44,331	0.4
Kennewick-Richland-Pasco, WA	41,878	43,705	4.4
Killeen-Temple-Fort Hood, TX	34,299	35,674	4.0
Kingsport-Bristol-Bristol, TN-VA	37,260	37,234	-0.1
Kingston, NY	35,883	36,325	1.2
Knoxville, TN	38,912	39,353	1.1
Kokomo, IN	44,117	42,248	-4.2
La Crosse, WI-MN	34,078	34,836	2.2
Lafayette, IN	37,832	38,313	1.3
Lafayette, LA	42,748	42,050	-1.6
Lake Charles, LA	39,982	39,263	-1.8
Lakeland, FL	35,195	35,485	0.8
Lancaster, PA	38,127	38,328	0.5
Lansing-East Lansing, MI	42,339	42,764	1.0
Laredo, TX	29,572	29,952	1.3
Las Cruces, NM	32,894	34,264	4.2
Las Vegas-Paradise, NV	43,120	42,674	-1.0
Lawrence, KS	32,313	32,863	1.7
Lawton, OK	32,258	33,206	2.9
Lebanon, PA	33,900	34,416	1.5
Lewiston, ID-WA	32,783	32,850	0.2
Lewiston-Auburn, ME	34,396	34,678	0.8
Lexington-Fayette, KY	40,034	40,446	1.0
Lima, OH	35,381	36,224	2.4
Lincoln, NE	35,834	36,281	1.2
Little Rock-North Little Rock, AR	38,902	40,331	3.7
Logan, UT-ID	29,392	29,608	0.7
Longview, TX	38,902	38,215	-1.8
Longview, WA	37,806	38,300	1.3
Los Angeles-Long Beach-Santa Ana, CA	51,520	51,344	-0.3
Louisville, KY-IN	40,596	41,101	1.2
Lubbock, TX	33,867	34,318	1.3
Lynchburg, VA	35,207	35,503	0.8
Macon, GA	34,823	35,718	2.6
Madera, CA	34,405	34,726	0.9
Madison, WI	42,623	42,861	0.6
Manchester-Nashua, NH	50,629	49,899	-1.4
Mansfield, OH	33,946	33,256	-2.0
Mayaguez, PR	22,394	23,634	5.5
McAllen-Edinburg-Pharr, TX	28,498	29,197	2.5
Medford, OR	33,402	34,047	1.9
Memphis, TN-MS-AR	43,124	43,318	0.4
Merced, CA	33,903	34,284	1.1
Miami-Fort Lauderdale-Miami Beach, FL	44,199	44,514	0.7
Michigan City-La Porte, IN	33,507	33,288	-0.7
Midland, TX	50,116	47,557	-5.1
Milwaukee-Waukesha-West Allis, WI	44,462	44,446	0.0
Minneapolis-St. Paul-Bloomington, MN-WI	51,044	50,107	-1.8
Missoula, MT	33,414	33,869	1.4
Mobile, AL	38,180	39,295	2.9
Modesto, CA	37,867	38,657	2.1
Monroe, LA	32,796	33,765	3.0
Monroe, MI	41,849	41,055	-1.9
Montgomery, AL	37,552	38,441	2.4
Morgantown, WV	37,082	38,637	4.2
Morristown, TN	32,858	32,903	0.1
Mount Vernon-Anacortes, WA	36,230	37,098	2.4
Muncie, IN	32,420	32,822	1.2
Muskegon-Norton Shores, MI	36,033	35,654	-1.1
Myrtle Beach-Conway-North Myrtle Beach, SC	28,450	28,132	-1.1
Napa, CA	45,061	45,174	0.3
Naples-Marco Island, FL	40,178	39,808	-0.9
Nashville-Davidson--Murfreesboro, TN	43,964	43,811	-0.3
New Haven-Milford, CT	48,239	48,681	0.9
New Orleans-Metairie-Kenner, LA	45,108	45,121	0.0
New York-Northern New Jersey-Long Island, NY-NJ-PA	66,548	63,773	-4.2
Niles-Benton Harbor, MI	38,814	39,097	0.7
Norwich-New London, CT	46,727	47,245	1.1
Ocala, FL	32,579	32,724	0.4

See footnotes at end of table.

26. Continued — Average annual wages for 2008 and 2009 for all covered workers[1] by metropolitan area

Metropolitan area[2]	Average annual wages[3]		
	2008	2009	Percent change, 2008-09
Ocean City, NJ	$33,529	$33,477	-0.2
Odessa, TX	44,316	42,295	-4.6
Ogden-Clearfield, UT	34,778	35,562	2.3
Oklahoma City, OK	39,363	39,525	0.4
Olympia, WA	40,714	41,921	3.0
Omaha-Council Bluffs, NE-IA	40,097	40,555	1.1
Orlando, FL	39,322	39,225	-0.2
Oshkosh-Neenah, WI	41,781	41,300	-1.2
Owensboro, KY	34,956	35,264	0.9
Oxnard-Thousand Oaks-Ventura, CA	46,490	47,066	1.2
Palm Bay-Melbourne-Titusville, FL	42,089	43,111	2.4
Panama City-Lynn Haven, FL	34,361	34,857	1.4
Parkersburg-Marietta, WV-OH	35,102	35,650	1.6
Pascagoula, MS	42,734	43,509	1.8
Pensacola-Ferry Pass-Brent, FL	34,829	35,683	2.5
Peoria, IL	44,562	44,747	0.4
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	51,814	52,237	0.8
Phoenix-Mesa-Scottsdale, AZ	44,482	44,838	0.8
Pine Bluff, AR	34,106	34,588	1.4
Pittsburgh, PA	44,124	44,234	0.2
Pittsfield, MA	38,957	38,690	-0.7
Pocatello, ID	30,608	30,690	0.3
Ponce, PR	21,818	22,556	3.4
Portland-South Portland-Biddeford, ME	39,711	40,012	0.8
Portland-Vancouver-Beaverton, OR-WA	45,326	45,544	0.5
Port St. Lucie-Fort Pierce, FL	36,174	36,130	-0.1
Poughkeepsie-Newburgh-Middletown, NY	42,148	43,054	2.1
Prescott, AZ	33,004	32,927	-0.2
Providence-New Bedford-Fall River, RI-MA	42,141	42,428	0.7
Provo-Orem, UT	35,516	35,695	0.5
Pueblo, CO	34,055	34,889	2.4
Punta Gorda, FL	32,927	32,563	-1.1
Racine, WI	41,232	40,623	-1.5
Raleigh-Cary, NC	43,912	44,016	0.2
Rapid City, SD	32,227	32,821	1.8
Reading, PA	40,691	41,083	1.0
Redding, CA	35,655	35,912	0.7
Reno-Sparks, NV	42,167	42,232	0.2
Richmond, VA	45,244	44,960	-0.6
Riverside-San Bernardino-Ontario, CA	38,617	38,729	0.3
Roanoke, VA	36,475	37,153	1.9
Rochester, MN	46,196	46,999	1.7
Rochester, NY	41,728	41,761	0.1
Rockford, IL	39,210	38,843	-0.9
Rocky Mount, NC	33,110	33,613	1.5
Rome, GA	35,229	35,913	1.9
Sacramento--Arden-Arcade--Roseville, CA	47,924	48,204	0.6
Saginaw-Saginaw Township North, MI	37,549	38,009	1.2
St. Cloud, MN	35,069	35,883	2.3
St. George, UT	29,291	29,608	1.1
St. Joseph, MO-KS	32,651	33,555	2.8
St. Louis, MO-IL	45,419	44,080	-2.9
Salem, OR	34,891	35,691	2.3
Salinas, CA	40,235	40,258	0.1
Salisbury, MD	35,901	36,396	1.4
Salt Lake City, UT	41,628	42,613	2.4
San Angelo, TX	32,852	33,043	0.6
San Antonio, TX	38,876	39,596	1.9
San Diego-Carlsbad-San Marcos, CA	49,079	49,240	0.3
Sandusky, OH	33,760	33,117	-1.9
San Francisco-Oakland-Fremont, CA	65,100	65,367	0.4
San German-Cabo Rojo, PR	19,875	20,452	2.9
San Jose-Sunnyvale-Santa Clara, CA	80,063	79,609	-0.6
San Juan-Caguas-Guaynabo, PR	26,839	27,620	2.9
San Luis Obispo-Paso Robles, CA	38,134	38,913	2.0
Santa Barbara-Santa Maria-Goleta, CA	42,617	43,257	1.5
Santa Cruz-Watsonville, CA	41,471	40,880	-1.4
Santa Fe, NM	38,646	39,536	2.3
Santa Rosa-Petaluma, CA	43,757	43,274	-1.1
Sarasota-Bradenton-Venice, FL	36,781	36,856	0.2
Savannah, GA	37,846	38,343	1.3
Scranton--Wilkes-Barre, PA	34,902	35,404	1.4
Seattle-Tacoma-Bellevue, WA	53,667	54,650	1.8
Sheboygan, WI	37,834	38,114	0.7
Sherman-Denison, TX	36,081	36,151	0.2
Shreveport-Bossier City, LA	36,308	36,706	1.1
Sioux City, IA-NE-SD	34,326	34,087	-0.7
Sioux Falls, SD	36,982	37,562	1.6
South Bend-Mishawaka, IN-MI	37,654	37,811	0.4
Spartanburg, SC	39,313	39,104	-0.5

See footnotes at end of table.

26. Continued — Average annual wages for 2008 and 2009 for all covered workers[1] by metropolitan area

Metropolitan area[2]	Average annual wages[3]		
	2008	2009	Percent change, 2008-09
Spokane, WA	$36,792	$38,112	3.6
Springfield, IL	44,416	45,602	2.7
Springfield, MA	40,969	41,248	0.7
Springfield, MO	32,971	33,615	2.0
Springfield, OH	33,158	33,725	1.7
State College, PA	38,050	38,658	1.6
Stockton, CA	39,075	39,274	0.5
Sumter, SC	30,842	31,074	0.8
Syracuse, NY	40,554	41,141	1.4
Tallahassee, FL	37,433	38,083	1.7
Tampa-St. Petersburg-Clearwater, FL	40,521	41,480	2.4
Terre Haute, IN	33,562	33,470	-0.3
Texarkana, TX-Texarkana, AR	35,002	35,288	0.8
Toledo, OH	39,686	39,098	-1.5
Topeka, KS	36,714	37,651	2.6
Trenton-Ewing, NJ	60,135	59,313	-1.4
Tucson, AZ	39,973	40,071	0.2
Tulsa, OK	40,205	40,108	-0.2
Tuscaloosa, AL	37,949	38,309	0.9
Tyler, TX	38,817	38,845	0.1
Utica-Rome, NY	34,936	35,492	1.6
Valdosta, GA	29,288	29,661	1.3
Vallejo-Fairfield, CA	45,264	47,287	4.5
Vero Beach, FL	36,557	35,937	-1.7
Victoria, TX	39,888	38,608	-3.2
Vineland-Millville-Bridgeton, NJ	40,709	41,145	1.1
Virginia Beach-Norfolk-Newport News, VA-NC	38,696	39,614	2.4
Visalia-Porterville, CA	32,018	32,125	0.3
Waco, TX	35,698	36,731	2.9
Warner Robins, GA	40,457	41,820	3.4
Washington-Arlington-Alexandria, DC-VA-MD-WV	62,653	64,032	2.2
Waterloo-Cedar Falls, IA	37,363	37,919	1.5
Wausau, WI	36,477	36,344	-0.4
Weirton-Steubenville, WV-OH	35,356	34,113	-3.5
Wenatchee, WA	30,750	31,200	1.5
Wheeling, WV-OH	32,915	33,583	2.0
Wichita, KS	40,423	40,138	-0.7
Wichita Falls, TX	34,185	33,698	-1.4
Williamsport, PA	33,340	34,188	2.5
Wilmington, NC	35,278	36,204	2.6
Winchester, VA-WV	37,035	38,127	2.9
Winston-Salem, NC	39,770	39,874	0.3
Worcester, MA	45,955	45,743	-0.5
Yakima, WA	30,821	31,366	1.8
Yauco, PR	19,821	20,619	4.0
York-Hanover, PA	39,379	39,798	1.1
Youngstown-Warren-Boardman, OH-PA	34,403	33,704	-2.0
Yuba City, CA	36,538	37,289	2.1
Yuma, AZ	31,351	32,474	3.6

[1] Includes workers covered by Unemployment Insurance (UI) and Unemployment Compensation for Federal Employees (UCFE) programs.

[2] Includes data for Metropolitan Statistical Areas (MSA) as defined by OMB Bulletin No. 04-03 as of February 18, 2004.

[3] Each year's total is based on the MSA definition for the specific year. Annual changes include differences resulting from changes in MSA definitions.

[4] Totals do not include the six MSAs within Puerto Rico.

27. Annual data: Employment status of the population

[Numbers in thousands]

Employment status	2001[1]	2002[1]	2003[1]	2004	2005	2006	2007	2008	2009	2010	2011
Civilian noninstitutional population	215,092	217,570	221,168	223,357	226,082	228,815	231,867	233,788	235,801	237,830	239,618
Civilian labor force	143,734	144,863	146,510	147,401	149,320	151,428	153,124	154,287	154,142	153,889	153,617
Labor force participation rate	66.8	66.6	66.2	66.0	66.0	66.2	66.0	66.0	65.4	64.7	64.1
Employed	136,933	136,485	137,736	139,252	141,730	144,427	146,047	145,362	139,877	139,064	139,869
Employment-population ratio	63.7	62.7	62.3	62.3	62.7	63.1	63.0	62.2	59.3	58.5	58.4
Unemployed	6,801	8,378	8,774	8,149	7,591	7,001	7,078	8,924	14,265	14,825	13,747
Unemployment rate	4.7	5.8	6.0	5.5	5.1	4.6	4.6	5.8	9.3	9.6	8.9
Not in the labor force	71,359	72,707	74,658	75,956	76,762	77,387	78,743	79,501	81,659	83,941	86,001

[1] Not strictly comparable with prior years.

28. Annual data: Employment levels by industry

[In thousands]

Industry	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Total private employment	110,708	108,828	108,416	109,814	111,899	114,113	115,380	114,281	108,252	107,384	109,253
Total nonfarm employment	131,826	130,341	129,999	131,435	133,703	136,086	137,598	136,790	130,807	129,874	131,358
Goods-producing	23,873	22,557	21,816	21,882	22,190	22,530	22,233	21,335	18,558	17,751	18,021
Natural resources and mining	606	583	572	591	628	684	724	767	694	705	784
Construction	6,826	6,716	6,735	6,976	7,336	7,691	7,630	7,162	6,016	5,518	5,504
Manufacturing	16,441	15,259	14,509	14,315	14,227	14,155	13,879	13,406	11,847	11,528	11,733
Private service-providing	86,834	86,271	86,600	87,932	89,709	91,582	93,147	92,946	89,695	89,633	91,232
Trade, transportation, and utilities	25,983	25,497	25,287	25,533	25,959	26,276	26,630	26,293	24,906	24,636	25,019
Wholesale trade	5,773	5,652	5,608	5,663	5,764	5,905	6,015	5,943	5,587	5,452	5,529
Retail trade	15,239	15,025	14,917	15,058	15,280	15,353	15,520	15,283	14,522	14,440	14,643
Transportation and warehousing	4,372	4,224	4,185	4,249	4,361	4,470	4,541	4,508	4,236	4,191	4,293
Utilities	599	596	577	564	554	549	553	559	560	553	555
Information	3,629	3,395	3,188	3,118	3,061	3,038	3,032	2,984	2,804	2,707	2,659
Financial activities	7,808	7,847	7,977	8,031	8,153	8,328	8,301	8,145	7,769	7,652	7,681
Professional and business services	16,476	15,976	15,987	16,394	16,954	17,566	17,942	17,735	16,579	16,728	17,330
Education and health services	15,645	16,199	16,588	16,953	17,372	17,826	18,322	18,838	19,193	19,531	19,883
Leisure and hospitality	12,036	11,986	12,173	12,493	12,816	13,110	13,427	13,436	13,077	13,049	13,319
Other services	5,258	5,372	5,401	5,409	5,395	5,438	5,494	5,515	5,367	5,331	5,341
Government	21,118	21,513	21,583	21,621	21,804	21,974	22,218	22,509	22,555	22,490	22,105

29. Annual data: Average hours and earnings of production or nonsupervisory workers on nonfarm payrolls, by industry

Industry	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Private sector:											
Average weekly hours	34.0	33.9	33.7	33.7	33.8	33.9	33.9	33.6	33.1	33.4	33.6
Average hourly earnings (in dollars)	14.54	14.97	15.37	15.69	16.13	16.76	17.43	18.08	18.63	19.07	19.47
Average weekly earnings (in dollars)	493.79	506.75	518.06	529.09	544.33	567.87	590.04	607.95	617.18	636.92	654.87
Goods-producing:											
Average weekly hours	39.9	39.9	39.8	40.0	40.1	40.5	40.6	40.2	39.2	40.4	40.9
Average hourly earnings (in dollars)	15.78	16.33	16.80	17.19	17.60	18.02	18.67	19.33	19.90	20.28	20.67
Average weekly earnings (in dollars)	630.04	651.55	669.13	688.17	705.31	730.16	757.50	776.63	779.68	818.96	845.04
Natural resources and mining											
Average weekly hours	44.6	43.2	43.6	44.5	45.6	45.6	45.9	45.1	43.2	44.6	46.7
Average hourly earnings (in dollars)	17.00	17.19	17.56	18.07	18.72	19.90	20.97	22.50	23.29	23.82	24.51
Average weekly earnings (in dollars)	757.96	741.97	765.94	804.01	853.87	907.95	962.63	1014.69	1006.67	1063.11	1145.09
Construction:											
Average weekly hours	38.7	38.4	38.4	38.3	38.6	39.0	39.0	38.5	37.6	38.4	39.0
Average hourly earnings (in dollars)	18.00	18.52	18.95	19.23	19.46	20.02	20.95	21.87	22.66	23.22	23.64
Average weekly earnings (in dollars)	695.86	711.82	727.00	735.55	750.37	781.59	816.23	842.61	851.76	891.83	921.63
Manufacturing:											
Average weekly hours	40.3	40.5	40.4	40.8	40.7	41.1	41.2	40.8	39.8	41.1	41.4
Average hourly earnings (in dollars)	14.76	15.29	15.74	16.14	16.56	16.81	17.26	17.75	18.24	18.61	18.94
Average weekly earnings (in dollars)	595.15	618.62	635.99	658.52	673.34	691.05	711.53	724.46	726.12	765.15	785.02
Private service-providing:											
Average weekly hours	32.5	32.5	32.3	32.3	32.4	32.4	32.4	32.3	32.1	32.2	32.4
Average hourly earnings (in dollars)	14.18	14.59	14.99	15.29	15.73	16.42	17.11	17.77	18.35	18.81	19.21
Average weekly earnings (in dollars)	461.08	473.80	484.71	494.22	509.56	532.60	554.89	574.20	588.20	606.12	622.42
Trade, transportation, and utilities:											
Average weekly hours	33.5	33.6	33.6	33.5	33.4	33.4	33.3	33.2	32.9	33.3	33.7
Average hourly earnings (in dollars)	13.70	14.02	14.34	14.58	14.92	15.39	15.78	16.16	16.48	16.82	17.15
Average weekly earnings (in dollars)	459.53	471.27	481.14	488.51	498.43	514.37	525.91	536.11	541.88	559.63	577.87
Wholesale trade:											
Average weekly hours	38.4	38.0	37.9	37.8	37.7	38.0	38.2	38.2	37.6	37.9	38.5
Average hourly earnings (in dollars)	16.77	16.98	17.36	17.65	18.16	18.91	19.59	20.13	20.84	21.54	21.97
Average weekly earnings (in dollars)	643.45	644.38	657.29	666.79	685.00	718.50	748.94	769.62	784.49	816.50	845.36
Retail trade:											
Average weekly hours	30.7	30.9	30.9	30.7	30.6	30.5	30.2	30.0	29.9	30.2	30.5
Average hourly earnings (in dollars)	11.29	11.67	11.90	12.08	12.36	12.57	12.75	12.87	13.01	13.24	13.51
Average weekly earnings (in dollars)	643.45	644.38	657.29	666.79	685.00	718.50	748.94	769.62	784.49	816.50	845.36
Transportation and warehousing:											
Average weekly hours	36.7	36.8	36.8	37.2	37.0	36.9	37.0	36.4	36.0	37.1	37.8
Average hourly earnings (in dollars)	15.33	15.76	16.25	16.52	16.70	17.27	17.72	18.41	18.81	19.16	19.50
Average weekly earnings (in dollars)	562.57	579.91	598.41	614.89	618.55	636.80	654.95	670.22	677.56	710.85	737.37
Utilities:											
Average weekly hours	41.4	40.9	41.1	40.9	41.1	41.4	42.4	42.7	42.0	42.0	42.1
Average hourly earnings (in dollars)	23.58	23.96	24.77	25.61	26.68	27.40	27.88	28.83	29.48	30.04	30.82
Average weekly earnings (in dollars)	977.25	979.26	1017.44	1048.01	1095.91	1135.57	1182.65	1230.65	1239.34	1262.89	1296.84
Information:											
Average weekly hours	36.9	36.5	36.2	36.3	36.5	36.6	36.5	36.7	36.6	36.3	36.2
Average hourly earnings (in dollars)	19.80	20.20	21.01	21.40	22.06	23.23	23.96	24.78	25.45	25.87	26.61
Average weekly earnings (in dollars)	731.18	737.94	760.84	776.72	805.11	850.64	874.45	908.78	931.08	939.85	963.83
Financial activities:											
Average weekly hours	35.8	35.6	35.5	35.5	35.9	35.7	35.9	35.8	36.1	36.2	36.4
Average hourly earnings (in dollars)	15.59	16.17	17.14	17.52	17.94	18.80	19.64	20.28	20.85	21.52	21.91
Average weekly earnings (in dollars)	558.05	575.54	609.08	622.87	645.10	672.21	705.13	727.07	752.03	778.43	797.76
Professional and business services:											
Average weekly hours	34.2	34.2	34.1	34.2	34.2	34.6	34.8	34.8	34.7	35.1	35.2
Average hourly earnings (in dollars)	16.33	16.80	17.21	17.48	18.08	19.13	20.15	21.18	22.35	22.78	23.12
Average weekly earnings (in dollars)	557.84	574.60	587.02	597.39	618.66	662.27	700.64	737.70	775.81	798.54	813.74
Education and health services:											
Average weekly hours	32.3	32.4	32.3	32.4	32.6	32.5	32.6	32.5	32.2	32.1	32.3
Average hourly earnings (in dollars)	14.64	15.21	15.64	16.15	16.71	17.38	18.11	18.87	19.49	20.12	20.78
Average weekly earnings (in dollars)	473.39	492.74	505.69	523.78	544.59	564.94	590.09	613.73	628.45	646.65	670.80
Leisure and hospitality:											
Average weekly hours	25.8	25.8	25.6	25.7	25.7	25.7	25.5	25.2	24.8	24.8	24.8
Average hourly earnings (in dollars)	8.57	8.81	9.00	9.15	9.38	9.75	10.41	10.84	11.12	11.31	11.45
Average weekly earnings (in dollars)	220.73	227.31	230.49	234.86	241.36	250.34	265.54	273.39	275.95	280.87	283.74
Other services:											
Average weekly hours	32.3	32.1	31.4	31.0	30.9	30.9	30.9	30.8	30.5	30.7	30.7
Average hourly earnings (in dollars)	13.27	13.72	13.84	13.98	14.34	14.77	15.42	16.09	16.59	17.06	17.32
Average weekly earnings (in dollars)	428.64	439.87	434.41	433.04	443.40	456.50	477.06	495.57	506.26	523.70	532.48

NOTE: Data reflect the conversion to the 2002 version of the North American Industry Classification System (NAICS), replacing the Standard Industrial Classification (SIC) system. NAICS-based data by industry are not comparable with SIC-based data.

30. Employment Cost Index, compensation,[1] by occupation and industry group

[December 2005 = 100]

Series	2009	2010				2011				Percent change	
	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	3 months ended	12 months ended
										Dec. 2011	
Civilian workers[2]	111.0	111.8	112.3	112.9	113.2	114.0	114.8	115.2	115.5	0.3	2.0
Workers by occupational group											
Management, professional, and related	111.6	112.4	112.8	113.4	113.7	114.7	115.2	115.6	115.8	.2	1.8
Management, business, and financial	110.4	111.6	112.1	112.3	112.7	113.9	114.7	115.1	115.3	.2	2.3
Professional and related	112.3	112.9	113.2	114.1	114.3	115.1	115.4	115.9	116.2	.3	1.7
Sales and office	109.7	110.3	111.2	111.6	112.1	112.6	113.7	114.2	114.6	.4	2.2
Sales and related	105.8	105.9	107.5	107.4	108.1	107.9	109.8	110.4	110.8	.4	2.5
Office and administrative support	112.1	113.0	113.4	114.1	114.4	115.4	116.1	116.6	116.8	.2	2.1
Natural resources, construction, and maintenance	111.5	112.5	112.9	113.4	113.6	114.2	115.2	115.8	116.1	.3	2.2
Construction and extraction	112.5	113.1	113.7	114.4	114.5	114.9	115.6	116.1	116.5	.3	1.7
Installation, maintenance, and repair	110.4	111.6	112.0	112.2	112.6	113.3	114.7	115.5	115.6	.1	2.7
Production, transportation, and material moving	109.2	110.2	110.8	111.7	111.9	112.7	113.9	114.2	114.6	.4	2.4
Production	108.3	109.6	110.0	110.8	110.9	111.8	113.2	113.4	113.8	.4	2.6
Transportation and material moving	110.4	111.1	111.9	112.9	113.3	113.8	114.7	115.1	115.6	.4	2.0
Service occupations	112.9	113.4	113.7	114.6	114.9	115.7	115.9	116.2	116.6	.3	1.5
Workers by industry											
Goods-producing	108.6	109.8	110.3	111.0	111.1	112.1	113.2	113.5	113.9	.4	2.5
Manufacturing	107.0	108.4	109.1	109.9	110.0	111.4	112.7	112.8	113.1	.3	2.8
Service-providing	111.5	112.1	112.6	113.3	113.6	114.3	115.0	115.5	115.8	.3	1.9
Education and health services	113.4	113.7	113.9	114.8	115.2	115.5	115.7	116.5	116.8	.3	1.4
Health care and social assistance	113.1	113.7	114.1	114.6	115.0	115.5	115.9	116.4	116.8	.3	1.6
Hospitals	113.4	114.1	114.7	115.2	115.9	116.5	116.9	117.4	117.8	.3	1.6
Nursing and residential care facilities	111.4	111.9	112.2	112.7	112.7	113.4	113.9	114.3	114.3	.0	1.4
Education services	113.6	113.7	113.8	115.1	115.3	115.5	115.5	116.6	116.7	.1	1.2
Elementary and secondary schools	114.1	114.1	114.2	115.5	115.5	115.7	115.7	116.7	116.8	.1	1.1
Public administration[3]	114.6	115.1	115.4	116.6	116.8	117.5	117.6	118.1	118.2	.1	1.2
Private industry workers	110.2	111.1	111.7	112.2	112.5	113.3	114.3	114.6	115.0	.3	2.2
Workers by occupational group											
Management, professional, and related	110.7	111.8	112.2	112.7	113.0	114.1	114.8	115.1	115.4	.3	2.1
Management, business, and financial	109.9	111.3	111.7	112.0	112.3	113.6	114.5	114.8	115.0	.2	2.4
Professional and related	111.4	112.2	112.6	113.3	113.5	114.6	115.1	115.4	115.7	.3	1.9
Sales and office	109.2	109.8	110.8	111.1	111.6	112.1	113.3	113.8	114.2	.4	2.3
Sales and related	105.8	105.8	107.5	107.4	108.1	107.8	109.8	110.3	110.7	.4	2.4
Office and administrative support	111.6	112.6	113.1	113.7	114.0	115.1	115.8	116.2	116.5	.3	2.2
Natural resources, construction, and maintenance	111.2	112.2	112.7	113.1	113.3	113.8	114.9	115.5	115.8	.3	2.2
Construction and extraction	112.4	113.1	113.6	114.3	114.4	114.8	115.5	116.0	116.5	.4	1.8
Installation, maintenance, and repair	109.8	111.1	111.5	111.6	111.9	112.6	114.2	114.9	115.0	.1	2.8
Production, transportation, and material moving	108.9	109.9	110.5	111.3	111.5	112.2	113.5	113.8	114.2	.4	2.4
Production	108.2	109.5	110.0	110.7	110.8	111.7	113.2	113.4	113.8	.4	2.7
Transportation and material moving	109.7	110.4	111.2	112.2	112.5	113.0	114.0	114.4	114.9	.4	2.1
Service occupations	111.8	112.4	112.7	113.3	113.5	114.5	114.7	115.0	115.4	.3	1.7
Workers by industry and occupational group											
Goods-producing industries	108.6	109.7	110.3	111.0	111.1	112.0	113.2	113.4	113.8	.4	2.4
Management, professional, and related	106.4	108.0	108.6	109.2	109.1	110.8	112.1	112.0	112.3	.3	2.9
Sales and office	107.8	108.2	108.8	109.7	110.2	110.4	111.4	111.8	112.5	.6	2.1
Natural resources, construction, and maintenance	111.7	112.6	113.0	113.6	113.7	114.2	115.2	115.6	115.9	.3	1.9
Production, transportation, and material moving	108.0	109.3	109.8	110.6	110.8	111.6	113.0	113.1	113.6	.4	2.5
Construction	111.7	112.1	112.3	112.8	112.7	112.8	113.6	113.9	114.5	.5	1.6
Manufacturing	107.0	108.4	109.1	109.9	110.0	111.4	112.7	112.8	113.1	.3	2.8
Management, professional, and related	105.5	107.2	108.0	108.8	108.8	110.9	112.0	112.0	112.2	.2	3.1
Sales and office	107.5	108.1	109.0	110.3	110.8	112.2	113.2	113.3	113.7	.4	2.6
Natural resources, construction, and maintenance	107.7	109.5	110.1	110.9	110.9	112.0	114.0	114.3	114.2	-.1	3.0
Production, transportation, and material moving	107.7	109.1	109.6	110.3	110.5	111.4	112.8	112.9	113.4	.4	2.6
Service-providing industries	110.8	111.6	112.1	112.6	113.0	113.8	114.6	115.0	115.3	.3	2.0
Management, professional, and related	111.6	112.5	112.9	113.4	113.7	114.8	115.4	115.7	116.0	.3	2.0
Sales and office	109.4	110.0	111.0	111.3	111.8	112.3	113.6	114.0	114.3	.3	2.2
Natural resources, construction, and maintenance	110.4	111.7	112.2	112.2	112.6	113.2	114.4	115.5	115.6	.1	2.7
Production, transportation, and material moving	109.9	110.6	111.3	112.3	112.5	113.1	114.2	114.6	115.1	.4	2.3
Service occupations	111.9	112.4	112.7	113.3	113.5	114.5	114.7	114.9	115.4	.4	1.7
Trade, transportation, and utilities	108.8	109.9	110.9	111.1	111.4	112.0	113.2	113.8	114.1	.3	2.4

See footnotes at end of table.

30. Continued—Employment Cost Index, compensation,[1] by occupation and industry group

[December 2005 = 100]

Series	2009	2010				2011				Percent change	
	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	3 months ended	12 months ended
										Dec. 2011	
Wholesale trade	107.0	108.0	108.9	108.7	109.5	109.9	111.4	112.2	112.8	0.5	3.0
Retail trade	110.0	110.9	111.9	112.0	112.0	112.4	113.5	114.0	114.4	.4	2.1
Transportation and warehousing	108.2	109.0	110.0	110.9	111.3	112.5	113.1	113.6	113.6	.0	2.1
Utilities	112.0	115.3	117.0	117.8	117.5	119.3	120.9	121.5	121.6	.1	3.5
Information	108.3	109.0	109.8	110.2	110.0	111.6	112.3	112.4	112.5	.1	2.3
Financial activities	108.6	109.8	110.5	110.6	111.4	112.9	113.8	114.3	114.2	-.1	2.5
Finance and insurance	108.8	110.0	111.0	111.0	111.8	113.3	114.3	114.7	114.5	-.2	2.4
Real estate and rental and leasing	107.7	109.0	108.4	108.8	109.4	110.8	111.4	112.5	112.9	.4	3.2
Professional and business services	112.4	113.0	113.4	114.0	114.6	115.5	116.6	116.7	117.1	.3	2.2
Education and health services	112.8	113.3	113.7	114.3	114.7	115.1	115.5	116.0	116.5	.4	1.6
Education services	113.2	113.2	113.3	114.7	115.0	115.2	115.6	116.8	117.3	.4	2.0
Health care and social assistance	112.8	113.3	113.7	114.2	114.6	115.0	115.5	115.8	116.4	.5	1.6
Hospitals	113.2	113.9	114.5	115.0	115.6	116.2	116.6	117.0	117.5	.4	1.6
Leisure and hospitality	112.7	113.4	113.4	113.9	114.1	114.5	114.6	115.1	115.2	.1	1.0
Accommodation and food services	113.5	114.0	114.1	114.6	114.8	115.4	115.3	115.9	116.0	.1	1.0
Other services, except public administration	111.5	112.1	112.7	113.3	113.2	114.4	114.5	115.0	115.6	.5	2.1
State and local government workers	114.2	114.5	114.7	115.9	116.2	116.6	116.7	117.6	117.7	.1	1.3
Workers by occupational group											
Management, professional, and related	113.8	114.0	114.2	115.3	115.5	115.9	116.0	116.9	116.9	.0	1.2
Professional and related	113.9	114.0	114.2	115.3	115.5	115.9	115.9	116.8	116.9	.1	1.2
Sales and office	114.4	115.0	115.2	116.4	116.6	117.1	117.3	118.4	118.4	.0	1.5
Office and administrative support	114.7	115.3	115.6	116.8	116.9	117.5	117.7	118.7	118.6	-.1	1.5
Service occupations	115.3	115.8	116.2	117.6	118.0	118.5	118.6	119.2	119.5	.3	1.3
Workers by industry											
Education and health services	113.9	114.0	114.2	115.4	115.6	115.9	115.9	116.9	117.0	.1	1.2
Education services	113.7	113.8	113.9	115.1	115.3	115.5	115.5	116.5	116.6	.1	1.1
Schools	113.7	113.8	113.9	115.1	115.3	115.5	115.5	116.5	116.5	.0	1.0
Elementary and secondary schools	114.1	114.1	114.3	115.6	115.6	115.8	115.8	116.8	116.9	.1	1.1
Health care and social assistance	115.4	115.9	116.3	117.2	117.9	119.0	119.2	119.9	120.1	.2	1.9
Hospitals	114.3	115.1	115.6	116.1	117.0	118.2	118.3	118.9	119.2	.3	1.9
Public administration[3]	114.6	115.1	115.4	116.6	116.8	117.5	117.6	118.1	118.2	.1	1.2

[1] Cost (cents per hour worked) measured in the Employment Cost Index consists of wages, salaries, and employer cost of employee benefits.

[2] Consists of private industry workers (excluding farm and household workers) and State and local government (excluding Federal Government) workers.

[3] Consists of legislative, judicial, administrative, and regulatory activities.

NOTE: The Employment Cost Index data reflect the conversion to the 2002 North American Classification System (NAICS) and the 2000 Standard Occupational Classification (SOC) system. The NAICS and SOC data shown prior to 2006 are for informational purposes only. Series based on NAICS and SOC became the official BLS estimates starting in March 2006.

31. Employment Cost Index, wages and salaries, by occupation and industry group

[December 2005 = 100]

Series	2009	2010				2011				Percent change	
	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	3 months ended	12 months ended
										Dec. 2011	
Civilian workers[1]	111.2	111.6	112.1	112.6	113.0	113.4	113.9	114.4	114.6	0.2	1.4
Workers by occupational group											
Management, professional, and related	111.7	112.4	112.8	113.4	113.7	114.2	114.6	115.0	115.2	.2	1.3
Management, business, and financial	110.9	112.1	112.6	112.8	113.2	113.9	114.3	114.8	114.9	.1	1.5
Professional and related	112.2	112.7	112.9	113.7	113.9	114.4	114.7	115.2	115.4	.2	1.3
Sales and office	109.6	109.9	110.8	111.1	111.7	111.7	112.7	113.3	113.7	.4	1.8
Sales and related	106.2	106.2	108.0	107.7	108.6	107.8	109.7	110.3	110.8	.5	2.0
Office and administrative support	111.9	112.3	112.7	113.3	113.6	114.3	114.7	115.3	115.5	.2	1.7
Natural resources, construction, and maintenance	112.1	112.6	112.9	113.2	113.4	113.8	114.5	115.2	115.4	.2	1.8
Construction and extraction	112.7	112.8	113.2	113.8	113.9	114.4	114.8	115.3	115.6	.3	1.5
Installation, maintenance, and repair	111.5	112.3	112.4	112.5	112.8	113.1	114.1	115.2	115.2	.0	2.1
Production, transportation, and material moving	109.8	110.1	110.5	111.3	111.5	111.8	112.2	112.7	113.1	.4	1.4
Production	109.3	109.7	110.1	110.6	110.6	111.2	111.6	112.1	112.4	.3	1.6
Transportation and material moving	110.4	110.6	111.1	112.1	112.5	112.6	113.1	113.4	113.8	.4	1.2
Service occupations	112.6	112.9	113.1	113.7	113.9	114.5	114.6	115.0	115.4	.3	1.3
Workers by industry											
Goods-producing	110.1	110.5	110.9	111.5	111.6	112.2	112.7	113.2	113.5	.3	1.7
Manufacturing	108.9	109.4	110.0	110.6	110.7	111.5	112.0	112.5	112.7	.2	1.8
Service-providing	111.4	111.9	112.4	112.9	113.2	113.6	114.1	114.6	114.9	.3	1.5
Education and health services	112.5	112.8	113.0	113.7	114.0	114.2	114.4	115.0	115.3	.3	1.1
Health care and social assistance	113.1	113.6	113.9	114.3	114.7	114.9	115.4	115.8	116.2	.3	1.3
Hospitals	113.6	114.0	114.5	114.9	115.4	115.8	116.2	116.7	117.2	.4	1.6
Nursing and residential care facilities	111.6	111.9	112.2	112.6	112.6	113.0	113.5	113.7	113.8	.1	1.1
Education services	112.0	112.2	112.3	113.2	113.4	113.6	113.6	114.4	114.6	.2	1.1
Elementary and secondary schools	112.1	112.3	112.5	113.4	113.4	113.6	113.6	114.2	114.4	.2	.9
Public administration[2]	112.8	113.2	113.4	113.8	114.0	114.4	114.5	114.8	115.0	.2	.9
Private industry workers	110.8	111.4	111.9	112.4	112.8	113.2	113.8	114.3	114.6	.3	1.6
Workers by occupational group											
Management, professional, and related	111.5	112.5	112.9	113.4	113.7	114.4	114.9	115.3	115.5	.2	1.6
Management, business, and financial	110.8	112.0	112.6	112.8	113.2	113.9	114.4	114.9	115.0	.1	1.6
Professional and related	112.1	112.8	113.2	113.9	114.1	114.8	115.2	115.6	115.9	.3	1.6
Sales and office	109.4	109.6	110.7	110.9	111.5	111.6	112.7	113.2	113.6	.4	1.9
Sales and related	106.2	106.2	108.0	107.8	108.7	107.8	109.8	110.4	110.9	.5	2.0
Office and administrative support	111.8	112.2	112.6	113.3	113.6	114.4	114.8	115.4	115.7	.3	1.8
Natural resources, construction, and maintenance	112.0	112.5	112.8	113.1	113.3	113.7	114.4	115.2	115.4	.2	1.9
Construction and extraction	112.7	112.9	113.3	113.9	114.0	114.5	114.9	115.4	115.7	.3	1.5
Installation, maintenance, and repair	111.2	112.1	112.1	112.1	112.5	112.7	113.9	115.0	115.0	.0	2.2
Production, transportation, and material moving	109.6	109.8	110.3	111.1	111.3	111.6	112.0	112.5	112.8	.3	1.3
Production	109.3	109.6	110.0	110.5	110.5	111.1	111.5	112.0	112.3	.3	1.6
Transportation and material moving	110.1	110.2	110.8	111.8	112.2	112.2	112.8	113.2	113.6	.4	1.2
Service occupations	112.3	112.6	112.7	113.3	113.5	114.2	114.2	114.6	115.1	.4	1.4
Workers by industry and occupational group											
Goods-producing industries	110.0	110.5	110.9	111.5	111.6	112.2	112.7	113.2	113.5	.3	1.7
Management, professional, and related	109.4	110.5	111.0	111.6	111.4	112.5	113.2	113.5	113.7	.2	2.1
Sales and office	108.7	108.4	108.9	109.9	110.5	110.0	110.9	111.5	112.3	.7	1.6
Natural resources, construction, and maintenance	112.3	112.6	112.9	113.5	113.5	114.0	114.6	115.0	115.3	.3	1.6
Production, transportation, and material moving	109.1	109.4	109.9	110.4	110.5	111.1	111.4	111.9	112.2	.3	1.5
Construction	111.9	112.1	112.2	112.8	112.7	112.7	113.2	113.6	114.1	.4	1.2
Manufacturing	108.9	109.4	110.0	110.6	110.7	111.5	112.0	112.5	112.7	.2	1.8
Management, professional, and related	108.7	110.0	110.7	111.2	111.2	112.3	112.9	113.3	113.4	.1	2.0
Sales and office	108.6	108.3	109.0	110.4	111.1	111.9	112.8	113.1	113.5	.4	2.2
Natural resources, construction, and maintenance	109.9	110.4	110.9	111.4	111.4	112.2	112.9	113.8	113.5	-.3	1.9
Production, transportation, and material moving	108.9	109.2	109.6	110.1	110.2	110.8	111.2	111.7	112.0	.3	1.6
Service-providing industries	111.1	111.7	112.3	112.7	113.1	113.5	114.1	114.6	114.9	.3	1.6
Management, professional, and related	111.9	112.8	113.2	113.7	114.1	114.8	115.2	115.6	115.8	.2	1.5
Sales and office	109.5	109.8	110.9	111.0	111.6	111.7	112.9	113.4	113.8	.4	2.0
Natural resources, construction, and maintenance	111.6	112.5	112.7	112.6	113.0	113.2	114.2	115.5	115.5	.0	2.2
Production, transportation, and material moving	110.2	110.4	110.9	111.9	112.2	112.2	112.7	113.2	113.6	.4	1.2
Service occupations	112.3	112.6	112.8	113.3	113.5	114.2	114.2	114.6	115.1	.4	1.4
Trade, transportation, and utilities	108.9	109.5	110.5	110.6	111.0	110.9	111.7	112.5	112.9	.4	1.7

31. Continued—Employment Cost Index, wages and salaries, by occupation and industry group

[December 2005 = 100]

Series	2009	2010				2011				Percent change	
	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	3 months ended	12 months ended
										Dec. 2011	
Wholesale trade	106.4	107.1	108.1	107.7	108.5	107.8	108.5	109.5	110.2	0.6	1.6
Retail trade	110.4	111.0	112.0	112.0	112.0	112.2	113.1	114.0	114.4	.4	2.1
Transportation and warehousing	108.3	108.7	109.5	110.6	111.0	111.2	111.8	112.2	112.1	-.1	1.0
Utilities	113.3	113.9	114.7	115.4	115.6	116.9	118.1	118.5	118.8	.3	2.8
Information	109.1	109.6	110.3	110.8	110.5	112.0	112.3	112.5	112.6	.1	1.9
Financial activities	108.9	109.8	111.0	111.1	112.0	112.9	113.4	114.0	113.8	-.2	1.6
Finance and insurance	109.4	110.2	111.9	112.0	113.0	113.9	114.3	114.8	114.5	-.3	1.3
Real estate and rental and leasing	106.8	108.0	107.2	107.5	108.1	109.2	109.6	110.8	111.1	.3	2.8
Professional and business services	112.7	113.3	113.6	114.3	115.0	115.6	116.6	116.7	117.0	.3	1.7
Education and health services	112.8	113.2	113.5	114.1	114.5	114.6	115.1	115.6	116.1	.4	1.4
Education services	112.6	112.5	112.6	114.2	114.5	114.7	114.9	116.2	116.8	.5	2.0
Health care and social assistance	112.8	113.3	113.7	114.1	114.4	114.6	115.1	115.5	116.0	.4	1.4
Hospitals	113.4	113.7	114.3	114.7	115.2	115.6	116.0	116.6	117.1	.4	1.6
Leisure and hospitality	113.8	114.5	114.3	114.8	115.0	115.2	115.1	115.8	115.8	.0	.7
Accommodation and food services	114.3	114.7	114.6	115.1	115.3	115.7	115.6	116.4	116.5	.1	1.0
Other services, except public administration	112.1	112.3	112.7	113.4	113.2	114.2	114.1	114.8	115.2	.3	1.8
State and local government workers	112.5	112.7	112.9	113.6	113.8	114.1	114.2	114.7	114.9	.2	1.0
Workers by occupational group											
Management, professional, and related	112.2	112.4	112.6	113.3	113.5	113.8	113.8	114.4	114.5	.1	.9
Professional and related	112.3	112.4	112.6	113.3	113.6	113.8	113.8	114.5	114.6	.1	.9
Sales and office	112.1	112.5	112.5	113.1	113.2	113.5	113.7	114.2	114.2	.0	.9
Office and administrative support	112.5	113.0	113.0	113.5	113.6	113.9	114.1	114.7	114.6	-.1	.9
Service occupations	113.5	114.0	114.2	114.9	115.1	115.4	115.5	115.9	116.3	.3	1.0
Workers by industry											
Education and health services	112.3	112.5	112.6	113.4	113.6	113.8	113.8	114.4	114.6	.2	.9
Education services	111.9	112.1	112.2	113.0	113.2	113.4	113.4	114.0	114.1	.1	.8
Schools	111.9	112.1	112.2	113.0	113.2	113.4	113.4	114.0	114.1	.1	.8
Elementary and secondary schools	112.1	112.3	112.5	113.4	113.5	113.6	113.6	114.2	114.3	.1	.7
Health care and social assistance	115.2	115.5	115.8	116.2	116.8	117.3	117.4	117.9	118.1	.2	1.1
Hospitals	114.7	115.2	115.5	115.7	116.3	117.0	116.9	117.3	117.5	.2	1.0
Public administration [2]	112.8	113.2	113.4	113.8	114.0	114.4	114.5	114.8	115.0	.2	.9

[1] Consists of private industry workers (excluding farm and household workers) and State and local government (excluding Federal Government) workers.

[2] Consists of legislative, judicial, administrative, and regulatory activities.

NOTE: The Employment Cost Index data reflect the conversion to the 2002 North American Classification System (NAICS) and the 2000 Standard Occupational Classification (SOC) system. The NAICS and SOC data shown prior to 2006 are for informational purposes only. Series based on NAICS and SOC became the official BLS estimates starting in March 2006.

32. Employment Cost Index, benefits, by occupation and industry group

[December 2005 = 100]

Series	2009	2010				2011				Percent change	
	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	3 months ended	12 months ended
										Dec. 2011	
Civilian workers	110.7	112.1	112.7	113.6	113.9	115.5	116.8	117.2	117.5	0.3	3.2
Private industry workers	108.7	110.4	111.0	111.7	111.9	113.7	115.4	115.4	115.9	.4	3.6
Workers by occupational group											
Management, professional, and related	108.8	110.2	110.5	111.0	111.2	113.4	114.8	114.7	115.2	.4	3.6
Sales and office	108.7	110.2	111.1	111.6	111.8	113.4	115.0	115.2	115.5	.3	3.3
Natural resources, construction, and maintenance	109.5	111.5	112.4	113.0	113.2	114.1	115.9	116.2	116.8	.5	3.2
Production, transportation, and material moving	107.4	110.0	110.8	111.8	112.0	113.5	116.5	116.3	117.0	.6	4.5
Service occupations	110.5	111.7	112.5	113.2	113.5	115.5	116.1	115.9	116.4	.4	2.6
Workers by industry											
Goods-producing	105.8	108.4	109.0	110.0	110.1	111.7	114.1	113.9	114.4	.4	3.9
Manufacturing	103.6	106.6	107.4	108.7	108.8	111.1	114.0	113.4	113.9	.4	4.7
Service-providing	109.9	111.3	111.9	112.3	112.6	114.5	115.9	116.0	116.4	.3	3.4
State and local government workers	117.7	118.1	118.6	120.7	121.1	122.0	122.1	123.7	123.6	-.1	2.1

NOTE: The Employment Cost Index data reflect the conversion to the 2002 North American Classification System (NAICS) and the 2000 Standard Occupational Classification (SOC) system. The NAICS and SOC data shown prior to 2006 are for informational purposes only. Series based on NAICS and SOC became the official BLS estimates starting in March 2006.

33. Employment Cost Index, private industry workers by bargaining status and region

[December 2005 = 100]

Series	2009	2010				2011				Percent change	
	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	3 months ended	12 months ended
										Dec. 2011	
COMPENSATION											
Workers by bargaining status[1]											
Union	111.1	112.8	113.7	114.6	114.8	115.6	117.1	117.4	117.9	0.4	2.7
Goods-producing	110.0	111.9	112.6	113.8	113.9	114.3	116.4	116.3	116.9	.5	2.6
Manufacturing	105.8	108.6	109.1	110.5	110.5	110.9	113.8	113.2	113.8	.5	3.0
Service-providing	111.9	113.4	114.5	115.2	115.5	116.8	117.7	118.3	118.8	.4	2.9
Nonunion	110.1	110.9	111.4	111.8	112.1	113.0	113.8	114.2	114.5	.3	2.1
Goods-producing	108.2	109.1	109.5	110.1	110.2	111.3	112.2	112.5	112.9	.4	2.5
Manufacturing	107.5	108.5	109.2	109.9	110.0	111.6	112.5	112.8	113.0	.2	2.7
Service-providing	110.6	111.3	111.9	112.3	112.7	113.5	114.3	114.7	115.0	.3	2.0
Workers by region[1]											
Northeast	111.0	111.8	112.7	113.1	113.6	114.4	115.3	115.7	116.1	.3	2.2
South	110.7	111.5	112.0	112.5	112.8	113.4	114.3	114.7	115.0	.3	2.0
Midwest	108.6	109.9	110.4	111.0	111.3	112.2	113.3	113.6	113.9	.3	2.3
West	110.6	111.3	111.7	112.3	112.5	113.5	114.3	114.6	115.1	.4	2.3
WAGES AND SALARIES											
Workers by bargaining status[1]											
Union	110.9	111.5	112.1	112.7	112.9	113.6	114.0	114.6	114.9	.3	1.8
Goods-producing	109.8	110.2	110.7	111.1	111.2	111.7	112.1	112.8	112.9	.1	1.5
Manufacturing	107.3	107.8	108.2	108.6	108.7	109.4	109.8	110.6	110.7	.1	1.8
Service-providing	111.6	112.4	113.1	113.8	114.2	115.0	115.3	115.8	116.3	.4	1.8
Nonunion	110.9	111.4	111.9	112.4	112.7	113.2	113.8	114.3	114.6	.3	1.7
Goods-producing	110.1	110.6	111.0	111.6	111.7	112.3	112.9	113.3	113.7	.4	1.8
Manufacturing	109.3	109.8	110.5	111.1	111.2	112.1	112.6	113.0	113.3	.3	1.9
Service-providing	111.0	111.6	112.2	112.6	113.0	113.4	114.0	114.5	114.8	.3	1.6
Workers by region[1]											
Northeast	111.1	111.7	112.6	112.9	113.4	113.7	114.6	114.9	115.3	.3	1.7
South	111.5	111.9	112.4	112.9	113.4	113.7	114.4	115.0	115.2	.2	1.6
Midwest	109.2	109.9	110.4	110.9	111.2	111.8	112.2	112.7	112.9	.2	1.5
West	111.6	112.0	112.4	112.9	113.0	113.6	114.1	114.5	114.9	.3	1.7

[1] The indexes are calculated differently from those for the occupation and industry groups. For a detailed description of the index calculation, see the Monthly Labor Review Technical Note, "Estimation procedures for the Employment Cost Index," May 1982.

NOTE: The Employment Cost Index data reflect the conversion to the 2002 North American Classification System (NAICS) and the 2000 Standard Occupational Classification (SOC) system. The NAICS and SOC data shown prior to 2006 are for informational purposes only. Series based on NAICS and SOC became the official BLS estimates starting in March 2006.

34. National Compensation Survey: Retirement benefits in private industry by access, participation, and selected series, 2003–2007

Series	Year				
	2003	2004	2005	2006	2007 [1]
All retirement					
Percentage of workers with access					
All workers	57	59	60	60	61
White-collar occupations[2]	67	69	70	69	-
Management, professional, and related	-	-	-	-	76
Sales and office	-	-	-	-	64
Blue-collar occupations[2]	59	59	60	62	-
Natural resources, construction, and maintenance	-	-	-	-	61
Production, transportation, and material moving	-	-	-	-	65
Service occupations	28	31	32	34	36
Full-time	67	68	69	69	70
Part-time	24	27	27	29	31
Union	86	84	88	84	84
Non-union	54	56	56	57	58
Average wage less than $15 per hour	45	46	46	47	47
Average wage $15 per hour or higher	76	77	78	77	76
Goods-producing industries	70	70	71	73	70
Service-providing industries	53	55	56	56	58
Establishments with 1-99 workers	42	44	44	44	45
Establishments with 100 or more workers	75	77	78	78	78
Percentage of workers participating					
All workers	49	50	50	51	51
White-collar occupations[2]	59	61	61	60	-
Management, professional, and related	-	-	-	-	69
Sales and office	-	-	-	-	54
Blue-collar occupations[2]	50	50	51	52	-
Natural resources, construction, and maintenance	-	-	-	-	51
Production, transportation, and material moving	-	-	-	-	54
Service occupations	21	22	22	24	25
Full-time	58	60	60	60	60
Part-time	18	20	19	21	23
Union	83	81	85	80	81
Non-union	45	47	46	47	47
Average wage less than $15 per hour	35	36	35	36	36
Average wage $15 per hour or higher	70	71	71	70	69
Goods-producing industries	63	63	64	64	61
Service-providing industries	45	47	47	47	48
Establishments with 1-99 workers	35	37	37	37	37
Establishments with 100 or more workers	65	67	67	67	66
Take-up rate (all workers)[3]	-	-	85	85	84
Defined Benefit					
Percentage of workers with access					
All workers	20	21	22	21	21
White-collar occupations[2]	23	24	25	23	-
Management, professional, and related	-	-	-	-	29
Sales and office	-	-	-	-	19
Blue-collar occupations[2]	24	26	26	25	-
Natural resources, construction, and maintenance	-	-	-	-	26
Production, transportation, and material moving	-	-	-	-	26
Service occupations	8	6	7	8	8
Full-time	24	25	25	24	24
Part-time	8	9	10	9	10
Union	74	70	73	70	69
Non-union	15	16	16	15	15
Average wage less than $15 per hour	12	11	12	11	11
Average wage $15 per hour or higher	34	35	35	34	33
Goods-producing industries	31	32	33	32	29
Service-providing industries	17	18	19	18	19
Establishments with 1-99 workers	9	9	10	9	9
Establishments with 100 or more workers	34	35	37	35	34

See footnotes at end of table.

34. Continued—National Compensation Survey: Retirement benefits in private industry by access, participation, and selected series, 2003–2007

Series	Year				
	2003	2004	2005	2006	2007 [1]
Percentage of workers participating					
All workers	20	21	21	20	20
White-collar occupations [2]	22	24	24	22	-
Management, professional, and related	-	-	-	-	28
Sales and office	-	-	-	-	17
Blue-collar occupations [2]	24	25	26	25	-
Natural resources, construction, and maintenance	-	-	-	-	25
Production, transportation, and material moving	-	-	-	-	25
Service occupations	7	6	7	7	7
Full-time	24	24	25	23	23
Part-time	8	9	9	8	9
Union	72	69	72	68	67
Non-union	15	15	15	14	15
Average wage less than $15 per hour	11	11	11	10	10
Average wage $15 per hour or higher	33	35	34	33	32
Goods-producing industries	31	31	32	31	28
Service-providing industries	16	18	18	17	18
Establishments with 1-99 workers	8	9	9	9	9
Establishments with 100 or more workers	33	34	36	33	32
Take-up rate (all workers) [3]	-	-	97	96	95
Defined Contribution					
Percentage of workers with access					
All workers	51	53	53	54	55
White-collar occupations [2]	62	64	64	65	-
Management, professional, and related	-	-	-	-	71
Sales and office	-	-	-	-	60
Blue-collar occupations [2]	49	49	50	53	-
Natural resources, construction, and maintenance	-	-	-	-	51
Production, transportation, and material moving	-	-	-	-	56
Service occupations	23	27	28	30	32
Full-time	60	62	62	63	64
Part-time	21	23	23	25	27
Union	45	48	49	50	49
Non-union	51	53	54	55	56
Average wage less than $15 per hour	40	41	41	43	44
Average wage $15 per hour or higher	67	68	69	69	69
Goods-producing industries	60	60	61	63	62
Service-providing industries	48	50	51	52	53
Establishments with 1-99 workers	38	40	40	41	42
Establishments with 100 or more workers	65	68	69	70	70
Percentage of workers participating					
All workers	40	42	42	43	43
White-collar occupations [2]	51	53	53	53	-
Management, professional, and related	-	-	-	-	60
Sales and office	-	-	-	-	47
Blue-collar occupations [2]	38	38	38	40	-
Natural resources, construction, and maintenance	-	-	-	-	40
Production, transportation, and material moving	-	-	-	-	41
Service occupations	16	18	18	20	20
Full-time	48	50	50	51	50
Part-time	14	14	14	16	18
Union	39	42	43	44	41
Non-union	40	42	41	43	43
Average wage less than $15 per hour	29	30	29	31	30
Average wage $15 per hour or higher	57	59	59	58	57
Goods-producing industries	49	49	50	51	49
Service-providing industries	37	40	39	40	41
Establishments with 1-99 workers	31	32	32	33	33
Establishments with 100 or more workers	51	53	53	54	53
Take-up rate (all workers) [3]	-	-	78	79	77

See footnotes at end of table.

34. Continued—National Compensation Survey: Retirement benefits in private industry by access, participation, and selected series, 2003–2007

Series	Year				
	2003	2004	2005	2006	2007 [1]
Employee Contribution Requirement					
Employee contribution required	-	-	61	61	65
Employee contribution not required	-	-	31	33	35
Not determinable	-	-	8	6	0
Percent of establishments					
Offering retirement plans	47	48	51	48	46
Offering defined benefit plans	10	10	11	10	10
Offering defined contribution plans	45	46	48	47	44

[1] The 2002 North American Industry Classification System (NAICS) replaced the 1987 Standard Industrial Classification (SIC) System. Estimates for goods-producing and service-providing (formerly service-producing) industries are considered comparable. Also introduced was the 2000 Standard Occupational Classification (SOC) to replace the 1990 Census of Population system. Only service occupations are considered comparable.

[2] The white-collar and blue-collar occupation series were discontinued effective 2007.

[3] The take-up rate is an estimate of the percentage of workers with access to a plan who participate in the plan.

Note: Where applicable, dashes indicate no employees in this category or data do not meet publication criteria.

35. National Compensation Survey: Health insurance benefits in private industry by access, participation, and selected series, 2003-2007

Series	Year				
	2003	2004	2005	2006	2007 [1]
Medical insurance					
Percentage of workers with access					
All workers	60	69	70	71	71
White-collar occupations [2]	65	76	77	77	-
Management, professional, and related	-	-	-	-	85
Sales and office	-	-	-	-	71
Blue-collar occupations [2]	64	76	77	77	-
Natural resources, construction, and maintenance	-	-	-	-	76
Production, transportation, and material moving	-	-	-	-	78
Service occupations	38	42	44	45	46
Full-time	73	84	85	85	85
Part-time	17	20	22	22	24
Union	67	89	92	89	88
Non-union	59	67	68	68	69
Average wage less than $15 per hour	51	57	58	57	57
Average wage $15 per hour or higher	74	86	87	88	87
Goods-producing industries	68	83	85	86	85
Service-providing industries	57	65	66	66	67
Establishments with 1-99 workers	49	58	59	59	59
Establishments with 100 or more workers	72	82	84	84	84
Percentage of workers participating					
All workers	45	53	53	52	52
White-collar occupations [2]	50	59	58	57	-
Management, professional, and related	-	-	-	-	67
Sales and office	-	-	-	-	48
Blue-collar occupations [2]	51	60	61	60	-
Natural resources, construction, and maintenance	-	-	-	-	61
Production, transportation, and material moving	-	-	-	-	60
Service occupations	22	24	27	27	28
Full-time	56	66	66	64	64
Part-time	9	11	12	13	12
Union	60	81	83	80	78
Non-union	44	50	49	49	49
Average wage less than $15 per hour	35	40	39	38	37
Average wage $15 per hour or higher	61	71	72	71	70
Goods-producing industries	57	69	70	70	68
Service-providing industries	42	48	48	47	47
Establishments with 1-99 workers	36	43	43	43	42
Establishments with 100 or more workers	55	64	65	63	62
Take-up rate (all workers) [3]	-	-	75	74	73
Dental					
Percentage of workers with access					
All workers	40	46	46	46	46
White-collar occupations [2]	47	53	54	53	-
Management, professional, and related	-	-	-	-	62
Sales and office	-	-	-	-	47
Blue-collar occupations [2]	40	47	47	46	-
Natural resources, construction, and maintenance	-	-	-	-	43
Production, transportation, and material moving	-	-	-	-	49
Service occupations	22	25	25	27	28
Full-time	49	56	56	55	56
Part-time	9	13	14	15	16
Union	57	73	73	69	68
Non-union	38	43	43	43	44
Average wage less than $15 per hour	30	34	34	34	34
Average wage $15 per hour or higher	55	63	62	62	61
Goods-producing industries	48	56	56	56	54
Service-providing industries	37	43	43	43	44
Establishments with 1-99 workers	27	31	31	31	30
Establishments with 100 or more workers	55	64	65	64	64

See footnotes at end of table.

35. Continued—National Compensation Survey: Health insurance benefits in private industry by access, particpation, and selected series, 2003-2007

Series	Year				
	2003	2004	2005	2006	2007 [1]
Percentage of workers participating					
All workers	32	37	36	36	36
White-collar occupations[2]	37	43	42	41	-
Management, professional, and related	-	-	-	-	51
Sales and office	-	-	-	-	33
Blue-collar occupations[2]	33	40	39	38	-
Natural resources, construction, and maintenance	-	-	-	-	36
Production, transportation, and material moving	-	-	-	-	38
Service occupations	15	16	17	18	20
Full-time	40	46	45	44	44
Part-time	6	8	9	10	9
Union	51	68	67	63	62
Non-union	30	33	33	33	33
Average wage less than $15 per hour	22	26	24	23	23
Average wage $15 per hour or higher	47	53	52	52	51
Goods-producing industries	42	49	49	49	45
Service-providing industries	29	33	33	32	33
Establishments with 1-99 workers	21	24	24	24	24
Establishments with 100 or more workers	44	52	51	50	49
Take-up rate (all workers)[3]	-	-	78	78	77
Vision care					
Percentage of workers with access	25	29	29	29	29
Percentage of workers participating	19	22	22	22	22
Outpatient Prescription drug coverage					
Percentage of workers with access	-	-	64	67	68
Percentage of workers participating	-	-	48	49	49
Percent of estalishments offering healthcare benefits	58	61	63	62	60
Percentage of medical premium paid by Employer and Employee					
Single coverage					
Employer share	82	82	82	82	81
Employee share	18	18	18	18	19
Family coverage					
Employer share	70	69	71	70	71
Employee share	30	31	29	30	29

[1] The 2002 North American Industry Classification System (NAICS) replaced the 1987 Standard Industrial Classification (SIC) System. Estimates for goods-producing and service-providing (formerly service-producing) industries are considered comparable. Also introduced was the 2000 Standard Occupational Classification (SOC) to replace the 1990 Census of Population system. Only service occupations are considered comparable.

[2] The white-collar and blue-collar occupation series were discontinued effective 2007.

[3] The take-up rate is an estimate of the percentage of workers with access to a plan who participate in the plan.

Note: Where applicable, dashes indicate no employees in this category or data do not meet publication criteria.

36. National Compensation Survey: Percent of workers in private industry with access to selected benefits, 2003-2007

Benefit	Year				
	2003	2004	2005	2006	2007
Life insurance	50	51	52	52	58
Short-term disabilty insurance	39	39	40	39	39
Long-term disability insurance	30	30	30	30	31
Long-term care insurance	11	11	11	12	12
Flexible work place	4	4	4	4	5
Section 125 cafeteria benefits					
Flexible benefits	-	-	17	17	17
Dependent care reimbursement account	-	-	29	30	31
Healthcare reimbursement account	-	-	31	32	33
Health Savings Account	-	-	5	6	8
Employee assistance program	-	-	40	40	42
Paid leave					
Holidays	79	77	77	76	77
Vacations	79	77	77	77	77
Sick leave	-	59	58	57	57
Personal leave	-	-	36	37	38
Family leave					
Paid family leave	-	-	7	8	8
Unpaid family leave	-	-	81	82	83
Employer assistance for child care	18	14	14	15	15
Nonproduction bonuses	49	47	47	46	47

Note: Where applicable, dashes indicate no employees in this category or data do not meet publication criteria.

37. Work stoppages involving 1,000 workers or more

Measure	Annual average		2011											2012	
	2010	2011	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.[p]	Feb.[p]
Number of stoppages:															
Beginning in period	11	19	0	4	1	3	3	0	2	4	0	1	1	2	0
In effect during period	11	19	0	4	2	4	4	3	2	5	1	2	3	4	2
Workers involved:															
Beginning in period (in thousands)	44.5	112.5	0.0	5.3	1.5	7.5	5.0	0.0	46.3	39.9	0.0	1.0	6.0	26.6	0.0
In effect during period (in thousands)	47.7	129.8	0.0	5.3	3.4	9.4	6.9	5.4	46.3	41.2	1.3	2.3	8.3	28.9	2.3
Days idle:															
Number (in thousands)	302.3	1,020.2	0.0	33.5	56.4	80.4	75.3	80.9	479.9	98.5	26.0	29.0	60.3	72.6	44.0
Percent of estimated working time [1]	0	0	0	0	0	0	0	0	0.02	0	0	0	0	0	0

[1] Agricultural and government employees are included in the total employed and total working time; private household, forestry, and fishery employees are excluded. An explanation of the measurement of idleness as a percentage of the total time worked is found in "Total economy measures of strike idleness," *Monthly Labor Review*, October 1968, pp. 54–56.

NOTE: p = preliminary.

38. Consumer Price Indexes for All Urban Consumers and for Urban Wage Earners and Clerical Workers: U.S. city average, by expenditure category and commodity or service group

[1982–84 = 100, unless otherwise indicated]

Series	Annual average		2011											2012	
	2010	2011	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
CONSUMER PRICE INDEX FOR ALL URBAN CONSUMERS															
All items	218.056	224.939	221.309	223.467	224.906	225.964	225.722	225.922	226.545	226.889	226.421	226.230	225.672	226.665	227.663
All items (1967 = 100)	653.198	673.818	662.943	669.409	673.717	676.887	676.162	676.762	678.628	679.658	678.258	677.684	676.014	678.988	681.977
Food and beverages	219.984	227.866	224.039	225.479	226.248	227.082	227.451	228.323	229.490	230.448	230.885	230.656	231.130	232.559	232.453
Food	219.625	227.842	223.799	225.350	226.150	226.976	227.360	228.316	229.554	230.573	231.017	230.790	231.301	232.666	232.486
Food at home	215.836	226.201	221.241	223.430	224.233	225.356	225.588	226.891	228.354	229.739	230.196	229.380	229.982	231.694	231.180
Cereals and bakery products	250.449	260.311	254.238	255.482	255.956	259.140	260.563	260.921	262.970	264.135	265.433	265.552	265.997	266.677	267.821
Meats, poultry, fish, and eggs	207.694	223.161	216.175	218.808	220.747	223.227	223.105	224.394	225.651	227.194	227.853	227.583	228.853	229.809	228.610
Dairy and related products[1]	199.245	212.745	203.510	206.161	209.707	211.327	212.286	214.781	216.720	219.381	219.493	218.767	218.458	220.492	219.377
Fruits and vegetables	273.458	284.662	286.766	290.279	286.501	284.174	280.721	282.018	282.579	286.865	284.269	282.605	283.550	285.437	281.072
Nonalcoholic beverages and beverage materials	161.602	166.790	163.734	165.038	166.086	165.862	166.197	167.802	168.268	168.213	169.137	168.606	168.520	170.454	169.758
Other foods at home	191.124	197.358	193.055	194.747	195.239	196.161	197.270	198.152	200.054	200.347	201.315	199.924	200.566	202.756	204.001
Sugar and sweets	201.242	207.832	204.168	205.505	203.783	205.285	207.672	207.321	209.780	213.330	213.602	210.039	210.846	213.700	213.902
Fats and oils	200.587	219.163	210.508	214.352	213.818	216.370	218.771	221.325	223.509	224.770	226.216	224.907	227.601	234.252	233.196
Other foods	204.553	209.292	205.174	206.743	207.892	208.518	209.259	210.202	212.114	211.619	212.737	211.649	211.986	213.602	215.473
Other miscellaneous foods[1,2]	121.683	123.996	121.438	122.665	123.769	123.343	123.692	124.418	125.193	125.044	125.461	125.702	126.293	125.536	127.193
Food away from home[1]	226.114	231.401	228.606	229.282	230.082	230.501	231.097	231.580	232.513	233.032	233.459	234.046	234.435	235.268	235.603
Other food away from home[1,2]	159.276	162.794	161.836	161.886	162.218	162.483	162.494	162.971	163.468	163.334	163.978	164.120	164.095	165.884	165.566
Alcoholic beverages	223.291	226.685	225.749	225.693	226.053	226.989	227.154	226.908	227.126	227.265	227.606	227.363	227.335	229.704	230.704
Housing	216.256	219.102	217.259	217.707	217.901	218.484	219.553	220.230	220.506	220.540	220.138	219.969	220.193	220.805	221.117
Shelter	248.396	251.646	249.886	250.310	250.447	250.745	251.422	252.155	252.546	252.647	253.101	253.312	253.716	254.409	254.931
Rent of primary residence	249.385	253.638	251.829	252.145	252.221	252.393	252.592	253.085	254.003	254.628	255.651	256.367	257.189	257.714	258.184
Lodging away from home	133.656	137.401	131.572	136.486	136.597	139.094	145.608	150.095	145.100	140.259	136.551	130.687	128.131	131.601	136.832
Owners' equivalent rent of primary residence[3]	256.584	259.570	258.073	258.263	258.400	258.587	259.010	259.573	260.178	260.459	261.034	261.503	261.982	262.543	262.812
Tenants' and household insurance[1,2]	125.682	127.379	126.529	125.863	126.574	126.780	127.155	127.278	127.581	127.922	128.416	128.777	129.480	129.929	129.158
Fuels and utilities	214.187	220.367	215.587	216.672	217.254	219.956	225.022	226.643	226.493	226.409	220.450	218.199	217.674	218.199	217.189
Fuels	189.286	193.648	189.006	190.071	190.622	193.498	199.122	200.587	200.144	199.814	193.058	190.444	189.711	189.945	188.393
Fuel oil and other fuels	275.132	337.123	326.919	341.884	348.657	347.002	340.775	336.894	335.995	334.735	335.148	342.823	340.512	344.644	350.482
Gas (piped) and electricity	192.886	194.386	189.837	190.213	190.459	193.698	200.191	202.002	201.564	201.270	193.843	190.572	189.891	189.942	187.962
Household furnishings and operations	125.490	124.943	124.576	124.735	124.893	125.141	125.048	124.959	125.138	125.013	125.223	125.073	125.170	125.629	126.180
Apparel	119.503	122.111	118.369	121.286	122.226	122.271	120.578	118.770	121.547	125.272	127.590	127.285	123.470	122.105	123.312
Men's and boys' apparel	111.914	114.698	110.962	112.337	113.487	114.976	114.279	113.914	114.399	116.602	119.506	119.930	115.997	116.409	116.400
Women's and girls' apparel	107.081	109.166	105.076	109.544	110.144	109.237	106.746	103.349	107.780	113.304	115.851	115.603	110.918	107.644	110.044
Infants' and toddlers' apparel[1]	114.180	113.571	110.101	111.547	112.323	111.199	110.011	111.541	114.563	116.615	118.048	118.775	118.032	118.399	118.161
Footwear	127.988	128.482	126.830	128.518	128.581	129.618	128.054	126.092	127.500	130.921	130.886	130.293	128.208	126.915	127.668
Transportation	193.396	212.366	203.037	211.014	216.867	220.270	216.880	216.164	216.057	215.198	212.127	211.358	208.585	210.799	214.429
Private transportation	188.747	207.641	198.073	206.165	212.210	215.829	212.216	211.432	211.315	210.513	207.404	206.635	203.809	206.307	210.013
New and used motor vehicles[2]	97.149	99.770	97.633	98.275	98.972	99.915	101.004	101.442	101.524	100.988	100.540	100.021	99.795	99.659	99.889
New vehicles	138.005	141.883	140.158	140.860	141.462	142.494	143.054	142.763	142.327	142.334	142.535	142.736	142.953	143.438	144.326
Used cars and trucks[1]	143.128	149.011	142.937	144.072	145.968	148.361	151.776	154.184	155.823	153.586	151.494	149.230	148.140	147.143	147.011
Motor fuel	239.178	302.619	271.843	303.565	326.024	337.359	318.242	313.488	311.962	309.745	296.944	294.049	282.501	292.236	306.348
Gasoline (all types)	238.594	301.694	270.822	302.574	325.282	336.999	317.543	312.760	311.269	309.018	295.877	292.486	280.713	290.762	305.076
Motor vehicle parts and equipment	136.995	143.909	140.912	140.686	141.590	143.328	144.618	144.960	145.537	145.646	145.308	146.338	147.499	148.126	148.230
Motor vehicle maintenance and repair	247.954	253.099	250.851	250.820	251.458	252.376	252.529	252.769	253.337	255.244	255.774	255.663	255.644	256.405	256.968
Public transportation	251.351	269.403	265.327	270.366	272.187	271.417	272.297	272.868	272.949	271.199	269.158	268.478	266.958	263.968	265.830
Medical care	388.436	400.258	397.065	397.726	398.813	399.375	399.552	400.305	400.874	401.605	403.430	404.858	405.629	408.056	410.466
Medical care commodities	314.717	324.089	321.186	322.691	324.241	324.399	324.102	324.159	324.395	325.130	325.962	326.624	327.254	329.201	331.867
Medical care services	411.208	423.810	420.567	420.852	421.716	422.438	422.813	423.847	424.546	425.258	427.467	429.191	430.005	432.583	434.832
Professional services	328.186	335.666	334.296	334.671	334.978	335.132	335.494	336.150	336.378	336.461	337.257	337.347	337.907	338.714	339.136
Hospital and related services	607.679	641.488	633.413	634.387	637.188	639.456	639.728	641.712	643.600	645.026	649.496	654.117	653.839	659.194	664.591
Recreation[2]	113.313	113.357	113.183	113.261	113.368	113.659	113.654	113.492	113.592	113.440	113.270	113.232	113.499	114.183	114.333
Video and audio[1,2]	99.122	98.401	98.268	98.719	98.918	98.707	98.373	98.672	98.222	98.491	98.572	98.315	98.225	98.743	99.371
Education and communication[2]	129.919	131.466	130.692	130.682	130.643	130.600	130.568	130.859	132.028	132.627	132.755	132.750	132.728	133.067	133.199
Education[2]	199.337	207.768	204.153	204.251	204.316	204.668	204.821	206.158	210.266	212.348	212.680	212.751	212.745	213.067	213.039
Educational books and supplies	505.569	529.545	520.778	522.903	522.440	523.640	524.307	525.981	530.785	538.887	540.431	541.618	540.742	547.629	548.192
Tuition, other school fees, and child care	573.174	597.208	586.782	586.914	587.151	588.138	588.556	592.539	604.798	610.562	611.458	611.581	611.633	612.104	611.974
Communication[1,2]	84.681	83.345	83.779	83.730	83.655	83.466	83.367	83.211	83.077	83.017	83.049	83.016	82.990	83.280	83.446
Information and information processing[1,2]	81.513	79.964	80.417	80.364	80.281	80.081	79.980	79.822	79.687	79.625	79.659	79.625	79.599	79.858	79.928
Telephone services[1,2]	102.379	101.209	101.316	101.258	101.191	101.159	101.204	100.961	101.006	101.084	101.257	101.259	101.397	101.687	101.728
Information and information processing other than telephone services[1,4]	9.413	9.030	9.204	9.196	9.176	9.096	9.038	9.032	8.960	8.912	8.882	8.866	8.818	8.855	8.873
Personal computers and peripheral equipment[1,2]	76.377	68.901	72.709	72.073	72.010	70.898	69.125	68.788	66.753	65.796	65.511	65.849	64.348	64.356	64.686
Other goods and services	381.291	387.224	385.397	385.637	386.226	385.476	386.171	386.494	387.053	388.627	389.119	390.761	391.043	391.382	391.236
Tobacco and smoking products	807.330	834.769	829.535	830.693	827.287	825.690	828.860	833.067	837.427	843.141	842.785	843.604	847.063	851.016	847.880
Personal care[1]	206.643	208.556	207.685	207.758	208.485	208.080	208.307	208.174	208.199	208.843	209.232	210.354	210.257	210.299	210.330
Personal care products[1]	161.062	160.529	161.325	160.981	161.418	159.478	160.163	159.763	159.017	160.162	160.705	161.585	160.825	161.256	160.616
Personal care services[1]	229.614	230.800	230.177	230.034	230.380	230.505	230.614	230.454	230.779	230.974	231.238	232.216	232.302	232.039	232.907

See footnotes at end of table.

38. Continued—Consumer Price Indexes for All Urban Consumers and for Urban Wage Earners and Clerical Workers
U.S. city average, by expenditure category and commodity or service group

[1982–84 = 100, unless otherwise indicated]

Series	Annual average		2011											2012	
	2010	2011	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
Miscellaneous personal services	354.052	362.854	358.521	359.096	361.062	361.786	362.435	362.905	364.545	365.351	365.905	367.157	367.912	367.934	367.968
Commodity and service group:															
Commodities	174.566	183.862	178.874	182.728	185.311	186.804	185.266	184.931	185.566	186.015	185.236	184.791	183.345	184.636	186.279
Food and beverages	219.984	227.866	224.039	225.479	226.248	227.082	227.451	228.323	229.490	230.448	230.885	230.656	231.130	232.559	232.453
Commodities less food and beverages	150.392	159.943	154.657	159.351	162.578	164.286	162.032	161.222	161.621	161.850	160.608	160.091	157.921	159.117	161.451
Nondurables less food and beverages	189.916	208.427	198.885	208.134	214.256	217.037	211.621	209.739	210.546	211.709	209.518	208.902	204.529	206.834	211.182
Apparel	119.503	122.111	118.369	121.286	122.226	122.271	120.578	118.770	121.547	125.272	127.590	127.285	123.470	122.105	123.312
Non durables less food, beverages, and apparel	238.053	266.957	253.570	266.993	276.504	281.064	273.195	271.228	270.809	270.380	265.302	264.478	259.668	264.289	270.682
Durables	111.324	112.557	111.237	111.707	112.242	112.941	113.598	113.778	113.799	113.177	112.822	112.405	112.277	112.399	112.780
Services	261.274	265.762	263.480	263.956	264.256	264.883	265.928	266.660	267.271	267.510	267.352	267.413	267.737	268.459	268.819
Rent of shelter[3]	258.823	262.208	260.373	260.834	260.963	261.272	261.977	262.747	263.152	263.251	263.717	263.931	264.341	265.060	265.628
Transportation services	259.823	268.002	265.354	266.754	267.587	267.832	268.488	268.642	268.940	268.979	269.487	270.117	269.858	269.438	269.535
Other services	309.602	314.431	311.975	312.310	312.593	313.205	313.332	313.703	315.791	316.708	316.933	317.275	318.043	319.100	319.510
Special indexes:															
All items less food	217.828	224.503	220.937	223.192	224.731	225.826	225.485	225.566	226.092	226.329	225.717	225.532	224.805	225.739	226.927
All items less shelter	208.643	217.048	212.633	215.505	217.475	218.847	218.239	218.230	218.952	219.396	218.558	218.205	217.260	218.378	219.580
All items less medical care	209.689	216.325	212.709	214.907	216.346	217.414	217.158	217.336	217.955	218.281	217.730	217.479	216.875	217.804	218.737
Commodities less food	152.990	162.409	157.221	161.804	164.964	166.657	164.461	163.664	164.059	164.287	163.084	162.572	160.453	161.685	163.994
Nondurables less food	191.927	209.615	200.543	209.282	215.090	217.771	212.660	210.867	211.642	212.750	210.697	210.101	205.966	208.277	212.459
Nondurables less food and apparel	235.601	262.123	249.895	262.068	270.729	274.948	267.823	266.018	265.656	265.279	260.703	259.934	255.567	259.979	265.898
Nondurables	205.271	219.049	212.056	217.791	221.504	223.413	220.611	219.979	220.958	222.036	221.035	220.592	218.411	220.325	222.634
Services less rent of shelter[3]	284.368	290.554	287.547	288.077	288.612	289.676	291.219	291.961	292.871	293.301	292.365	292.242	292.487	293.269	293.406
Services less medical care services	249.569	253.554	251.354	251.834	252.100	252.713	253.781	254.487	255.085	255.295	255.009	254.978	255.271	255.881	256.123
Energy	211.449	243.909	226.860	242.516	253.495	260.376	254.170	252.661	251.706	250.480	240.902	238.177	232.300	236.942	242.663
All items less energy	220.458	224.806	222.506	223.315	223.798	224.275	224.635	225.010	225.797	226.303	226.754	226.818	226.795	227.422	227.925
All items less food and energy	221.337	225.008	223.011	223.690	224.118	224.534	224.891	225.164	225.874	226.289	226.743	226.859	226.740	227.237	227.865
Commodities less food and energy	143.588	145.499	143.712	144.632	145.214	145.657	145.741	145.486	146.159	146.734	147.068	146.811	145.929	145.963	146.628
Energy commodities	242.636	306.445	276.485	307.589	329.419	340.183	321.578	316.835	315.330	313.145	300.916	298.530	287.363	296.886	310.685
Services less energy	268.278	273.057	270.982	271.468	271.775	272.158	272.695	273.327	274.038	274.327	274.851	275.224	275.643	276.432	277.027
CONSUMER PRICE INDEX FOR URBAN WAGE EARNERS AND CLERICAL WORKERS															
All items	213.967	221.575	217.535	220.024	221.743	222.954	222.522	222.686	223.326	223.688	223.043	222.813	222.166	223.216	224.317
All items (1967 = 100)	637.342	660.005	647.969	655.385	660.503	664.113	662.826	663.314	665.221	666.299	664.376	663.692	661.766	664.891	668.171
Food and beverages	219.182	227.276	223.273	224.825	225.667	226.473	226.813	227.701	228.957	229.965	230.420	230.186	230.642	232.052	231.971
Food	218.730	227.125	222.942	224.577	225.439	226.257	226.610	227.585	228.911	229.967	230.406	230.143	230.624	231.980	231.806
Food at home	214.638	225.181	220.110	222.391	223.245	224.386	224.580	225.889	227.388	228.777	229.269	228.405	228.925	230.631	230.148
Cereals and bakery products	251.024	261.085	254.963	256.227	256.912	259.862	261.297	261.564	263.608	264.869	266.335	266.639	266.752	267.512	268.245
Meats, poultry, fish, and eggs	207.431	223.191	216.062	218.848	220.753	223.356	223.250	224.421	225.682	227.285	228.019	227.643	228.845	229.739	228.787
Dairy and related products[1]	197.992	211.772	202.335	205.163	208.951	210.488	211.374	213.957	215.910	218.406	218.451	217.557	217.503	219.185	218.218
Fruits and vegetables	270.713	282.180	284.132	288.168	284.147	281.424	277.853	279.494	280.617	284.884	282.345	279.989	280.711	282.588	278.626
Nonalcoholic beverages and beverage materials	161.214	166.067	163.262	164.583	165.553	165.160	165.380	166.890	167.391	167.416	168.262	167.739	167.577	169.594	168.825
Other foods at home	190.294	196.512	192.187	193.787	194.281	195.396	196.454	197.389	199.201	199.519	200.430	199.146	199.694	201.995	203.131
Sugar and sweets	200.035	206.668	203.373	204.408	202.613	204.161	206.402	206.103	208.537	211.591	212.276	209.091	209.639	212.860	213.086
Fats and oils	200.909	219.844	210.741	214.457	214.363	216.820	219.304	221.982	224.327	225.698	227.230	226.119	229.065	235.791	234.241
Other foods	204.577	209.273	205.098	206.624	207.711	208.632	209.328	210.318	212.092	211.730	212.673	211.618	211.835	213.520	215.327
Other miscellaneous foods[1,2]	121.872	124.148	121.605	122.850	123.797	123.673	123.911	124.607	125.327	125.167	125.681	125.761	126.235	125.367	127.047
Food away from home[1]	226.204	231.504	228.596	229.293	230.174	230.521	231.112	231.603	232.682	233.257	233.622	234.240	234.666	235.423	235.782
Other food away from home[1,2]	159.794	163.841	162.728	162.850	163.275	163.498	163.524	164.167	164.551	164.421	165.008	165.228	165.205	166.216	165.955
Alcoholic beverages	224.368	228.041	226.675	227.022	227.552	228.197	228.331	227.956	228.213	228.513	229.194	229.379	229.467	231.821	233.328
Housing	212.880	215.810	213.931	214.323	214.523	215.135	216.263	216.917	217.235	217.371	216.843	216.723	217.009	217.528	217.717
Shelter	242.309	245.526	243.961	244.270	244.420	244.618	245.112	245.705	246.187	246.372	246.922	247.313	247.858	248.435	248.868
Rent of primary residence	247.725	251.857	250.128	250.445	250.579	250.704	250.843	251.271	252.195	252.771	253.727	254.446	255.322	255.800	256.292
Lodging away from home[2]	135.119	138.828	133.181	138.131	138.699	140.814	147.508	151.939	146.163	140.665	137.128	131.860	129.754	132.580	137.590
Owners' equivalent rent of primary residence[3]	232.461	235.147	233.872	234.018	234.133	234.272	234.634	235.116	235.645	235.886	236.407	236.869	237.350	237.848	238.085
Tenants' and household insurance[1,2]	126.739	128.563	128.035	126.914	127.654	127.859	128.242	128.377	128.727	129.090	129.562	129.912	130.695	131.182	130.565
Fuels and utilities	212.885	218.859	213.775	214.774	215.338	218.216	223.834	225.589	225.399	225.398	218.952	216.546	216.074	216.589	215.460
Fuels	187.272	191.522	186.578	187.561	188.078	191.103	197.253	198.857	198.396	198.168	190.976	188.244	187.586	187.786	186.170
Fuel oil and other fuels	277.433	336.592	326.950	341.440	347.371	345.830	339.095	335.796	334.935	334.361	334.886	342.717	340.375	344.055	350.169
Gas (piped) and electricity	191.552	193.519	188.567	188.985	189.281	192.646	199.650	201.547	201.084	200.861	193.001	189.671	189.060	189.143	187.193
Household furnishings and operations	121.555	121.109	120.518	120.765	120.873	121.238	121.152	121.185	121.325	121.399	121.642	121.459	121.409	121.770	122.201
Apparel	118.733	121.293	117.507	120.091	121.140	121.312	119.720	117.830	120.624	124.716	126.966	126.764	123.203	121.896	123.044
Men's and boys' apparel	111.811	114.971	111.528	112.360	113.477	115.079	114.172	113.565	114.068	116.854	120.512	120.739	116.906	116.817	117.088
Women's and girls' apparel	106.360	108.733	104.611	108.551	109.589	108.704	106.263	102.841	107.359	113.333	115.638	115.324	110.883	107.583	109.862
Infants' and toddlers' apparel[1]	117.415	116.753	112.814	114.446	115.274	114.150	113.203	114.220	118.265	119.921	121.409	122.228	121.842	122.603	121.768
Footwear	127.593	128.560	126.363	128.077	128.602	129.810	128.533	126.679	128.108	131.035	130.799	130.676	128.560	127.300	128.188
Transportation	192.560	213.296	202.910	211.774	218.352	222.153	218.155	217.466	217.491	216.474	213.013	212.119	209.013	211.599	215.665
Private transportation	189.257	209.939	199.417	208.361	215.044	218.946	214.837	214.119	214.131	213.141	209.647	208.743	205.607	208.363	212.481
New and used motor vehicles[2]	96.271	99.205	96.734	97.405	98.172	99.236	100.485	101.093	101.393	100.736	100.187	99.539	99.250	99.037	99.279

See footnotes at end of table.

38. Continued—Consumer Price Indexes for All Urban Consumers and for Urban Wage Earners and Clerical Workers: U.S. city average, by expenditure category and commodity or service group

[1982–84 = 100, unless otherwise indicated]

Series	Annual average		2011												2012	
	2010	2011	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
New vehicles	139.044	142.866	141.114	141.899	142.475	143.476	143.995	143.687	143.276	143.290	143.539	143.778	143.994	144.431	145.475
Used cars and trucks [1]	144.007	150.010	143.868	145.014	146.907	149.304	152.759	155.201	156.860	154.645	152.569	150.310	149.207	148.197	148.055
Motor fuel	240.094	303.848	273.013	305.066	327.663	338.832	319.323	314.806	313.307	310.810	297.935	295.069	283.528	293.496	307.606
Gasoline (all types)	239.629	303.067	272.117	304.224	327.095	338.656	318.779	314.232	312.768	310.227	296.999	293.628	281.852	292.151	306.466
Motor vehicle parts and equipment	136.998	143.796	140.763	140.693	141.505	143.257	144.458	144.840	145.390	145.652	145.326	146.151	147.223	147.804	147.905
Motor vehicle maintenance and repair	250.543	255.760	253.524	253.391	253.990	255.042	255.133	255.509	256.077	258.001	258.440	258.342	258.355	259.076	259.689
Public transportation	248.713	266.151	262.444	266.726	268.501	268.226	268.615	269.003	269.427	267.826	266.204	265.815	264.424	262.018	264.030
Medical care	389.766	402.187	398.908	399.516	400.683	401.316	401.398	402.160	402.783	403.433	405.472	407.128	407.909	410.459	413.022
Medical care commodities	306.257	315.845	312.764	314.190	315.798	316.099	315.710	315.957	316.299	316.869	317.901	318.671	319.396	321.314	323.842
Medical care services	414.273	427.551	424.289	424.516	425.450	426.210	426.498	427.464	428.190	428.856	431.274	433.269	434.051	436.798	439.305
Professional services	331.456	339.328	337.901	338.225	338.558	338.828	339.198	339.756	340.053	340.195	341.110	341.148	341.593	342.491	342.887
Hospital and related services	608.516	644.431	636.256	637.216	640.223	642.422	642.513	644.693	646.560	647.586	652.231	657.707	657.440	662.841	669.040
Recreation [2]	109.812	109.898	109.693	109.848	109.933	110.219	110.216	110.134	110.146	109.995	109.869	109.723	109.959	110.556	110.881
Video and audio [1,2]	99.643	99.087	98.897	99.398	99.523	99.331	99.005	99.417	98.939	99.148	99.339	99.095	99.028	99.563	100.192
Education and communication [2]	124.891	125.520	125.069	125.047	124.993	124.934	124.906	124.994	125.797	126.219	126.415	126.392	126.413	126.735	126.853
Education [2]	196.606	204.761	201.500	201.588	201.611	202.023	202.119	203.181	206.790	208.721	209.343	209.453	209.452	209.865	209.868
Educational books and supplies	508.386	534.846	526.197	527.623	526.990	528.326	529.103	529.929	536.250	544.702	546.888	548.418	547.576	554.390	554.958
Tuition, other school fees, and child care	552.958	575.357	566.205	566.335	566.469	567.600	567.816	570.995	581.447	586.531	588.222	588.409	588.489	589.117	589.075
Communication [1,2]	87.317	85.789	86.174	86.124	86.057	85.877	85.819	85.628	85.545	85.492	85.543	85.486	85.510	85.761	85.892
Information and information processing [1,2]	85.126	83.447	83.844	83.793	83.719	83.534	83.474	83.282	83.198	83.144	83.196	83.139	83.163	83.391	83.455
Telephone services [1,2]	102.086	100.626	100.768	100.701	100.643	100.610	100.657	100.366	100.405	100.475	100.616	100.620	100.764	101.014	101.050
Information and information processing other than telephone services [1,4]	9.960	9.571	9.734	9.729	9.710	9.623	9.575	9.573	9.514	9.462	9.440	9.408	9.371	9.404	9.423
Personal computers and peripheral equipment [1,2]	76.273	68.439	72.138	71.404	71.220	70.071	68.426	68.230	66.530	65.435	65.342	65.613	64.421	64.382	64.729
Other goods and services	409.278	416.899	415.088	415.318	415.578	414.594	415.514	416.166	416.896	418.837	419.067	420.462	421.000	421.572	421.412
Tobacco and smoking products	812.347	839.665	834.343	835.368	832.003	830.137	833.452	837.692	842.479	848.513	847.868	848.791	852.435	856.419	853.214
Personal care [1]	204.299	206.361	205.705	205.738	206.422	205.919	206.165	206.069	205.957	206.615	206.887	207.847	207.747	207.814	207.958
Personal care products [1]	161.174	161.045	161.974	161.667	162.088	160.083	160.780	160.567	159.655	160.623	160.970	161.716	160.954	161.473	161.121
Personal care services [1]	229.824	230.958	230.418	230.252	230.597	230.709	230.814	230.579	230.907	231.139	231.409	232.222	232.313	232.093	232.964
Miscellaneous personal services	355.502	364.346	360.528	360.881	362.774	363.466	364.113	364.597	365.826	366.656	366.867	368.036	368.816	368.843	369.051
Commodity and service group:															
Commodities	177.545	188.157	182.442	186.832	189.816	191.543	189.779	189.508	190.217	190.644	189.605	189.073	187.472	188.931	190.816
Food and beverages	219.182	227.276	223.273	224.825	225.667	226.473	226.813	227.701	228.957	229.965	230.420	230.186	230.642	232.052	231.971
Commodities less food and beverages	155.064	166.459	160.171	165.647	169.461	171.531	168.922	168.166	168.623	168.793	167.147	166.502	164.072	165.511	168.180
Nondurables less food and beverages	198.517	220.100	209.079	219.775	226.985	230.306	223.944	221.945	222.704	223.817	220.916	220.183	215.404	218.318	223.359
Apparel	118.733	121.293	117.507	120.091	121.140	121.312	119.720	117.830	120.624	124.716	126.966	126.764	123.203	121.896	123.044
Nondurables less food, beverages, and apparel	252.481	286.167	270.459	286.361	297.497	302.815	293.390	291.265	290.820	290.172	284.081	283.006	277.351	282.875	290.400
Durables	112.513	114.313	112.498	113.063	113.678	114.560	115.461	115.866	116.037	115.332	114.872	114.319	114.098	114.105	114.470
Services	256.628	260.925	258.732	259.108	259.419	260.062	261.122	261.777	262.344	262.636	262.427	262.535	262.954	263.615	263.904
Rent of shelter [3]	233.507	236.603	235.090	235.413	235.544	235.734	236.207	236.781	237.244	237.418	237.944	238.318	238.834	239.387	239.820
Transporatation services	259.985	268.161	265.521	266.383	267.258	267.729	268.122	268.170	268.778	269.151	270.160	271.172	271.174	270.972	271.019
Other services	296.066	299.544	297.671	298.010	298.262	298.779	298.819	299.077	300.411	301.130	301.477	301.609	302.364	303.344	303.908
Special indexes:															
All items less food	212.938	220.401	216.389	219.027	220.894	222.174	221.604	221.625	222.144	222.384	221.548	221.324	220.479	221.476	222.792
All items less shelter	205.943	215.223	210.242	213.549	215.853	217.445	216.673	216.683	217.387	217.817	216.732	216.274	215.189	216.427	217.801
All items less medical care	206.828	214.226	210.198	212.722	214.442	215.660	215.216	215.361	215.996	216.346	215.626	215.342	214.658	215.653	216.699
Commodities less food	157.422	168.646	162.470	167.826	171.564	173.603	171.059	170.311	170.764	170.938	169.349	168.725	166.354	167.821	170.476
Nondurables less food	200.147	220.793	210.278	220.431	227.290	230.472	224.451	222.537	223.269	224.341	221.629	220.944	216.421	219.315	224.205
Nondurables less food and apparel	248.965	279.965	265.539	280.056	290.247	295.146	286.570	284.603	284.219	283.654	278.162	277.198	272.053	277.315	284.362
Nondurables	209.360	224.728	216.941	223.402	227.661	229.820	226.570	225.916	226.913	227.983	226.642	226.140	223.793	226.025	228.711
Services less rent of shelter [3]	251.210	256.386	253.664	254.057	254.540	255.643	257.266	257.932	258.552	258.945	257.887	257.664	257.915	258.616	258.697
Services less medical care services	245.533	249.355	247.244	247.622	247.899	248.528	249.607	250.237	250.789	251.058	250.733	250.753	251.150	251.705	251.882
Energy	211.926	246.086	228.160	244.773	256.400	263.494	256.663	255.169	254.191	252.823	242.844	240.073	233.943	238.978	245.158
All items less energy	215.173	219.598	217.222	218.011	218.537	219.041	219.383	219.748	220.587	221.161	221.643	221.720	221.735	222.298	222.758
All items less food and energy	214.835	218.461	216.448	217.067	217.525	217.966	218.306	218.548	219.290	219.766	220.258	220.404	220.325	220.736	221.318
Commodities less food and energy	145.728	148.050	145.909	146.835	147.472	148.045	148.321	148.206	149.003	149.633	149.890	149.572	148.692	148.645	149.277
Energy commodities	242.805	306.719	276.539	308.083	330.157	340.895	321.775	317.281	315.799	313.363	300.937	298.469	287.221	297.049	310.990
Services less energy	263.713	268.270	266.394	266.766	267.077	267.410	267.791	268.303	268.988	269.337	270.000	270.500	271.036	271.762	272.318

[1] Not seasonally adjusted.
[2] Indexes on a December 1997 = 100 base.
[3] Indexes on a December 1982 = 100 base.
[4] Indexes on a December 1988 = 100 base.

NOTE: Index applied to a month as a whole, not to any specific date.

39. Consumer Price Index: U.S. city average and available local area data: all items

[1982–84 = 100, unless otherwise indicated]

	Pricing schedule[1]	All Urban Consumers						Urban Wage Earners					
		2011				2012		2011				2012	
		Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
U.S. city average	M	226.889	226.421	226.230	225.672	226.665	227.663	223.688	223.043	222.813	222.166	223.216	224.317
Region and area size[2]													
Northeast urban	M	243.323	243.014	242.652	241.987	242.879	243.850	241.838	241.549	241.167	240.431	241.321	242.371
Size A—More than 1,500,000	M	244.983	244.534	244.076	243.328	244.296	245.179	241.752	241.355	240.912	240.148	241.066	242.040
Size B/C—50,000 to 1,500,000[3]	M	145.369	145.404	145.335	145.062	145.456	146.217	147.039	146.999	146.843	146.432	146.923	147.685
Midwest urban[4]	M	216.968	215.653	215.614	215.173	216.368	216.855	213.626	212.038	211.969	211.459	212.756	213.248
Size A—More than 1,500,000	M	217.360	216.130	216.097	215.633	216.883	217.320	213.070	211.604	211.505	210.962	212.309	212.714
Size B/C—50,000 to 1,500,000[3]	M	139.542	138.573	138.453	138.186	138.903	139.191	140.363	139.157	139.048	138.741	139.595	139.934
Size D—Nonmetropolitan (less than 50,000)	M	213.606	212.476	212.907	212.505	213.649	214.524	212.520	211.193	211.533	211.040	212.052	212.902
South urban	M	220.371	219.969	219.961	219.469	220.497	221.802	218.787	218.109	218.030	217.463	218.571	220.080
Size A—More than 1,500,000	M	221.242	220.515	220.654	220.152	221.185	222.711	220.130	219.075	219.215	218.603	219.705	221.592
Size B/C—50,000 to 1,500,000[3]	M	140.471	140.303	140.218	139.838	140.388	141.133	140.229	139.879	139.721	139.299	139.863	140.726
Size D—Nonmetropolitan (less than 50,000)	M	224.462	224.574	224.714	224.892	226.902	228.117	225.478	225.364	225.404	225.422	227.762	228.966
West urban	M	229.147	229.195	228.771	228.117	228.980	229.995	224.237	224.268	223.785	222.968	223.849	224.956
Size A—More than 1,500,000	M	233.221	233.259	232.851	232.106	233.044	234.173	226.764	226.759	226.250	225.267	226.277	227.609
Size B/C—50,000 to 1,500,000[3]	M	138.564	138.696	138.411	138.017	138.465	138.997	138.770	138.884	138.587	138.157	138.578	139.050
Size classes:													
A[5]	M	206.883	206.393	206.201	205.636	206.562	207.469	206.484	205.846	205.627	204.954	205.939	206.988
B/C[3]	M	140.584	140.355	140.225	139.881	140.418	141.040	140.883	140.505	140.330	139.931	140.506	141.179
D	M	220.391	219.959	220.020	219.950	221.362	222.324	219.494	218.914	218.973	218.780	220.339	221.349
Selected local areas[6]													
Chicago–Gary–Kenosha, IL–IN–WI	M	220.027	219.592	219.181	218.180	219.585	219.626	215.005	214.145	213.704	212.597	214.298	214.022
Los Angeles–Riverside–Orange County, CA	M	233.022	233.049	232.731	231.567	233.441	234.537	226.096	226.116	225.786	224.444	226.245	227.585
New York, NY–Northern NJ–Long Island, NY–NJ–CT–PA	M	250.559	250.051	249.317	248.307	249.322	250.285	246.877	246.297	245.546	244.586	245.541	246.539
Boston–Brockton–Nashua, MA–NH–ME–CT	1	245.310	–	245.030	–	245.891	–	246.424	–	246.349	–	247.006	–
Cleveland–Akron, OH	1	213.004	–	211.225	–	211.985	–	204.981	–	202.824	–	203.575	–
Dallas–Ft Worth, TX	1	209.255	–	209.283	–	209.203	–	214.567	–	214.581	–	214.557	–
Washington–Baltimore, DC–MD–VA–WV[7]	1	147.658	–	147.565	–	148.163	–	148.352	–	148.038	–	148.489	–
Atlanta, GA	2	–	209.182	–	208.590	–	210.600	–	208.362	–	207.654	–	210.269
Detroit–Ann Arbor–Flint, MI	2	–	212.927	–	213.505	–	214.836	–	209.427	–	210.199	–	212.037
Houston–Galveston–Brazoria, TX	2	–	201.398	–	200.477	–	204.291	–	200.464	–	199.480	–	203.603
Miami–Ft. Lauderdale, FL	2	–	232.141	–	231.794	–	234.043	–	230.728	–	230.394	–	232.605
Philadelphia–Wilmington–Atlantic City, PA–NJ–DE–MD	2	–	235.440	–	234.312	–	235.857	–	236.478	–	235.194	–	236.815
San Francisco–Oakland–San Jose, CA	2	–	235.331	–	234.327	–	236.880	–	232.371	–	231.109	–	234.648
Seattle–Tacoma–Bremerton, WA	2	–	235.916	–	234.812	–	235.744	–	232.697	–	231.297	–	232.081

[1] Foods, fuels, and several other items priced every month in all areas; most other goods and services priced as indicated:
M—Every month.
1—January, March, May, July, September, and November.
2—February, April, June, August, October, and December.

[2] Regions defined as the four Census regions.

[3] Indexes on a December 1996 = 100 base.

[4] The "North Central" region has been renamed the "Midwest" region by the Census Bureau. It is composed of the same geographic entities.

[5] Indexes on a December 1986 = 100 base.

[6] In addition, the following metropolitan areas are published semiannually and appear in tables 34 and 39 of the January and July issues of the *CPI Detailed Report*: Anchorage, AK; Cincinnatti, OH–KY–IN; Kansas City, MO–KS; Milwaukee–Racine, WI; Minneapolis–St. Paul, MN–WI; Pittsburgh, PA; Port-land–Salem, OR–WA; St Louis, MO–IL; San Diego, CA; Tampa–St. Petersburg–Clearwater, FL.

[7] Indexes on a November 1996 = 100 base.

NOTE: Local area CPI indexes are byproducts of the national CPI program. Each local index has a smaller sample size and is, therefore, subject to substantially more sampling and other measurement error. As a result, local area indexes show greater volatility than the national index, although their long-term trends are similar. Therefore, the Bureau of Labor Statistics strongly urges users to consider adopting the national average CPI for use in their escalator clauses. Index applies to a month as a whole, not to any specific date. Dash indicates data not available.

40. Annual data: Consumer Price Index, U.S. city average, all items and major groups

[1982–84 = 100]

Series	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Consumer Price Index for All Urban Consumers:											
All items:											
Index	177.1	179.9	184.0	188.9	195.3	201.6	207.342	215.303	214.537	218.056	224.939
Percent change	2.8	1.6	2.3	2.7	3.4	3.2	2.8	3.8	-0.4	1.6	3.2
Food and beverages:											
Index	173.6	176.8	180.5	186.6	191.2	195.7	203.300	214.225	218.249	219.984	227.866
Percent change	3.1	1.8	2.1	3.3	2.5	2.4	3.9	5.4	1.9	0.8	3.6
Housing:											
Index	176.4	180.3	184.8	189.5	195.7	203.2	209.586	216.264	217.057	216.256	219.102
Percent change	4.0	2.2	2.5	2.5	3.3	3.8	3.1	3.2	0.4	-0.4	1.3
Apparel:											
Index	127.3	124.0	120.9	120.4	119.5	119.5	118.998	118.907	120.078	119.503	122.111
Percent change	–1.8	–2.6	–2.5	–.4	–.7	.0	-0.4	-0.1	1.0	-0.5	2.2
Transportation:											
Index	154.3	152.9	157.6	163.1	173.9	180.9	184.682	195.549	179.252	193.396	212.366
Percent change	0.7	–.9	3.1	3.5	6.6	4.0	2.1	5.9	-8.3	7.9	9.8
Medical care:											
Index	272.8	285.6	297.1	310.1	323.2	336.2	351.054	364.065	375.613	388.436	400.258
Percent change	4.6	4.7	4.0	4.4	4.2	4.0	4.4	3.7	3.2	3.4	3.0
Other goods and services:											
Index	282.6	293.2	298.7	304.7	313.4	321.7	333.328	345.381	368.586	381.291	387.224
Percent change	4.2	3.8	1.9	2.0	2.9	2.6	3.6	3.6	6.7	3.4	1.6
Consumer Price Index for Urban Wage Earners and Clerical Workers:											
All items:											
Index	173.5	175.9	179.8	184.5	191.0	197.1	202.767	211.053	209.630	213.967	221.575
Percent change	2.7	1.4	2.2	5.1	1.1	3.2	2.9	4.1	-0.7	2.1	3.6

41. Producer Price Indexes, by stage of processing

[1982 = 100]

Grouping	Annual average		2011											2012	
	2010	2011	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.[p]	Dec.[p]	Jan.[p]	Feb.[p]
Finished goods	179.8	190.6	186.6	189.1	191.4	192.5	191.4	192.2	191.7	192.6	191.8	191.7	191.3	191.9	192.7
Finished consumer goods	189.1	203.4	198.2	201.8	204.8	206.3	204.7	205.7	204.9	206.2	204.5	204.4	203.8	204.3	205.4
Finished consumer foods	182.4	193.9	193.4	192.9	193.0	191.0	192.4	193.5	195.7	197.0	195.9	197.9	197.3	196.5	196.5
Finished consumer goods excluding foods	190.4	205.6	198.7	203.7	207.8	210.5	207.8	208.8	207.0	208.3	206.3	205.5	204.9	206.0	207.4
Nondurable goods less food	210.1	231.7	222.1	229.5	235.2	239.4	235.2	236.6	233.8	235.7	231.6	230.4	229.5	230.8	232.9
Durable goods	144.9	147.4	146.0	146.2	146.8	146.6	146.9	147.2	147.3	147.3	149.7	149.7	149.4	150.1	150.1
Capital equipment	157.3	159.7	158.7	158.8	159.2	159.2	159.5	159.7	159.7	159.8	161.2	161.3	161.4	162.1	162.2
Intermediate materials, supplies, and components	183.4	200.0	193.7	197.6	201.0	203.2	203.3	204.1	202.8	203.2	200.2	199.9	199.3	198.7	200.1
Materials and components for manufacturing	174.0	190.0	185.2	187.7	191.1	192.6	192.4	193.3	192.7	192.8	190.6	189.5	188.4	188.4	190.8
Materials for food manufacturing	174.4	193.3	186.4	190.5	193.3	192.9	193.8	195.9	199.2	199.4	196.4	197.0	196.4	195.7	195.4
Materials for nondurable manufacturing	215.4	250.0	238.5	244.0	251.9	257.3	256.3	257.8	255.0	256.2	251.3	247.6	244.8	243.3	249.5
Materials for durable manufacturing	186.6	204.2	202.0	204.2	208.0	207.8	206.8	207.9	207.2	206.1	202.4	201.6	200.0	201.6	204.2
Components for manufacturing	142.2	145.8	144.3	144.7	145.4	145.7	146.1	146.4	146.5	146.5	146.7	146.8	146.8	147.1	147.4
Materials and components for construction	205.7	212.8	209.5	210.9	212.1	212.8	213.7	214.7	214.6	214.5	214.4	214.2	214.4	214.7	216.8
Processed fuels and lubricants	185.2	215.5	200.9	212.0	218.6	224.3	224.2	225.1	219.5	221.0	212.2	213.9	213.7	210.5	209.9
Containers	201.2	205.5	203.9	204.4	204.9	206.4	206.8	207.1	205.9	206.0	205.4	205.3	205.2	205.1	206.6
Supplies	175.0	184.2	180.9	182.3	183.9	184.5	185.2	185.7	186.1	186.7	185.8	185.4	185.0	185.3	186.1
Crude materials for further processing	212.2	249.6	242.8	248.2	261.3	255.5	256.8	256.9	251.2	251.1	242.8	248.5	241.6	246.4	244.6
Foodstuffs and feedstuffs	152.4	188.4	184.4	185.7	193.1	190.3	195.3	192.6	196.3	192.4	186.3	188.6	184.6	188.3	191.2
Crude nonfood materials	249.3	284.5	275.5	284.4	301.7	293.6	291.3	293.9	279.7	283.4	273.8	282.2	273.0	278.6	273.1
Special groupings:															
Finished goods, excluding foods	178.3	188.9	184.2	187.4	190.1	191.9	190.3	191.0	189.8	190.7	189.9	189.4	189.1	190.0	190.9
Finished energy goods	166.9	193.4	180.6	191.6	200.0	206.1	199.5	200.3	195.6	197.9	191.2	189.3	187.5	188.1	190.8
Finished goods less energy	175.5	181.3	180.0	180.1	180.5	180.0	180.6	181.4	182.1	182.5	183.5	184.0	183.9	184.5	184.7
Finished consumer goods less energy	183.9	191.6	190.2	190.2	190.5	189.9	190.6	191.7	192.7	193.4	194.1	194.8	194.7	195.2	195.4
Finished goods less food and energy	173.6	177.7	176.1	176.4	176.9	176.9	177.2	177.9	178.1	178.3	179.8	179.9	180.1	181.0	181.3
Finished consumer goods less food and energy	185.1	190.7	188.7	189.0	189.5	189.7	189.9	191.0	191.4	191.8	193.4	193.4	193.6	194.9	195.2
Consumer nondurable goods less food and energy	220.8	229.8	227.2	227.6	228.0	228.4	228.7	230.6	231.4	232.2	232.7	232.9	233.5	235.3	236.2
Intermediate materials less foods and feeds	184.4	200.6	194.4	198.2	201.7	204.0	204.0	204.8	203.1	203.5	200.5	200.2	199.7	199.1	200.6
Intermediate foods and feeds	171.7	192.3	185.0	189.1	192.5	192.9	194.1	195.3	197.9	198.7	194.9	194.6	193.1	192.9	193.1
Intermediate energy goods	187.8	220.2	204.7	216.6	223.6	229.4	229.1	230.8	224.1	226.0	217.4	219.0	218.7	215.8	215.4
Intermediate goods less energy	180.0	192.3	188.5	190.2	192.7	193.8	194.1	194.6	194.7	194.8	193.2	192.4	191.8	191.8	193.6
Intermediate materials less foods and energy	180.8	192.1	188.7	190.2	192.5	193.8	193.9	194.4	194.2	194.1	192.8	192.0	191.4	191.5	193.5
Crude energy materials	216.7	240.6	229.1	241.5	260.6	251.9	246.9	249.9	231.0	235.6	229.8	243.2	230.0	235.4	227.2
Crude materials less energy	197.0	240.2	236.9	237.2	245.8	242.3	247.7	245.7	249.0	245.6	236.3	236.5	233.9	237.8	240.1
Crude nonfood materials less energy	329.1	391.4	391.6	387.8	399.1	393.8	399.6	401.0	402.2	401.4	381.2	373.5	376.6	380.7	381.1

p = preliminary.

42. Producer Price Indexes for the net output of major industry groups

[December 2003 = 100, unless otherwise indicated]

NAICS	Industry	2011											2012	
		Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.[p]	Dec.[p]	Jan.[p]	Feb.[p]
	Total mining industries (December 1984=100)	232.4	241.7	256.6	251.0	247.2	251.2	237.4	241.6	235.1	245.6	240.4	241.8	234.2
211	Oil and gas extraction (December 1985=100)	259.7	275.0	297.6	289.1	281.9	286.8	264.3	270.8	262.9	278.0	270.8	273.0	256.8
212	Mining, except oil and gas	225.4	224.9	227.9	225.6	227.6	231.0	231.3	231.4	224.0	228.1	226.0	227.4	230.7
213	Mining support activities	107.7	107.1	108.9	109.9	110.7	112.0	112.4	112.9	113.6	114.1	114.4	114.3	114.5
	Total manufacturing industries (December 1984=100)	183.3	187.3	190.2	191.9	191.1	191.7	190.7	191.5	190.2	190.6	189.9	190.9	192.1
311	Food manufacturing (December 1984=100)	184.6	187.8	190.8	191.2	191.8	193.4	195.5	196.4	194.4	194.8	194.3	194.4	194.6
312	Beverage and tobacco manufacturing	126.7	126.7	125.8	126.5	126.7	128.3	128.3	128.5	129.6	129.7	130.0	130.6	131.3
313	Textile mills	125.4	128.7	130.4	132.6	132.5	132.2	132.5	132.6	131.5	131.0	130.8	129.6	128.7
315	Apparel manufacturing	104.4	104.7	105.0	105.7	105.9	106.3	106.2	106.7	106.6	106.6	106.6	106.8	107.0
316	Leather and allied product manufacturing (December 1984=100)	161.6	162.0	162.7	163.8	164.9	166.2	166.3	166.1	165.7	164.8	163.8	164.0	164.3
321	Wood products manufacturing	108.3	108.6	108.6	107.7	107.6	107.8	108.0	108.1	109.1	108.8	108.1	108.4	110.2
322	Paper manufacturing	130.3	130.9	131.1	131.4	131.7	132.1	132.2	132.5	132.2	131.9	132.3	131.7	132.1
323	Printing and related support activities	110.9	111.1	111.7	111.7	111.7	111.8	111.9	112.2	112.4	112.1	112.4	112.5	112.6
324	Petroleum and coal products manufacturing (December 1984=100)	335.4	371.4	393.8	409.3	396.6	396.1	379.6	385.7	368.9	372.6	363.2	371.2	379.6
325	Chemical manufacturing (December 1984=100)	245.0	247.6	250.2	252.8	253.4	255.1	255.2	256.7	255.9	255.6	255.7	257.0	259.9
326	Plastics and rubber products manufacturing (December 1984=100)	171.6	173.0	174.4	176.4	178.4	178.8	178.4	178.6	178.7	178.3	178.2	178.2	179.1
331	Primary metal manufacturing (December 1984=100)	215.7	218.1	223.0	221.8	220.2	221.6	220.6	219.1	214.2	213.1	210.6	211.7	215.5
332	Fabricated metal product manufacturing (December 1984=100)	179.8	180.9	182.1	182.9	183.5	184.0	184.1	184.4	184.3	184.2	184.8	184.4	184.9
333	Machinery manufacturing	122.0	122.4	122.9	123.2	123.5	123.8	123.9	124.2	124.3	124.6	124.6	125.2	125.4
334	Computer and electronic products manufacturing	90.4	90.3	90.3	90.3	90.2	90.0	90.0	89.8	89.8	89.6	89.8	90.0	90.0
335	Electrical equipment, appliance, and components manufacturing	134.7	135.3	135.8	136.0	136.6	137.1	136.5	136.7	136.5	136.7	136.9	137.4	138.2
336	Transportation equipment manufacturing	111.3	111.6	112.0	111.8	112.1	112.2	112.2	112.1	113.8	113.9	113.9	114.3	114.2
337	Furniture and related product manufacturing (December 1984=100)	178.9	179.9	180.2	180.5	180.8	181.5	181.7	182.2	182.4	182.7	183.4	183.5	183.7
339	Miscellaneous manufacturing	114.9	115.1	115.5	115.5	115.8	116.1	116.3	116.4	116.5	116.6	116.6	116.8	117.3
	Retail trade													
441	Motor vehicle and parts dealers	128.2	128.5	128.2	128.2	128.9	129.0	127.9	128.5	128.0	127.8	129.1	129.3	128.2
442	Furniture and home furnishings stores	122.1	122.5	121.9	122.4	124.8	125.7	126.8	125.5	127.2	125.1	126.8	125.0	125.5
443	Electronics and appliance stores	93.6	86.7	92.3	94.2	90.4	87.2	88.3	90.5	89.4	90.9	86.5	80.2	80.4
446	Health and personal care stores	129.3	130.0	131.0	130.9	130.9	129.2	131.4	135.9	134.5	134.5	135.8	136.6	135.6
447	Gasoline stations (June 2001=100)	70.0	71.2	70.5	81.1	84.5	76.2	82.3	84.1	78.6	82.0	79.8	75.5	76.4
454	Nonstore retailers	144.0	147.6	141.3	141.9	142.1	141.9	143.7	143.4	141.9	140.8	143.2	145.1	140.3
	Transportation and warehousing													
481	Air transportation (December 1992=100)	211.0	220.2	219.6	218.9	219.5	220.0	224.0	216.2	220.2	220.0	221.3	224.2	223.7
483	Water transportation	132.5	134.4	135.3	136.4	136.5	134.3	132.5	132.6	131.7	132.7	131.7	132.1	133.3
491	Postal service (June 1989=100)	188.5	188.5	188.5	191.6	191.6	191.6	191.6	191.6	191.6	191.6	191.6	191.6	196.0
	Utilities													
221	Utilities	135.0	133.2	133.5	134.7	138.8	140.4	141.5	139.2	133.4	131.4	131.8	130.6	130.7
	Health care and social assistance													
6211	Office of physicians (December 1996=100)	131.1	131.2	131.3	131.3	131.5	131.6	131.9	132.0	132.3	132.4	132.3	132.6	132.7
6215	Medical and diagnostic laboratories	107.9	107.9	108.6	108.6	108.6	108.9	109.0	109.1	109.1	109.1	109.1	109.3	109.1
6216	Home health care services (December 1996=100)	129.5	129.6	129.5	129.5	129.5	129.5	129.6	129.5	129.8	128.9	129.8	129.9	129.9
622	Hospitals (December 1992=100)	175.7	176.1	176.2	176.3	176.5	176.8	177.1	177.5	178.7	178.8	178.8	178.9	179.0
6231	Nursing care facilities	128.3	128.8	128.9	128.9	128.7	129.3	129.1	129.4	128.1	128.3	128.3	128.7	128.7
62321	Residential mental retardation facilities	135.7	135.4	135.5	135.7	135.7	137.1	137.3	138.2	138.1	137.5	138.1	139.1	139.1
	Other services industries													
511	Publishing industries, except Internet	111.0	110.8	111.0	111.1	111.0	111.3	111.1	111.4	111.2	111.5	111.6	112.2	111.8
515	Broadcasting, except Internet	111.5	112.4	113.4	114.5	114.8	110.3	109.0	110.0	114.4	115.1	114.6	113.3	113.1
517	Telecommunications	100.9	101.1	101.1	101.5	101.4	101.7	102.1	101.8	102.0	102.1	101.6	101.9	101.8
5182	Data processing and related services	101.7	101.7	101.7	101.8	101.9	102.0	102.0	102.0	102.0	102.0	102.0	102.0	102.2
523	Security, commodity contracts, and like activity	125.7	126.9	127.5	127.5	127.7	128.0	128.0	125.0	122.2	123.7	123.6	125.2	126.9
53112	Lessors or nonresidental buildings (except miniwarehouse)	108.9	109.0	109.0	109.7	109.8	109.9	110.1	110.3	110.3	110.3	111.0	110.0	110.3
5312	Offices of real estate agents and brokers	98.8	98.5	97.9	98.0	97.7	97.8	97.7	97.5	97.6	97.5	97.4	97.7	97.6
5313	Real estate support activities	107.0	106.8	107.1	107.0	106.0	105.5	105.5	106.0	107.1	106.4	106.1	106.3	106.9
5321	Automotive equipment rental and leasing (June 2001=100)	131.1	137.0	129.0	126.4	132.7	143.2	143.2	135.0	133.5	132.1	123.2	122.3	126.7
5411	Legal services (December 1996=100)	177.1	177.3	177.8	177.8	178.0	178.2	178.2	178.4	178.4	178.6	178.6	181.5	181.7
541211	Offices of certified public accountants	113.1	112.2	112.0	111.5	111.5	111.8	111.9	111.8	111.1	110.9	112.9	111.6	111.8
5413	Architectural, engineering, and related services (December 1996=100)	144.5	144.7	144.8	144.8	145.3	145.8	145.9	146.2	146.3	146.4	146.4	146.8	146.0
54181	Advertising agencies	105.4	105.7	105.6	105.6	105.6	106.3	106.4	106.3	106.3	106.3	106.5	106.6	106.5
5613	Employment services (December 1996=100)	125.6	125.6	125.4	125.3	125.4	125.1	125.3	125.2	125.6	125.6	125.5	125.4	125.8
56151	Travel agencies	100.5	100.5	100.5	100.5	100.5	100.6	100.6	101.7	101.7	101.7	101.7	99.4	99.7
56172	Janitorial services	111.7	111.5	111.5	111.9	112.0	112.5	112.5	113.5	113.5	113.5	113.5	113.7	113.7
5621	Waste collection	119.2	120.6	120.7	121.1	120.4	120.3	120.7	121.3	121.5	121.4	121.3	121.5	121.4
721	Accommodation (December 1996=100)	140.9	143.6	142.5	142.6	141.9	143.4	143.5	143.6	145.2	144.1	141.3	140.9	142.6

p = preliminary.

43. Annual data: Producer Price Indexes, by stage of processing

[1982 = 100]

Index	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Finished goods											
Total	140.7	138.9	143.3	148.5	155.7	160.4	166.6	177.1	172.5	179.8	190.6
Foods	141.3	140.1	145.9	152.7	155.7	156.7	167.0	178.3	175.5	182.4	193.9
Energy	96.7	88.8	102.0	113.0	132.6	145.9	156.3	178.7	146.9	166.9	193.4
Other	150.0	150.2	150.5	152.7	156.4	158.7	161.7	167.2	171.5	173.6	177.7
Intermediate materials, supplies, and components											
Total	129.7	127.8	133.7	142.6	154.0	164.0	170.7	188.3	172.5	183.4	200.0
Foods	124.3	123.2	134.4	145.0	146.0	146.2	161.4	180.4	165.1	174.4	193.3
Energy	104.1	95.9	111.9	123.2	149.2	162.8	174.6	208.1	162.5	187.8	220.2
Other	136.4	135.8	138.5	146.5	154.6	163.8	168.4	180.9	173.4	180.8	192.1
Crude materials for further processing											
Total	121.0	108.1	135.3	159.0	182.2	184.8	207.1	251.8	175.2	212.2	249.6
Foods	106.1	99.5	113.5	127.0	122.7	119.3	146.7	163.4	134.5	152.4	188.4
Energy	122.3	102.0	147.2	174.6	234.0	226.9	232.8	309.4	176.8	216.7	240.6
Other	101.5	101.0	116.9	149.2	176.7	210.0	238.7	308.5	211.1	280.8	342.7

44. U.S. export price indexes by end-use category

[2000 = 100]

Category	2011											2012	
	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
ALL COMMODITIES	130.8	132.7	133.8	134.3	134.5	134.0	134.6	135.3	132.6	132.7	132.1	132.3	132.8
Foods, feeds, and beverages	203.5	206.9	208.2	207.4	210.6	203.2	208.9	213.8	199.0	203.1	199.0	201.4	200.1
Agricultural foods, feeds, and beverages	208.6	212.1	213.2	211.6	214.6	205.8	212.0	217.3	201.1	205.7	201.2	203.6	202.2
Nonagricultural (fish, beverages) food products	155.9	157.9	160.7	170.2	174.6	183.7	184.8	184.6	184.8	182.6	183.8	185.5	186.0
Industrial supplies and materials	182.2	188.3	191.6	193.1	191.8	191.3	191.7	192.8	186.3	185.9	184.6	183.7	185.7
Agricultural industrial supplies and materials	247.6	258.9	246.1	240.5	234.8	226.9	215.7	212.5	209.8	206.8	200.7	200.7	199.9
Fuels and lubricants	253.5	276.4	287.0	287.6	284.0	285.9	284.1	284.6	268.9	278.1	270.6	273.8	273.8
Nonagricultural supplies and materials, excluding fuel and building materials	171.5	173.8	176.7	178.9	178.5	177.8	179.6	181.2	175.9	173.4	173.8	171.8	174.5
Selected building materials	116.2	116.3	116.7	116.4	116.2	115.7	115.3	115.8	116.2	116.3	115.6	115.8	117.0
Capital goods	104.0	104.0	104.2	104.4	104.6	104.6	104.7	104.6	104.6	104.5	104.6	105.0	105.2
Electric and electrical generating equipment	110.6	111.1	111.5	113.4	113.6	114.1	114.1	114.1	113.7	112.9	112.8	112.3	112.6
Nonelectrical machinery	94.0	93.9	94.0	94.0	94.2	94.2	94.3	94.2	94.3	94.2	94.3	94.6	94.6
Automotive vehicles, parts, and engines	109.2	109.7	109.9	110.2	110.3	110.8	111.1	111.4	111.9	112.0	111.9	112.0	112.3
Consumer goods, excluding automotive	113.2	113.9	114.3	114.9	116.3	116.9	117.2	117.4	116.9	116.7	116.6	116.8	116.9
Nondurables, manufactured	113.1	113.4	113.6	114.1	114.1	114.7	114.9	114.7	113.8	113.6	113.9	114.6	114.8
Durables, manufactured	111.9	112.9	112.4	111.4	112.7	112.8	113.0	113.6	113.4	113.3	113.3	113.4	114.0
Agricultural commodities	214.1	218.8	217.8	215.5	217.2	208.5	211.9	216.0	201.9	205.3	200.5	202.6	201.3
Nonagricultural commodities	124.8	126.5	127.7	128.4	128.6	128.7	129.1	129.5	127.7	127.5	127.3	127.3	128.0

45. U.S. import price indexes by end-use category

[2000 = 100]

Category	2011											2012	
	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
ALL COMMODITIES	135.3	139.3	142.9	143.1	142.2	142.4	141.9	141.7	141.2	142.2	142.2	142.2	142.1
Foods, feeds, and beverages	167.7	174.9	179.2	177.9	174.8	175.8	174.4	174.7	173.6	173.3	172.4	176.2	171.3
Agricultural foods, feeds, and beverages	189.0	198.9	204.1	201.8	197.0	197.7	196.1	196.5	194.8	194.9	194.0	198.7	192.0
Nonagricultural (fish, beverages) food products	119.5	120.7	122.9	123.9	124.5	126.2	125.3	125.3	125.6	124.1	123.7	125.5	124.4
Industrial supplies and materials	239.4	256.3	270.6	270.7	266.1	266.8	263.8	262.5	260.1	264.4	263.6	262.3	263.1
Fuels and lubricants	313.4	343.7	369.7	367.4	359.0	359.4	351.8	348.2	346.1	357.7	356.3	355.6	355.7
Petroleum and petroleum products	342.5	380.2	410.7	407.6	397.8	399.2	390.0	386.5	385.5	398.8	397.8	397.8	399.3
Paper and paper base stocks	115.5	116.3	118.8	119.5	119.4	120.4	118.4	117.1	117.3	116.2	114.8	112.6	112.6
Materials associated with nondurable supplies and materials	163.2	165.8	169.4	171.3	173.0	174.5	175.0	175.9	176.4	175.8	175.1	174.4	175.3
Selected building materials	129.8	131.5	132.0	131.3	129.3	130.5	130.8	131.2	130.3	130.2	130.7	131.2	131.8
Unfinished metals associated with durable goods	279.4	290.2	295.4	304.5	297.0	296.4	302.9	304.9	292.1	277.3	277.8	270.8	275.3
Nonmetals associated with durable goods	111.4	112.1	112.9	113.3	114.3	115.0	115.5	116.3	116.3	115.8	115.2	114.7	114.7
Capital goods	92.4	92.6	92.6	92.7	92.7	92.8	92.9	92.9	92.7	92.8	93.1	93.4	93.4
Electric and electrical generating equipment	114.9	115.6	116.6	117.0	117.1	118.2	118.6	118.4	118.6	118.5	118.4	118.6	118.8
Nonelectrical machinery	86.4	86.5	86.3	86.4	86.4	86.3	86.4	86.4	86.1	86.1	86.4	86.6	86.5
Automotive vehicles, parts, and engines	109.8	110.4	111.8	112.8	113.3	113.0	113.2	113.2	113.2	113.3	113.0	113.4	113.4
Consumer goods, excluding automotive	104.9	104.7	105.3	105.5	105.8	106.1	106.4	106.6	107.2	107.3	107.7	107.5	107.5
Nondurables, manufactured	110.9	110.3	110.8	110.9	111.6	112.1	112.6	112.8	114.2	114.3	114.4	114.4	114.2
Durables, manufactured	98.9	99.2	99.5	99.9	99.7	99.6	99.8	100.1	99.9	100.0	100.3	99.9	100.0
Nonmanufactured consumer goods	107.3	107.8	109.5	109.4	111.8	114.3	114.0	114.9	115.1	114.5	119.3	118.6	119.8

46. U.S. international price Indexes for selected categories of services

[2000 = 100, unless indicated otherwise]

Category	2009	2010				2011			
	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.
Import air freight	163.9	158.3	162.5	163.2	170.1	172.8	184.3	185.5	176.9
Export air freight	122.9	124.0	126.3	125.7	128.1	139.2	147.4	146.4	144.2
Import air passenger fares (Dec. 2006 = 100)	152.3	149.8	175.3	160.9	169.9	161.2	184.0	174.6	179.5
Export air passenger fares (Dec. 2006 = 100)	156.1	157.7	176.3	172.2	169.0	172.8	186.6	192.7	191.1

47. Indexes of productivity, hourly compensation, and unit costs, quarterly data seasonally adjusted

[2005 = 100]

Item	2008	2009				2010				2011			
	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV
Business													
Output per hour of all persons	102.6	103.0	105.0	106.8	108.2	109.3	109.6	110.3	110.7	110.4	110.4	110.8	111.0
Compensation per hour	112.4	111.7	113.5	114.2	114.6	114.9	115.6	116.2	116.3	117.9	117.9	117.7	118.3
Real compensation per hour	102.7	102.6	103.8	103.5	103.1	103.1	103.9	104.1	103.5	103.5	102.5	101.6	101.9
Unit labor costs	109.6	108.5	108.1	107.0	105.9	105.1	105.5	105.4	105.0	106.8	106.8	106.3	106.6
Unit nonlabor payments	105.6	108.2	108.0	109.9	112.3	114.7	115.5	116.4	118.5	117.8	119.8	122.5	121.8
Implicit price deflator	108.0	108.4	108.1	108.1	108.4	108.9	109.4	109.7	110.4	111.2	111.9	112.7	112.6
Nonfarm business													
Output per hour of all persons	102.5	102.8	104.8	106.5	107.9	109.2	109.5	110.1	110.7	110.5	110.5	111.0	111.2
Compensation per hour	112.5	111.7	113.5	114.2	114.5	114.9	115.6	116.2	116.3	117.9	117.9	117.8	118.4
Real compensation per hour	102.7	102.6	103.8	103.5	103.1	103.1	103.9	104.0	103.5	103.6	102.5	101.6	101.9
Unit labor costs	109.7	108.6	108.3	107.2	106.1	105.3	105.6	105.6	105.1	106.7	106.7	106.1	106.5
Unit nonlabor payments	105.4	108.5	108.1	110.3	112.3	114.7	115.6	116.1	118.0	117.0	118.9	121.5	121.2
Implicit price deflator	108.0	108.6	108.2	108.4	108.5	109.0	109.5	109.7	110.2	110.8	111.5	112.2	112.2
Nonfinancial corporations													
Output per hour of all employees	103.3	100.7	102.2	104.2	106.6	108.9	108.5	108.4	107.5	108.1	109.0	108.2	–
Compensation per hour	113.2	111.4	113.4	114.3	114.7	115.0	115.4	116.1	116.0	117.3	117.5	117.6	–
Real compensation per hour	103.4	102.4	103.7	103.6	103.3	103.2	103.7	104.0	103.2	103.0	102.2	101.5	–
Total unit costs	111.9	114.4	114.5	112.4	110.1	107.4	107.3	107.6	108.3	108.7	108.1	109.0	–
Unit labor costs	109.6	110.6	111.0	109.7	107.6	105.6	106.4	107.1	107.9	108.5	107.9	108.7	–
Unit nonlabor costs	117.9	124.3	123.7	119.6	116.6	112.0	109.9	108.6	109.1	109.3	108.8	109.8	–
Unit profits	88.3	81.2	75.0	83.6	96.2	114.8	117.7	121.5	121.2	122.4	130.4	132.8	–
Unit nonlabor payments	107.8	109.5	107.0	107.2	109.6	113.0	112.5	113.0	113.3	113.8	116.2	117.7	–
Implicit price deflator	108.9	110.2	109.5	108.8	108.3	108.3	108.6	109.3	109.9	110.5	111.0	112.0	–
Manufacturing													
Output per hour of all persons	102.0	101.7	103.2	106.5	108.3	109.6	111.0	111.6	112.9	114.1	113.5	115.0	114.9
Compensation per hour	112.6	112.8	114.9	115.3	116.2	115.4	116.5	117.0	117.6	118.8	118.2	118.0	118.4
Real compensation per hour	102.9	103.6	105.1	104.5	104.6	103.6	104.7	104.7	104.6	104.3	102.7	101.8	101.9
Unit labor costs	110.4	110.9	111.3	108.3	107.3	105.3	105.0	104.8	104.2	104.1	104.1	102.6	103.0

NOTE: Dash indicates data not available.

48. Annual indexes of multifactor productivity and related measures, selected years

[2005 = 100, unless otherwise indicated]

Item	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Private business													
Productivity:													
Output per hour of all persons	79.6	82.4	85.3	88.0	92.1	95.6	98.4	100.0	101.0	102.6	103.8	107.6	111.4
Output per unit of capital services	105.2	104.2	102.5	98.8	97.5	98.0	99.6	100.0	100.2	99.4	95.8	91.5	94.2
Multifactor productivity	88.0	89.6	91.2	91.8	94.0	96.5	98.9	100.0	100.5	100.9	99.9	100.2	103.3
Output	79.2	83.6	87.4	88.2	90.0	92.8	96.7	100.0	103.1	105.3	104.3	100.6	104.3
Inputs:													
Labor input	97.6	99.9	101.1	99.3	97.4	97.0	98.1	100.0	102.4	103.6	102.1	95.6	96.1
Capital services	75.2	80.2	85.3	89.3	92.2	94.7	97.1	100.0	102.9	106.0	108.8	109.9	110.6
Combined units of labor and capital input	90.0	93.3	95.9	96.1	95.7	96.2	97.7	100.0	102.6	104.4	104.4	100.4	101.0
Capital per hour of all persons	75.6	79.0	83.2	89.1	94.4	97.6	98.8	100.0	100.8	103.3	108.3	117.6	118.2
Private nonfarm business													
Productivity:													
Output per hour of all persons	80.1	82.7	85.5	88.2	92.3	95.7	98.4	100.0	100.9	102.6	103.8	107.6	111.4
Output per unit of capital services	106.1	104.9	102.9	99.1	97.7	98.0	99.6	100.0	100.0	99.2	95.4	90.9	93.7
Multifactor productivity	88.5	89.9	91.4	92.0	94.2	96.5	98.9	100.0	100.4	100.8	99.8	99.9	103.0
Output	79.3	83.7	87.5	88.4	90.1	92.8	96.7	100.0	103.2	105.5	104.3	100.5	104.2
Inputs:													
Labor input	97.1	99.6	100.8	99.2	97.2	96.9	98.1	100.0	102.5	103.8	102.2	95.8	96.3
Capital services	74.7	79.8	85.0	89.2	92.2	94.7	97.1	100.0	103.2	106.3	109.3	110.5	111.1
Combined units of labor and capital input	89.6	93.1	95.7	96.0	95.6	96.2	97.7	100.0	102.8	104.6	104.6	100.6	101.1
Capital per hour of all persons	75.5	78.9	83.2	89.0	94.5	97.7	98.8	100.0	101.0	103.4	108.7	118.3	118.8
Manufacturing [1996 = 100]													
Productivity:													
Output per hour of all persons	73.4	77.0	80.4	81.9	87.9	93.3	95.5	100.0	100.9	104.9	104.5	104.5	–
Output per unit of capital services	101.6	102.0	102.1	95.7	94.5	95.1	97.1	100.0	100.8	101.6	94.5	81.6	–
Multifactor productivity	107.3	110.5	110.0	105.9	102.3	99.8	97.9	100.0	99.2	100.6	96.3	89.3	–
Output	92.1	95.9	98.9	94.2	93.9	94.9	96.5	100.0	101.6	103.8	99.2	86.8	–
Inputs:													–
Hours of all persons	125.5	124.7	123.1	115.0	106.9	101.6	101.1	100.0	100.7	99.0	95.0	83.0	–
Capital services	90.7	94.1	96.8	98.4	99.3	99.7	99.4	100.0	100.8	102.2	105.1	106.4	–
Energy	95.4	117.7	128.4	140.3	108.6	97.0	90.8	100.0	92.2	100.1	104.0	92.2	–
Nonenergy materials	102.4	108.7	106.7	100.0	101.0	99.3	98.5	100.0	98.2	98.3	93.4	85.9	–
Purchased business services	104.2	105.2	103.8	102.0	98.7	98.1	91.8	100.0	98.4	105.6	93.0	88.1	–
Combined units of all factor inputs	107.3	110.5	110.0	105.9	102.3	99.8	97.9	100.0	99.2	100.6	96.3	89.3	–

NOTE: Dash indicates data not available.

49. Annual indexes of productivity, hourly compensation, unit costs, and prices, selected years

[2005 = 100]

Item	1966	1976	1986	1996	2003	2004	2005	2006	2007	2008	2009	2010	2011
Business													
Output per hour of all persons	44.9	56.6	65.7	76.3	95.7	98.4	100.0	100.9	102.4	103.2	105.7	110.0	110.5
Compensation per hour	11.0	23.2	46.4	66.9	93.0	96.2	100.0	103.8	108.1	111.7	113.5	115.8	118.0
Real compensation per hour	60.4	72.7	78.8	82.9	98.7	99.5	100.0	100.5	101.7	101.2	103.3	103.6	102.4
Unit labor costs	24.5	41.1	70.5	87.8	97.2	97.8	100.0	102.8	105.5	108.2	107.4	105.3	106.8
Unit nonlabor payments	22.0	36.8	63.1	84.7	90.3	95.4	100.0	103.0	105.6	106.3	109.6	116.3	120.7
Implicit price deflator	23.5	39.4	67.6	86.6	94.5	96.9	100.0	102.9	105.6	107.5	108.3	109.6	112.3
Nonfarm business													
Output per hour of all persons	47.0	58.2	66.6	76.9	95.8	98.4	100.0	100.9	102.4	103.1	105.5	109.8	110.6
Compensation per hour	11.2	23.5	46.8	67.4	93.1	96.2	100.0	103.8	107.9	111.6	113.4	115.8	118.0
Real compensation per hour	61.5	73.4	79.5	83.4	98.8	99.4	100.0	100.5	101.6	101.2	103.3	103.7	102.4
Unit labor costs	23.8	40.3	70.3	87.5	97.1	97.8	100.0	102.8	105.3	108.2	107.5	105.4	106.7
Unit nonlabor payments	21.5	35.7	62.1	83.7	90.1	94.8	100.0	103.2	105.4	105.8	109.8	116.1	119.9
Implicit price deflator	22.9	38.5	67.1	86.0	94.4	96.6	100.0	103.0	105.4	107.3	108.4	109.6	111.9
Nonfinancial corporations													
Output per hour of all employees	46.2	55.5	64.6	75.7	94.4	97.8	100.0	101.9	102.5	102.9	103.4	108.3	–
Compensation per hour	12.6	25.6	49.8	68.9	93.9	96.5	100.0	103.3	107.3	111.2	113.4	115.6	–
Real compensation per hour	69.1	80.1	84.7	85.3	99.7	99.7	100.0	100.0	101.0	100.8	103.2	103.5	–
Total unit costs	25.3	44.5	76.6	89.4	98.7	97.8	100.0	101.8	105.9	109.6	112.8	107.6	–
Unit labor costs	27.2	46.2	77.2	90.9	99.5	98.6	100.0	101.3	104.6	108.0	109.7	106.8	–
Unit nonlabor costs	20.4	40.1	75.0	85.4	96.8	95.7	100.0	103.0	109.2	113.6	121.0	109.9	–
Unit profits	38.6	42.7	53.6	92.5	66.0	88.0	100.0	111.6	100.0	91.6	84.1	118.8	–
Unit nonlabor payments	26.6	41.0	67.6	87.9	86.3	93.1	100.0	105.9	106.0	106.0	108.3	113.0	–
Implicit price deflator	27.0	44.2	73.7	89.8	94.6	96.6	100.0	103.0	105.1	107.3	109.2	109.0	–
Manufacturing													
Output per hour of all persons	–	–	–	65.9	93.3	95.4	100.0	100.9	104.9	104.4	104.9	111.3	114.4
Compensation per hour	–	–	–	66.4	96.0	96.8	100.0	102.0	105.3	109.8	114.8	116.6	118.3
Real compensation per hour	–	–	–	82.2	101.9	100.0	100.0	98.8	99.2	99.6	104.5	104.4	102.7
Unit labor costs	–	–	–	100.7	102.9	101.4	100.0	101.1	100.4	105.2	109.4	104.8	103.5
Unit nonlabor payments	–	–	–	88.7	84.9	91.4	100.0	104.3	110.4	118.7	110.0	–	–
Implicit price deflator	–	–	–	92.0	89.8	94.1	100.0	103.5	107.7	115.0	109.9	–	–

Dash indicates data not available.

50. Annual indexes of output per hour for selected NAICS industries[1/]

[2002=100]

NAICS	Industry	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
	Mining												
21	Mining	98.1	97.8	94.9	100.0	102.8	94.0	85.0	77.1	71.2	69.1	78.9	-
211	Oil and gas extraction	87.1	96.7	96.6	100.0	105.9	90.0	86.6	80.9	78.7	71.4	75.9	-
2111	Oil and gas extraction	87.1	96.7	96.6	100.0	105.9	90.0	86.6	80.9	78.7	71.4	75.9	-
212	Mining, except oil and gas	95.6	95.3	98.5	100.0	102.8	104.9	104.4	101.2	94.5	95.0	92.7	-
2121	Coal mining	99.0	103.9	102.5	100.0	101.7	101.6	96.7	89.5	90.6	85.4	80.1	-
2122	Metal ore mining	79.7	85.7	93.8	100.0	103.3	101.5	97.2	90.8	77.0	77.1	85.6	-
2123	Nonmetallic mineral mining and quarrying	98.2	92.1	96.5	100.0	104.3	109.4	115.4	117.0	104.1	105.3	98.1	-
213	Support activities for mining	98.2	99.6	104.5	100.0	122.1	141.6	103.8	86.7	117.7	143.8	134.9	-
2131	Support activities for mining	98.2	99.6	104.5	100.0	122.1	141.6	103.8	86.7	117.7	143.8	134.9	-
	Utilities												
2211	Power generation and supply	100.6	103.9	103.4	100.0	102.1	104.4	111.1	112.1	110.1	105.7	103.1	-
2212	Natural gas distribution	88.9	98.1	95.4	100.0	98.9	102.5	105.9	103.2	103.8	104.9	100.9	-
	Manufacturing												
311	Food	92.2	93.5	95.4	100.0	101.5	100.9	106.2	104.0	101.7	101.3	104.7	103.5
3111	Animal food	78.2	77.0	92.0	100.0	117.7	104.6	119.5	108.2	110.3	104.9	111.4	105.3
3112	Grain and oilseed milling	94.2	91.7	97.3	100.0	100.5	104.9	106.6	102.3	106.0	101.5	109.3	107.4
3113	Sugar and confectionery products	99.1	102.3	100.3	100.0	99.9	106.2	118.6	111.1	100.7	92.6	94.8	102.0
3114	Fruit and vegetable preserving and specialty	86.6	88.7	95.7	100.0	97.2	99.5	103.3	98.0	105.2	103.3	97.9	93.1
3115	Dairy products	88.4	89.6	92.2	100.0	104.0	101.8	101.8	100.7	100.4	108.1	114.7	116.0
3116	Animal slaughtering and processing	93.8	95.7	96.0	100.0	99.9	100.4	109.7	109.4	106.6	109.0	112.0	112.0
3117	Seafood product preparation and packaging	77.4	82.7	89.8	100.0	101.8	96.5	110.5	122.0	101.5	86.7	102.3	92.8
3118	Bakeries and tortilla manufacturing	95.9	96.6	98.4	100.0	97.9	100.1	104.3	103.8	101.4	94.2	95.7	96.0
3119	Other food products	99.8	100.8	94.5	100.0	104.8	106.1	102.9	102.8	94.8	95.8	100.9	99.0
312	Beverages and tobacco products	105.7	106.7	108.3	100.0	111.4	114.7	120.8	113.1	110.0	107.1	119.1	116.3
3121	Beverages	91.3	91.1	93.1	100.0	110.8	115.4	120.9	112.6	113.3	113.2	128.1	123.5
3122	Tobacco and tobacco products	135.8	143.0	146.6	100.0	116.7	121.5	136.5	138.1	137.5	119.7	138.2	148.8
313	Textile mills	86.5	86.3	89.4	100.0	111.1	113.0	122.9	122.2	125.8	124.9	124.5	131.9
3131	Fiber, yarn, and thread mills	78.3	75.6	82.5	100.0	112.1	116.7	108.8	105.5	113.6	114.7	105.3	104.2
3132	Fabric mills	91.1	90.2	91.4	100.0	114.0	115.3	133.0	140.7	144.5	154.7	159.5	157.1
3133	Textile and fabric finishing mills	85.3	87.2	91.0	100.0	104.1	104.5	113.3	102.4	101.0	87.0	85.1	105.2
314	Textile product mills	95.4	101.4	98.1	100.0	103.1	115.2	121.3	111.4	99.4	98.3	89.4	98.3
3141	Textile furnishings mills	94.3	100.6	98.4	100.0	106.2	115.4	119.1	108.6	100.4	101.7	88.7	95.9
3149	Other textile product mills	102.6	105.9	99.0	100.0	98.1	116.4	128.3	120.9	104.7	104.6	101.7	115.5
315	Apparel	108.8	114.7	113.9	100.0	105.9	97.7	100.7	97.5	67.4	58.9	53.8	55.9
3151	Apparel knitting mills	93.7	100.4	97.3	100.0	93.2	83.7	97.8	97.7	64.7	64.3	69.3	69.7
3152	Cut and sew apparel	110.0	116.2	115.2	100.0	108.5	100.9	100.7	97.7	67.7	56.9	50.1	51.7
3159	Accessories and other apparel	128.2	129.8	137.4	100.0	105.8	95.8	109.8	96.3	70.7	71.7	72.7	81.0
316	Leather and allied products	128.8	133.8	138.5	100.0	104.9	128.4	129.4	133.7	125.3	130.6	122.1	132.4
3161	Leather and hide tanning and finishing	141.3	135.8	140.1	100.0	103.1	135.7	142.4	127.8	156.0	144.8	142.1	195.9
3162	Footwear	116.7	123.8	132.9	100.0	105.9	110.0	115.9	122.4	109.2	129.5	124.2	143.5
3169	Other leather products	136.1	142.6	140.2	100.0	109.2	163.7	160.8	182.3	163.4	160.4	140.4	125.4
321	Wood products	90.3	90.2	91.7	100.0	101.6	102.2	107.5	110.9	111.5	109.3	105.9	115.7
3211	Sawmills and wood preservation	91.0	90.9	90.6	100.0	108.3	103.9	107.8	113.4	108.4	112.0	119.6	123.4
3212	Plywood and engineered wood products	89.3	89.6	95.1	100.0	96.7	92.3	99.6	105.5	108.7	104.7	102.4	114.0
3219	Other wood products	91.5	90.4	90.9	100.0	100.7	106.5	111.5	113.2	115.8	112.1	104.0	114.6
322	Paper and paper products	91.7	93.5	93.9	100.0	104.7	108.7	108.6	109.6	114.5	113.5	112.8	115.8
3221	Pulp, paper, and paperboard mills	83.8	88.2	90.4	100.0	106.2	110.4	110.2	110.9	114.7	115.5	113.6	121.3
3222	Converted paper products	95.4	96.0	95.4	100.0	104.5	108.5	108.8	110.0	116.1	114.1	113.9	114.8
323	Printing and related support activities	92.3	94.8	94.9	100.0	100.3	103.7	109.1	111.7	117.0	118.5	112.9	117.7
3231	Printing and related support activities	92.3	94.8	94.9	100.0	100.3	103.7	109.1	111.7	117.0	118.5	112.9	117.7
324	Petroleum and coal products	91.0	96.8	94.9	100.0	102.0	105.9	106.2	104.3	106.4	103.2	107.0	112.5
3241	Petroleum and coal products	91.0	96.8	94.9	100.0	102.0	105.9	106.2	104.3	106.4	103.2	107.0	112.5
325	Chemicals	90.5	92.9	91.9	100.0	101.3	105.3	109.4	109.1	116.0	108.0	101.3	107.4
3251	Basic chemicals	93.1	94.6	87.6	100.0	108.5	121.8	129.6	134.1	155.1	131.6	114.2	136.3
3252	Resin, rubber, and artificial fibers	89.2	89.0	86.3	100.0	97.7	97.3	103.4	105.5	108.0	98.8	93.4	110.8
3253	Agricultural chemicals	87.9	92.8	89.9	100.0	110.4	121.0	139.2	134.7	138.2	132.7	145.9	150.8
3254	Pharmaceuticals and medicines	98.3	98.3	101.8	100.0	103.0	103.6	107.0	107.5	103.8	101.9	97.0	89.0
3255	Paints, coatings, and adhesives	91.5	90.5	97.3	100.0	106.1	109.7	111.2	106.7	106.2	101.0	93.9	102.8
3256	Soap, cleaning compounds, and toiletries	75.0	82.3	84.6	100.0	92.8	102.6	110.2	111.5	134.9	127.6	123.9	123.7
3259	Other chemical products and preparations	90.2	98.1	90.9	100.0	98.6	96.2	96.0	91.5	103.5	104.4	98.0	110.7
326	Plastics and rubber products	89.2	91.2	92.8	100.0	103.9	105.8	108.8	108.7	107.1	101.7	101.6	107.2
3261	Plastics products	88.6	90.7	92.4	100.0	103.9	105.8	108.5	106.8	104.5	99.6	98.9	103.8
3262	Rubber products	93.2	95.0	95.5	100.0	104.1	106.2	110.0	114.9	117.0	109.6	112.0	120.9
327	Nonmetallic mineral products	100.1	98.6	95.6	100.0	107.1	105.3	111.6	110.7	112.7	107.4	99.4	105.7
3271	Clay products and refractories	105.9	108.5	99.1	100.0	109.5	116.0	122.0	122.2	122.4	117.0	100.7	106.3

50. Continued - Annual indexes of output per hour for selected NAICS industries[1/]

[2002=100]

NAICS	Industry	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
3272	Glass and glass products	98.7	100.2	94.1	100.0	106.7	105.7	111.8	119.2	119.3	115.3	118.8	127.3
3273	Cement and concrete products	103.2	99.3	95.5	100.0	106.3	101.0	104.6	101.6	106.6	98.5	88.2	91.7
3274	Lime and gypsum products	105.8	99.8	103.1	100.0	109.3	107.2	121.9	119.3	112.4	111.3	101.3	111.0
3279	Other nonmetallic mineral products	92.0	90.3	95.2	100.0	105.7	106.8	118.5	112.8	111.0	112.7	104.4	118.7
331	Primary metals	89.2	88.0	87.6	100.0	101.5	113.3	114.2	112.5	115.9	121.5	106.4	123.0
3311	Iron and steel mills and ferroalloy production	84.0	84.6	83.6	100.0	106.1	136.5	134.1	138.0	139.4	151.6	118.7	142.7
3312	Steel products from purchased steel	96.8	99.1	101.3	100.0	91.2	81.5	76.1	68.0	71.8	67.5	55.7	72.0
3313	Alumina and aluminum production	83.1	77.5	77.2	100.0	101.8	110.4	125.2	123.1	124.2	121.7	119.8	128.8
3314	Other nonferrous metal production	101.7	96.2	93.4	100.0	108.7	109.4	105.7	94.8	117.5	123.0	104.9	114.5
3315	Foundries	89.0	88.7	91.2	100.0	100.4	106.8	111.4	114.1	111.5	103.7	105.8	119.7
332	Fabricated metal products	93.1	94.7	94.6	100.0	102.7	101.4	104.3	106.2	108.6	110.5	101.3	106.5
3321	Forging and stamping	89.4	97.8	97.3	100.0	106.6	112.3	116.2	118.1	125.6	126.1	117.1	127.7
3322	Cutlery and handtools	95.3	93.4	97.3	100.0	99.2	90.9	95.4	97.2	105.6	101.9	107.7	124.3
3323	Architectural and structural metals	96.6	95.6	95.5	100.0	103.4	98.7	103.5	106.5	107.7	106.3	96.7	98.9
3324	Boilers, tanks, and shipping containers	97.4	95.2	95.0	100.0	103.7	96.0	99.3	101.0	106.2	104.2	97.7	105.7
3325	Hardware	91.2	99.4	98.4	100.0	105.7	104.4	106.7	107.1	92.8	96.8	86.0	94.4
3326	Spring and wire products	88.7	89.7	89.0	100.0	106.0	104.4	111.0	110.7	108.8	115.2	110.7	119.7
3327	Machine shops and threaded products	91.2	94.9	95.3	100.0	100.4	101.6	100.9	102.0	105.0	108.6	95.2	102.4
3328	Coating, engraving, and heat treating metals	86.7	89.4	92.5	100.0	100.2	105.9	117.6	115.2	117.0	118.6	110.5	119.1
3329	Other fabricated metal products	93.4	93.8	90.8	100.0	104.5	104.8	106.5	111.1	114.2	121.5	111.4	112.6
333	Machinery	89.6	95.7	93.5	100.0	107.7	108.5	114.7	117.7	119.6	117.4	111.3	121.6
3331	Agriculture, construction, and mining machinery	90.2	96.3	94.1	100.0	112.3	119.5	123.9	124.2	126.0	126.7	116.9	130.0
3332	Industrial machinery	89.6	109.9	89.6	100.0	98.9	107.3	105.3	116.3	115.2	102.4	93.1	112.2
3333	Commercial and service industry machinery	112.5	102.9	97.1	100.0	107.5	109.6	118.4	127.4	116.0	121.4	118.6	123.8
3334	HVAC and commercial refrigeration equipment	92.7	90.8	93.3	100.0	109.6	112.0	116.1	113.1	110.3	109.5	112.1	118.4
3335	Metalworking machinery	89.3	96.2	94.2	100.0	103.9	102.9	110.9	111.8	117.9	117.6	107.6	116.8
3336	Turbine and power transmission equipment	84.7	87.9	97.5	100.0	110.4	96.9	101.2	96.9	95.1	92.2	80.7	89.9
3339	Other general purpose machinery	89.7	96.1	93.5	100.0	108.2	107.6	117.7	122.2	127.9	123.6	118.8	126.4
334	Computer and electronic products	79.5	96.3	96.6	100.0	114.1	127.2	134.1	145.0	156.9	161.9	154.7	172.5
3341	Computer and peripheral equipment	65.3	78.2	84.6	100.0	121.7	134.2	173.5	233.4	288.1	369.0	353.5	289.0
3342	Communications equipment	105.9	128.4	120.1	100.0	113.4	122.0	118.5	146.3	145.1	117.2	96.6	105.1
3343	Audio and video equipment	80.4	84.9	86.7	100.0	112.6	155.8	149.2	147.1	111.9	93.1	62.2	66.6
3344	Semiconductors and electronic components	66.0	87.6	87.7	100.0	121.7	133.8	141.1	138.1	161.9	171.2	161.2	214.1
3345	Electronic instruments	90.4	98.4	100.3	100.0	105.8	121.9	124.4	129.2	135.5	135.6	134.8	147.5
3346	Magnetic media manufacturing and reproduction	98.0	93.9	89.0	100.0	114.5	128.9	129.8	125.0	133.1	185.8	181.7	201.1
335	Electrical equipment and appliances	93.9	98.2	98.0	100.0	103.6	109.4	114.6	115.0	117.7	113.4	107.3	113.3
3351	Electric lighting equipment	91.3	90.2	94.3	100.0	98.4	107.9	112.5	121.5	121.5	125.3	121.1	123.1
3352	Household appliances	79.0	89.3	94.9	100.0	111.6	121.2	124.6	129.7	124.5	118.5	118.9	118.8
3353	Electrical equipment	96.5	97.2	98.5	100.0	102.1	110.6	118.1	119.7	125.5	118.7	110.9	106.6
3359	Other electrical equipment and components	100.6	104.7	99.0	100.0	102.0	101.8	106.4	101.5	107.0	103.7	95.8	112.9
336	Transportation equipment	92.7	85.6	89.1	100.0	108.9	107.8	113.3	114.9	126.1	120.2	114.7	132.8
3361	Motor vehicles	97.4	87.1	87.3	100.0	112.0	113.2	118.5	130.6	134.7	120.7	115.3	145.3
3362	Motor vehicle bodies and trailers	98.6	93.7	84.2	100.0	103.8	104.8	107.8	103.4	111.8	103.9	97.1	102.5
3363	Motor vehicle parts	84.6	85.9	87.9	100.0	104.7	105.5	109.9	108.4	114.7	109.2	110.4	129.3
3364	Aerospace products and parts	101.6	86.9	97.4	100.0	99.3	93.9	102.8	97.1	115.0	110.2	106.5	114.5
3365	Railroad rolling stock	79.7	81.1	86.3	100.0	94.1	87.2	88.4	95.2	94.0	109.8	111.8	124.1
3366	Ship and boat building	86.3	94.4	93.3	100.0	103.7	106.9	102.3	97.8	103.4	115.7	123.4	128.2
3369	Other transportation equipment	73.4	83.3	83.4	100.0	110.0	110.4	112.8	122.9	195.0	217.1	183.7	188.4
337	Furniture and related products	91.0	91.3	92.0	100.0	102.0	103.2	107.4	108.7	107.8	111.8	100.1	106.9
3371	Household and institutional furniture	93.3	92.7	94.7	100.0	101.1	100.8	105.9	109.7	107.5	112.1	99.0	109.4
3372	Office furniture and fixtures	85.1	86.9	84.7	100.0	106.2	110.3	112.2	106.7	106.0	107.6	93.5	94.3
3379	Other furniture related products	92.2	90.2	94.8	100.0	99.4	109.4	115.5	120.5	120.3	122.6	119.4	122.9
339	Miscellaneous manufacturing	87.4	92.6	94.0	100.0	106.8	106.3	114.7	118.3	117.8	119.7	120.6	130.6
3391	Medical equipment and supplies	87.2	90.3	93.8	100.0	107.5	108.4	116.0	117.7	119.2	122.0	122.9	130.9
3399	Other miscellaneous manufacturing	89.1	96.0	94.7	100.0	105.8	104.6	113.0	117.8	114.5	114.4	112.6	124.7
	Wholesale trade												
42	Wholesale trade	90.0	94.4	95.4	100.0	105.5	112.9	115.0	117.8	118.1	115.5	112.7	122.8
423	Durable goods	84.5	88.8	91.8	100.0	106.4	118.7	124.6	129.3	128.7	126.5	116.4	133.3
4231	Motor vehicles and parts	90.3	87.5	90.0	100.0	106.7	114.8	120.7	132.5	131.8	114.8	97.7	118.9
4232	Furniture and furnishings	88.3	97.0	95.5	100.0	109.6	117.5	117.1	121.1	115.6	97.9	96.5	106.2
4233	Lumber and construction supplies	88.2	86.9	94.1	100.0	109.5	116.8	119.9	118.2	117.0	117.4	110.7	123.0
4234	Commercial equipment	59.1	67.1	81.4	100.0	113.9	134.9	154.5	168.0	181.9	199.7	205.1	236.7
4235	Metals and minerals	97.4	97.3	97.7	100.0	101.7	111.2	108.3	104.4	97.9	89.9	78.8	85.3
4236	Electric goods	79.9	95.7	92.5	100.0	104.7	123.3	129.2	138.0	136.5	144.5	145.4	175.1
4237	Hardware and plumbing	101.8	101.1	98.0	100.0	105.4	112.7	115.0	120.7	120.8	114.0	102.6	114.4
4238	Machinery and supplies	102.5	105.2	102.6	100.0	103.4	112.7	120.8	123.5	118.1	121.9	102.4	113.8

50. Continued - Annual indexes of output per hour for selected NAICS industries[1/]

[2002=100]

NAICS	Industry	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
4239	Miscellaneous durable goods	90.6	91.9	93.1	100.0	97.8	112.1	111.4	102.9	98.8	96.7	87.7	87.7
424	Nondurable goods	95.2	99.4	99.3	100.0	106.8	112.3	115.3	115.1	115.9	113.3	116.6	120.8
4241	Paper and paper products	85.9	86.5	89.7	100.0	102.3	111.4	118.0	113.2	119.8	103.5	102.4	99.7
4242	Druggists' goods	103.7	95.7	94.6	100.0	121.0	137.5	156.3	164.7	165.7	170.8	185.2	188.6
4243	Apparel and piece goods	85.7	88.7	93.9	100.0	105.0	111.7	122.9	125.1	127.1	125.8	122.7	123.9
4244	Grocery and related products	102.5	103.9	103.4	100.0	107.8	108.7	109.6	111.4	115.1	110.5	113.6	123.0
4245	Farm product raw materials	102.8	106.7	104.3	100.0	98.7	108.5	107.4	110.4	110.8	113.8	120.2	131.6
4246	Chemicals	99.4	95.5	94.1	100.0	106.2	107.7	103.1	100.4	103.8	105.4	93.5	106.4
4247	Petroleum	68.0	92.0	92.0	100.0	102.1	113.9	110.2	105.6	99.5	96.0	100.1	99.3
4248	Alcoholic beverages	98.9	101.5	99.6	100.0	102.0	98.5	100.2	103.3	105.0	99.0	100.3	93.4
4249	Miscellaneous nondurable goods	100.9	108.7	105.5	100.0	101.9	110.6	112.6	108.7	101.7	98.9	104.4	106.8
425	Electronic markets and agents and brokers	104.0	110.5	101.9	100.0	97.5	90.4	78.8	85.4	87.1	83.5	82.7	90.3
4251	Electronic markets and agents and brokers	104.0	110.5	101.9	100.0	97.5	90.4	78.8	85.4	87.1	83.5	82.7	90.3
	Retail trade												
44-45	Retail trade	89.7	92.5	95.6	100.0	104.9	110.0	112.6	116.7	119.9	117.2	118.0	122.6
441	Motor vehicle and parts dealers	96.0	95.3	96.7	100.0	103.8	106.6	106.1	108.1	109.5	99.4	95.8	100.0
4411	Automobile dealers	99.3	97.0	98.5	100.0	102.2	107.1	106.2	108.2	110.6	100.7	99.6	106.2
4412	Other motor vehicle dealers	85.9	86.2	93.2	100.0	99.6	105.9	98.8	103.9	103.4	97.7	90.8	97.3
4413	Auto parts, accessories, and tire stores	99.9	100.7	94.1	100.0	106.8	102.0	106.2	105.4	103.1	98.6	95.0	92.0
442	Furniture and home furnishings stores	85.7	89.7	94.7	100.0	103.5	112.1	113.9	117.4	123.5	123.8	129.0	135.7
4421	Furniture stores	85.9	89.5	95.6	100.0	102.4	110.1	111.5	117.0	119.7	117.0	119.8	124.5
4422	Home furnishings stores	85.4	89.7	93.5	100.0	105.0	114.6	116.6	118.3	127.8	131.8	140.1	149.7
443	Electronics and appliance stores	64.5	74.4	84.2	100.0	125.5	142.6	158.4	177.0	200.3	232.5	258.6	273.5
4431	Electronics and appliance stores	64.5	74.4	84.2	100.0	125.5	142.6	158.4	177.0	200.3	232.5	258.6	273.5
444	Building material and garden supply stores	94.2	93.7	96.7	100.0	105.0	110.8	110.0	111.0	112.0	111.5	106.6	117.9
4441	Building material and supplies dealers	95.0	94.9	96.2	100.0	105.1	110.2	110.5	111.4	110.8	108.5	103.3	113.6
4442	Lawn and garden equipment and supplies stores	89.2	87.2	100.1	100.0	104.8	115.0	105.8	107.2	121.2	136.4	132.7	153.9
445	Food and beverage stores	97.3	96.5	99.1	100.0	101.9	106.9	111.1	113.3	115.6	112.3	113.8	115.6
4451	Grocery stores	97.8	96.5	98.6	100.0	101.5	106.2	110.1	111.2	112.8	109.7	110.7	112.1
4452	Specialty food stores	91.6	93.6	102.8	100.0	105.0	111.1	113.2	123.0	129.8	125.4	131.9	131.2
4453	Beer, wine, and liquor stores	90.0	96.0	97.2	100.0	106.2	115.9	126.5	131.0	139.4	130.1	131.8	147.2
446	Health and personal care stores	87.1	91.3	94.6	100.0	105.5	109.6	109.1	112.5	112.3	112.6	115.7	117.1
4461	Health and personal care stores	87.1	91.3	94.6	100.0	105.5	109.6	109.1	112.5	112.3	112.6	115.7	117.1
447	Gasoline stations	88.5	86.1	90.2	100.0	96.4	98.4	99.7	99.2	102.6	102.0	105.4	107.0
4471	Gasoline stations	88.5	86.1	90.2	100.0	96.4	98.4	99.7	99.2	102.6	102.0	105.4	107.0
448	Clothing and clothing accessories stores	86.9	94.1	96.3	100.0	106.0	106.3	112.3	122.6	132.2	137.3	134.2	140.7
4481	Clothing stores	84.0	91.9	95.8	100.0	104.5	104.0	112.1	122.9	134.1	144.2	143.8	148.4
4482	Shoe stores	83.8	87.9	89.0	100.0	105.7	99.5	105.3	116.0	114.4	113.9	104.6	110.6
4483	Jewelry, luggage, and leather goods stores	103.2	110.0	104.4	100.0	112.3	122.3	118.0	125.7	137.1	125.5	116.6	129.8
451	Sporting goods, hobby, book, and music stores	89.4	94.9	99.6	100.0	103.0	118.0	127.4	131.6	128.1	129.0	137.6	150.4
4511	Sporting goods and musical instrument stores	88.0	95.2	98.9	100.0	103.5	121.2	131.3	140.1	136.5	136.9	146.9	159.5
4512	Book, periodical, and music stores	92.6	94.5	101.2	100.0	101.9	111.1	119.0	113.6	109.4	111.2	116.4	130.0
452	General merchandise stores	87.8	93.2	96.7	100.0	106.2	109.5	113.3	116.8	117.7	116.0	118.6	119.0
4521	Department stores	102.0	104.0	101.6	100.0	104.3	107.7	109.3	111.4	104.7	101.4	100.4	97.6
4529	Other general merchandise stores	73.2	82.4	92.2	100.0	106.3	107.8	112.0	115.0	121.7	119.0	122.7	125.0
453	Miscellaneous store retailers	93.4	95.8	94.6	100.0	105.3	108.7	114.6	125.8	129.6	126.7	120.5	128.8
4531	Florists	102.2	101.3	90.3	100.0	96.2	91.7	110.6	125.4	113.1	121.5	129.0	152.1
4532	Office supplies, stationery and gift stores	84.2	89.9	93.5	100.0	108.7	121.9	128.5	143.4	151.8	150.8	156.7	162.9
4533	Used merchandise stores	79.8	82.0	85.8	100.0	103.9	104.5	105.9	111.6	122.9	132.6	119.7	139.5
4539	Other miscellaneous store retailers	109.2	110.6	102.7	100.0	104.9	101.2	104.1	114.9	117.6	106.2	94.9	100.0
454	Nonstore retailers	70.8	83.6	89.9	100.0	108.8	121.4	126.1	148.8	163.0	166.7	175.1	189.7
4541	Electronic shopping and mail-order houses	67.0	75.3	84.4	100.0	117.2	134.1	145.3	175.9	196.4	187.3	195.6	216.9
4542	Vending machine operators	115.6	121.7	104.9	100.0	112.0	121.1	114.9	124.3	117.0	126.1	111.5	124.4
4543	Direct selling establishments	77.2	90.7	94.7	100.0	93.4	94.7	87.5	93.4	96.6	101.0	105.7	101.5
	Transportation and warehousing												
481	Air transportation	94.3	96.0	91.0	100.0	110.2	124.2	133.6	140.5	142.2	140.6	140.7	-
482111	Line-haul railroads	78.4	85.0	90.6	100.0	105.0	107.2	103.3	109.3	103.3	107.9	103.7	-
484	Truck transportation	97.9	99.2	99.1	100.0	102.6	101.4	103.0	104.3	105.1	103.6	99.0	-
4841	General freight trucking	92.6	95.7	97.3	100.0	103.2	101.8	103.6	104.5	104.9	104.3	99.0	-
48411	General freight trucking, local	91.4	96.2	99.4	100.0	105.6	100.3	103.1	109.5	105.8	102.9	98.3	-
48412	General freight trucking, long-distance	92.7	95.3	96.4	100.0	102.8	102.0	103.6	102.8	104.3	103.8	98.4	-
48421	Used household and office goods moving	117.8	116.2	102.9	100.0	105.0	107.3	106.6	106.7	110.2	116.7	116.4	-
491	U.S. Postal service	96.6	99.1	99.8	100.0	101.3	103.4	104.5	104.5	105.3	103.8	105.2	-
4911	U.S. Postal service	96.6	99.1	99.8	100.0	101.3	103.4	104.5	104.5	105.3	103.8	105.2	-
492	Couriers and messengers	85.4	90.0	92.6	100.0	104.7	101.3	94.7	99.4	96.5	100.8	95.8	-
493	Warehousing and storage	88.2	89.5	94.4	100.0	103.9	103.8	99.3	96.9	95.5	94.8	96.1	-
4931	Warehousing and storage	88.2	89.5	94.4	100.0	103.9	103.8	99.3	96.9	95.5	94.8	96.1	-

50. Continued - Annual indexes of output per hour for selected NAICS industries[1/]

[2002=100]

NAICS	Industry	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
49311	General warehousing and storage	83.0	85.1	92.8	100.0	105.3	102.8	102.4	102.8	101.4	100.7	102.9	-
49312	Refrigerated warehousing and storage	119.3	110.1	98.2	100.0	108.5	119.5	102.7	95.8	103.3	105.7	96.9	-
	Information												
511	Publishing industries, except internet	99.2	99.9	99.5	100.0	108.0	110.0	110.9	116.1	119.7	121.1	122.7	-
5111	Newspaper, book, and directory publishers	99.5	102.9	101.1	100.0	105.0	99.6	97.3	100.8	102.0	99.5	97.9	-
5112	Software publishers	105.8	97.7	96.2	100.0	113.1	131.5	136.7	139.0	141.7	146.6	145.4	-
51213	Motion picture and video exhibition	102.0	106.7	101.8	100.0	100.8	104.0	111.0	118.6	124.8	120.1	128.0	-
515	Broadcasting, except internet	98.9	99.6	95.5	100.0	102.9	107.1	113.1	120.6	130.5	133.4	135.7	-
5151	Radio and television broadcasting	97.3	96.9	94.2	100.0	99.5	101.7	104.1	111.8	114.8	114.2	114.1	-
5152	Cable and other subscription programming	107.2	108.8	98.7	100.0	109.6	118.4	129.3	135.9	158.3	169.0	173.5	-
5171	Wired telecommunications carriers	93.3	94.9	92.0	100.0	106.5	112.0	115.9	119.8	121.5	123.8	125.9	-
5172	Wireless telecommunications carriers	66.6	70.1	88.0	100.0	111.6	134.8	176.0	189.2	200.2	237.6	295.4	-
	Finance and insurance												
52211	Commercial banking	90.6	94.3	95.5	100.0	103.3	106.3	109.2	111.6	114.2	112.7	115.3	-
	Real estate and rental and leasing												
532111	Passenger car rental	97.9	98.0	97.0	100.0	106.5	104.6	98.0	100.4	118.0	123.7	118.6	-
53212	Truck, trailer, and RV rental and leasing	106.1	106.8	99.6	100.0	97.8	111.6	114.1	123.3	120.0	114.8	99.5	-
53223	Video tape and disc rental	99.3	103.5	102.3	100.0	112.9	115.6	104.7	124.0	152.1	136.8	148.2	-
	Professional and technical services												
541213	Tax preparation services	95.0	90.6	84.8	100.0	94.8	82.8	82.8	79.2	87.3	83.0	81.2	-
54131	Architectural services	99.3	100.0	103.2	100.0	103.4	107.9	107.9	105.8	109.6	113.3	111.9	-
54133	Engineering services	97.5	101.5	99.6	100.0	102.7	112.5	119.7	121.1	118.3	123.4	116.7	-
54181	Advertising agencies	86.6	95.1	94.5	100.0	106.4	116.2	114.5	115.2	118.7	124.6	126.9	-
541921	Photography studios, portrait	112.5	111.7	104.8	100.0	104.8	92.3	91.1	95.4	100.6	102.5	96.6	-
	Administrative and waste services												
561311	Employment placement agencies	79.8	76.9	85.2	100.0	107.9	120.7	126.8	146.4	176.5	203.2	203.9	-
56151	Travel agencies	90.5	93.6	90.3	100.0	125.5	151.0	173.8	186.2	217.8	220.0	226.2	-
56172	Janitorial services	93.4	95.7	96.7	100.0	110.7	106.6	108.4	102.5	109.0	111.2	107.2	-
	Health care and social assistance												
6215	Medical and diagnostic laboratories	90.6	95.9	98.3	100.0	103.1	103.9	102.4	104.6	102.4	111.5	114.5	-
621511	Medical laboratories	98.6	103.5	103.7	100.0	104.5	106.2	102.3	103.6	105.8	115.8	121.7	-
621512	Diagnostic imaging centers	79.4	85.7	90.8	100.0	99.8	97.5	99.4	102.9	92.4	100.4	99.7	-
	Arts, entertainment, and recreation												
71311	Amusement and theme parks	98.8	99.5	87.4	100.0	108.4	99.1	109.6	99.7	107.2	107.9	99.4	-
71395	Bowling centers	92.8	96.9	97.9	100.0	104.4	108.0	104.3	98.4	116.1	117.7	114.3	-
	Accommodation and food services												
72	Accommodation and food services	96.8	100.1	99.1	100.0	102.5	105.1	105.6	106.9	106.9	105.9	105.3	-
721	Accommodation	94.1	98.5	96.4	100.0	103.4	111.3	109.4	109.3	109.6	109.0	107.2	-
7211	Traveler accommodation	94.0	99.2	96.6	100.0	103.3	111.5	110.0	109.5	109.7	109.0	106.9	-
722	Food services and drinking places	96.7	99.1	99.4	100.0	102.2	103.2	104.4	106.0	105.9	104.8	105.1	107.1
7221	Full-service restaurants	96.5	98.7	99.2	100.0	100.5	101.6	102.7	103.7	102.8	100.5	100.8	103.6
7222	Limited-service eating places	97.8	99.4	99.8	100.0	102.6	104.0	104.6	106.3	106.5	106.8	108.2	111.1
7223	Special food services	91.7	100.2	100.4	100.0	104.5	107.0	109.3	110.9	113.7	113.0	106.4	101.1
7224	Drinking places, alcoholic beverages	96.0	97.8	94.8	100.0	113.8	106.1	112.1	122.0	122.4	117.9	122.4	121.1
	Other services												
8111	Automotive repair and maintenance	102.3	105.5	105.0	100.0	99.7	106.5	105.7	104.5	102.5	101.3	96.6	-
81142	Reupholstery and furniture repair	102.9	103.4	102.9	100.0	93.7	94.6	94.6	91.8	94.8	90.2	87.8	-
81211	Hair, nail, and skin care services	98.4	98.0	103.8	100.0	108.0	112.3	116.1	115.4	119.5	122.4	115.1	-
81221	Funeral homes and funeral services	109.2	100.3	97.1	100.0	100.4	96.6	96.0	100.7	100.6	95.0	96.5	-
8123	Drycleaning and laundry services	93.4	95.7	98.6	100.0	92.6	99.1	109.0	108.3	103.8	104.1	114.6	-
81231	Coin-operated laundries and drycleaners	79.7	88.0	95.5	100.0	82.5	94.5	115.2	99.2	91.1	85.9	92.5	-
81232	Drycleaning and laundry services	93.6	96.7	97.8	100.0	89.8	95.4	103.9	103.1	101.5	102.1	113.9	-
81233	Linen and uniform supply	101.6	98.8	101.1	100.0	98.9	104.2	111.5	115.6	108.7	109.7	119.0	-
81292	Photofinishing	75.9	73.4	80.8	100.0	98.3	97.9	105.3	102.4	101.0	105.3	131.4	-

NOTE: Dash indicates data are not available.

1/ Data for most industries are available beginning in 1987 and may be accessed on the BLS website at http://www.bls.gov/lpc/iprprodydata.htm.

51. Unemployment rates adjusted to U.S. concepts, 10 countries, seasonally adjusted

[Percent]

Country	2009	2010	2009 I	2009 II	2009 III	2009 IV	2010 I	2010 II	2010 III	2010 IV
United States	9.3	9.6	8.2	9.3	9.7	10.0	9.7	9.6	9.6	9.6
Canada	7.3	7.1	6.9	7.5	7.6	7.5	7.4	7.2	7.0	6.7
Australia	5.6	5.2	5.3	5.7	5.8	5.6	5.3	5.2	5.2	5.2
Japan	4.8	4.8	4.2	4.8	5.1	5.0	4.7	4.8	4.7	4.7
France	9.2	9.4	8.7	9.3	9.3	9.6	9.6	9.4	9.4	9.3
Germany	7.8	7.2	7.5	7.9	7.9	7.8	7.5	7.3	7.1	7.0
Italy	7.9	8.6	7.5	7.7	8.1	8.4	8.5	8.6	8.5	8.7
Netherlands	3.7	4.5	3.2	3.6	3.9	4.3	4.5	4.5	4.5	4.4
Sweden	8.2	8.3	7.4	8.3	8.5	8.6	8.6	8.5	8.1	7.8
United Kingdom	7.7	7.9	7.1	7.8	7.9	7.8	8.0	7.8	7.8	7.9

Dash indicates data are not available. Quarterly figures for Germany are calculated by applying an annual adjustment factor to current published data and therefore should be viewed as a less precise indicator of unemployment under U.S. concepts than the annual figures. For further qualifications and historical annual data, see the BLS report *International Comparisons of Annual Labor Force Statistics, Adjusted to U.S. Concepts, 10 Countries* (on the Internet at **http://www.bls.gov/ilc/flscomparelf.htm**).

For monthly unemployment rates, as well as the quarterly and annual rates published in this table, see the BLS report *International Unemployment Rates and Employment Indexes, Seasonally Adjusted* (on the Internet at **http://www.bls.gov/ilc/intl_unemployment_rates_monthly.htm**). Unemployment rates may differ between the two reports mentioned, because the former is updated annually, whereas the latter is updated monthly and reflects the most recent revisions in source data.

52. Annual data: employment status of the working-age population, adjusted to U.S. concepts, 10 countries

[Numbers in thousands]

Employment status and country	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Civilian labor force											
United States	142,583	143,734	144,863	146,510	147,401	149,320	151,428	153,124	154,287	154,142	153,889
Canada	15,632	15,886	16,356	16,722	16,925	17,056	17,266	17,626	17,936	18,058	18,263
Australia	9,590	9,746	9,901	10,085	10,213	10,529	10,773	11,060	11,356	11,602	11,868
Japan	66,710	66,480	65,866	65,495	65,366	65,386	65,556	65,909	65,660	65,362	65,100
France	26,193	26,339	26,658	26,692	26,872	27,061	27,260	27,466	27,683	27,972	28,067
Germany	39,302	39,459	39,413	39,276	39,711	40,696	41,206	41,364	41,481	41,507	41,189
Italy	23,361	23,524	23,728	24,020	24,084	24,179	24,395	24,459	24,836	24,705	24,741
Netherlands	8,008	8,155	8,288	8,330	8,379	8,400	8,462	8,595	8,679	8,716	8,654
Sweden	4,490	4,530	4,545	4,565	4,579	4,693	4,746	4,822	4,875	4,888	4,942
United Kingdom	28,962	29,092	29,343	29,565	29,802	30,137	30,599	30,780	31,126	31,274	31,421
Participation rate[1]											
United States	67.1	66.8	66.6	66.2	66.0	66.0	66.2	66.0	66.0	65.4	64.7
Canada	66.0	66.1	67.1	67.7	67.6	67.3	67.2	67.5	67.7	67.2	67.0
Australia	64.4	64.4	64.3	64.6	64.6	65.4	65.8	66.2	66.7	66.7	66.5
Japan	61.7	61.2	60.4	59.9	59.6	59.5	59.6	59.8	59.5	59.3	59.0
France	56.8	56.6	56.8	56.4	56.3	56.2	56.2	56.3	56.4	56.6	56.5
Germany	56.7	56.7	56.4	56.0	56.4	57.5	58.1	58.3	58.4	58.5	58.1
Italy	48.1	48.3	48.5	49.1	49.1	48.7	48.9	48.6	49.0	48.4	48.2
Netherlands	63.0	63.7	64.3	64.3	64.4	64.2	64.5	65.2	65.4	65.2	64.3
Sweden	63.7	63.7	63.9	63.9	63.6	64.8	64.9	65.3	65.3	64.8	64.7
United Kingdom	62.8	62.7	62.9	62.9	63.0	63.1	63.5	63.3	63.5	63.3	63.1
Employed											
United States	136,891	136,933	136,485	137,736	139,252	141,730	144,427	146,047	145,362	139,877	139,064
Canada	14,677	14,860	15,210	15,576	15,835	16,032	16,317	16,704	16,985	16,732	16,969
Australia	8,989	9,088	9,271	9,485	9,662	9,998	10,257	10,576	10,873	10,953	11,247
Japan	63,790	63,460	62,650	62,510	62,640	62,910	63,210	63,509	63,250	62,242	62,000
France	23,928	24,264	24,521	24,397	24,464	24,632	24,828	25,246	25,614	25,395	25,423
Germany	36,236	36,350	36,018	35,615	35,604	36,123	36,949	37,763	38,345	38,279	38,209
Italy	20,973	21,359	21,666	21,972	22,124	22,290	22,721	22,953	23,144	22,760	22,621
Netherlands	7,762	7,950	8,035	7,989	7,960	7,959	8,096	8,290	8,412	8,389	8,264
Sweden	4,230	4,303	4,311	4,301	4,279	4,334	4,416	4,530	4,581	4,486	4,534
United Kingdom	27,375	27,604	27,815	28,077	28,380	28,674	28,929	29,129	29,346	28,880	28,944
Employment-population ratio[2]											
United States	64.4	63.7	62.7	62.3	62.3	62.7	63.1	63.0	62.2	59.3	58.5
Canada	62.0	61.8	62.4	63.1	63.3	63.3	63.5	64.0	64.1	62.2	62.3
Australia	60.3	60.0	60.2	60.8	61.1	62.1	62.7	63.3	63.9	62.9	63.0
Japan	59.0	58.4	57.5	57.1	57.1	57.3	57.5	57.6	57.4	56.4	56.2
France	51.9	52.2	52.3	51.6	51.3	51.2	51.2	51.7	52.1	51.4	51.2
Germany	52.2	52.2	51.5	50.8	50.6	51.1	52.1	53.2	54.0	54.0	53.9
Italy	43.2	43.8	44.3	44.9	45.1	44.9	45.5	45.6	45.6	44.6	44.1
Netherlands	61.1	62.1	62.3	61.6	61.1	60.9	61.7	62.8	63.4	62.8	61.4
Sweden	60.1	60.5	60.6	60.2	59.5	59.9	60.4	61.3	61.4	59.5	59.3
United Kingdom	59.4	59.5	59.6	59.8	59.9	60.0	60.0	59.9	59.9	58.5	58.2
Unemployed											
United States	5,692	6,801	8,378	8,774	8,149	7,591	7,001	7,078	8,924	14,265	14,825
Canada	955	1,026	1,146	1,146	1,091	1,024	949	922	951	1,326	1,294
Australia	602	658	630	599	551	531	516	484	483	649	621
Japan	2,920	3,020	3,216	2,985	2,726	2,476	2,346	2,400	2,410	3,120	3,100
France	2,265	2,075	2,137	2,295	2,408	2,429	2,432	2,220	2,069	2,577	2,644
Germany	3,065	3,110	3,396	3,661	4,107	4,573	4,257	3,601	3,136	3,228	2,980
Italy	2,388	2,164	2,062	2,048	1,960	1,889	1,673	1,506	1,692	1,945	2,119
Netherlands	246	206	254	341	419	441	366	306	267	327	390
Sweden	260	227	234	264	300	360	330	292	294	401	409
United Kingdom	1,587	1,489	1,528	1,488	1,423	1,463	1,670	1,652	1,780	2,395	2,477
Unemployment rate[3]											
United States	4.0	4.7	5.8	6.0	5.5	5.1	4.6	4.6	5.8	9.3	9.6
Canada	6.1	6.5	7.0	6.9	6.4	6.0	5.5	5.2	5.3	7.3	7.1
Australia	6.3	6.8	6.4	5.9	5.4	5.0	4.8	4.4	4.2	5.6	5.2
Japan	4.4	4.5	4.9	4.6	4.2	3.8	3.6	3.6	3.7	4.8	4.8
France	8.6	7.9	8.0	8.6	9.0	9.0	8.9	8.1	7.5	9.2	9.4
Germany	7.8	7.9	8.6	9.3	10.3	11.2	10.3	8.7	7.6	7.8	7.2
Italy	10.2	9.2	8.7	8.5	8.1	7.8	6.9	6.2	6.8	7.9	8.6
Netherlands	3.1	2.5	3.1	4.1	5.0	5.3	4.3	3.6	3.1	3.7	4.5
Sweden	5.8	5.0	5.1	5.8	6.6	7.7	7.0	6.1	6.0	8.2	8.3
United Kingdom	5.5	5.1	5.2	5.0	4.8	4.9	5.5	5.4	5.7	7.7	7.9

[1] Labor force as a percent of the working-age population.
[2] Employment as a percent of the working-age population.
[3] Unemployment as a percent of the labor force.

NOTE: There are breaks in series for the United States (2003, 2004), Australia (2001), Germany (2005), the Netherlands (2003), and Sweden (2005). For further qualifications and historical annual data, see the BLS report *International Comparisons of Annual Labor Force Statistics, Adjusted to U.S. Concepts*, *10 Countries* (on the Internet at **http://www.bls.gov/ilc/flscomparelf.htm).** Unemployment rates may differ from those in the BLS report *International Unemployment Rates and Employment Indexes, Seasonally Adjusted* (on the Internet at **http://www.bls.gov/ilc/intl_unemployment_rates_monthly.htm**), because the former is updated annually, whereas the latter is updated monthly and reflects the most recent revisions in source data.

53. Annual indexes of manufacturing productivity and related measures, 19 countries

[2002 = 100]

Measure and country	1980	1990	1995	1997	1998	1999	2000	2001	2003	2004	2005	2006	2007	2008	2009	2010
Output per hour																
United States	41.7	58.1	68.5	73.8	77.7	82.4	88.8	90.7	108.2	117.5	122.8	127.2	133.6	132.5	139.1	147.1
Australia	63.3	77.8	84.9	88.0	92.5	95.8	93.5	98.4	104.9	104.3	105.5	108.1	110.0	106.7	111.4	113.2
Belgium	50.5	74.8	87.1	93.9	95.1	94.4	98.2	97.5	101.5	105.1	106.7	107.3	111.3	111.5	113.6	117.3
Canada	55.2	70.7	83.4	87.2	91.3	95.1	100.7	98.3	100.3	101.4	104.8	106.3	107.3	104.5	105.4	110.0
Czech Republic	-	-	70.3	77.3	73.1	83.9	92.0	92.7	101.9	114.4	125.0	140.4	151.7	161.4	156.0	176.1
Denmark	66.1	79.3	90.8	94.8	94.3	95.8	99.2	99.4	104.2	110.2	113.7	119.5	122.1	125.2	123.4	135.2
Finland	28.9	48.0	65.8	71.1	75.3	80.8	90.4	93.9	106.3	113.4	118.8	132.7	145.3	140.6	120.9	140.8
France	46.4	64.8	77.7	81.9	86.0	89.6	95.0	96.2	103.4	107.3	112.1	116.4	119.4	115.4	113.1	122.1
Germany	54.5	69.8	80.6	87.7	88.1	90.2	96.5	99.0	103.6	107.5	112.1	121.5	124.8	119.1	108.2	115.6
Italy	56.8	78.1	94.2	96.5	95.2	95.9	100.9	101.2	97.9	99.3	100.8	102.6	103.1	99.9	93.8	100.4
Japan	47.9	70.9	83.4	90.3	91.2	93.5	98.5	96.5	106.8	114.3	121.7	122.9	127.6	131.3	119.5	136.2
Korea, Rep. of	-	33.4	52.1	65.6	73.6	82.7	90.8	90.1	106.8	117.1	130.7	145.7	156.2	157.3	159.1	172.9
Netherlands	49.7	69.4	82.0	84.3	86.4	89.9	96.8	97.2	102.4	109.4	114.6	119.1	125.3	122.7	117.0	127.6
Norway	70.1	87.8	88.1	91.0	88.7	91.7	94.6	97.2	108.7	115.1	119.1	116.7	116.1	117.2	118.1	123.7
Singapore	33.1	50.7	72.8	77.8	80.9	92.4	101.2	90.7	103.6	113.8	116.3	120.1	116.2	105.3	105.0	139.4
Spain	57.9	80.0	93.3	93.1	94.7	96.4	97.4	99.6	102.5	104.4	106.4	108.5	110.9	109.3	108.4	113.5
Sweden	40.1	49.4	64.9	73.6	78.4	85.4	91.6	89.4	108.2	120.2	128.0	138.8	142.6	134.3	124.4	141.1
Taiwan	28.6	52.5	65.4	73.1	76.1	80.7	85.6	89.9	107.2	112.6	121.7	132.1	143.2	145.5	152.4	175.5
United Kingdom	45.6	70.3	81.2	82.0	83.0	87.4	93.3	96.9	104.5	111.2	116.3	120.6	124.7	125.2	120.6	125.6
Output																
United States	49.8	67.6	79.4	86.9	91.2	96.1	102.3	97.6	102.9	111.2	114.8	119.9	123.8	117.8	107.6	113.8
Australia	70.8	81.8	86.5	90.1	92.2	93.5	94.9	96.9	102.6	102.6	101.9	102.7	105.7	104.6	102.2	106.6
Belgium	67.2	86.8	89.5	94.1	95.7	96.0	100.5	100.8	98.8	102.4	102.4	102.6	105.8	104.8	96.1	99.8
Canada	55.2	68.7	76.5	82.8	86.9	94.1	103.4	99.1	99.2	101.1	102.6	101.3	99.0	93.0	82.5	87.1
Czech Republic	-	-	73.4	84.1	78.5	87.0	95.4	94.9	99.0	112.1	125.5	143.8	157.0	169.4	149.3	165.4
Denmark	77.3	85.5	94.7	97.7	98.5	99.4	102.9	103.0	97.2	98.8	99.3	103.8	107.1	111.0	97.6	99.9
Finland	39.8	53.8	60.3	68.1	74.7	80.9	92.2	96.3	102.8	107.7	112.3	126.9	140.5	135.6	101.9	114.9
France	75.3	82.8	86.6	89.7	93.7	96.8	100.1	100.5	101.0	102.8	105.1	106.3	108.8	104.2	95.7	99.1
Germany	81.3	94.5	90.1	92.0	93.1	94.0	100.4	102.1	100.7	104.3	106.5	114.1	118.4	113.6	93.1	103.6
Italy	71.1	88.2	95.7	96.6	97.5	97.3	101.4	101.1	97.3	98.0	97.8	101.1	103.2	98.4	82.6	86.4
Japan	61.9	98.9	101.7	108.2	102.5	102.1	107.4	101.6	105.3	111.4	117.2	121.3	126.1	125.5	100.8	117.6
Korea, Rep. of	12.7	40.0	59.2	67.1	62.2	76.5	89.8	92.0	105.4	115.9	123.1	133.0	142.5	146.6	144.3	165.7
Netherlands	59.3	76.9	85.1	87.7	90.3	93.3	100.0	100.0	99.1	102.9	105.1	108.7	115.1	113.4	103.6	111.2
Norway	95.1	91.4	94.6	102.7	101.9	101.8	101.3	100.5	103.3	109.2	114.1	117.5	121.3	124.5	117.3	119.6
Singapore	26.0	51.2	75.4	80.8	80.2	90.6	104.4	92.2	102.9	117.2	128.3	143.6	152.2	145.8	139.7	181.2
Spain	58.8	73.7	76.0	82.9	87.9	92.9	97.0	100.1	101.2	101.9	103.1	105.0	105.8	103.0	88.9	89.7
Sweden	45.5	54.5	65.8	73.6	80.2	87.5	95.1	93.3	105.0	115.0	120.7	129.0	133.5	126.5	103.7	119.9
Taiwan	29.4	59.3	72.7	80.9	82.8	88.9	96.1	89.5	110.1	121.5	131.0	142.9	156.9	158.5	151.5	192.0
United Kingdom	78.5	94.8	97.1	99.6	100.3	101.3	103.6	102.2	99.7	101.9	101.8	103.3	103.8	100.8	90.1	93.3
Total hours																
United States	119.4	116.5	115.9	117.7	117.4	116.6	115.1	107.6	95.1	94.6	93.5	94.2	92.6	88.9	77.4	77.4
Australia	111.8	105.2	101.9	102.4	99.7	97.6	101.5	98.5	97.8	98.4	96.6	95.0	96.1	98.1	91.7	94.1
Belgium	133.1	116.0	102.8	100.3	100.6	101.7	102.4	103.4	97.3	97.4	95.9	95.6	95.1	94.0	84.6	85.1
Canada	100.0	97.2	91.8	94.9	95.2	98.9	102.7	100.8	99.0	99.8	97.9	95.2	92.3	89.0	78.2	79.2
Czech Republic	-	-	104.4	108.8	107.4	103.6	103.6	102.3	97.2	98.0	100.4	102.4	103.5	104.9	95.7	93.9
Denmark	117.0	107.8	104.3	103.1	104.5	103.7	103.7	103.7	93.4	89.6	87.3	86.9	87.7	88.7	79.0	73.9
Finland	137.6	112.1	91.7	95.8	99.3	100.1	102.1	102.6	96.8	95.0	94.5	95.6	96.7	96.4	84.3	81.6
France	162.4	127.8	111.3	109.5	109.1	107.9	105.4	104.4	97.6	95.8	93.7	91.3	91.1	90.3	84.6	81.2
Germany	149.3	135.4	111.7	104.9	105.8	104.2	104.0	103.1	97.3	97.1	95.0	93.9	94.9	95.4	86.1	89.6
Italy	125.2	113.0	101.6	100.1	102.5	101.5	100.5	99.9	99.4	98.7	97.0	98.5	100.1	98.4	88.1	86.0
Japan	129.3	139.6	122.0	119.9	112.5	109.1	109.0	105.3	98.6	97.5	96.3	98.6	98.9	95.6	84.3	86.3
Korea, Rep. of	-	119.8	113.6	102.2	84.5	92.4	98.8	102.1	98.7	99.0	94.2	91.3	91.2	93.2	90.7	95.8
Netherlands	119.2	110.9	103.8	103.9	104.5	103.9	103.3	102.9	96.8	94.0	91.7	91.3	91.9	92.4	88.6	87.2
Norway	135.6	104.1	107.3	112.8	115.0	111.0	107.1	103.4	95.1	94.9	95.8	100.7	104.5	106.3	99.3	96.7
Singapore	78.6	101.1	103.6	103.9	99.1	98.0	103.1	101.7	99.3	103.0	110.4	119.6	131.0	138.4	133.1	130.0
Spain	101.6	92.1	81.4	89.0	92.8	96.4	99.7	100.5	98.8	97.6	96.8	96.8	95.4	94.2	82.0	79.0
Sweden	113.3	110.2	101.3	100.1	102.3	102.5	103.8	104.4	97.0	95.7	94.3	93.0	93.6	94.2	83.4	85.0
Taiwan	102.9	113.0	111.1	110.6	108.8	110.1	112.4	99.6	102.7	107.9	107.7	108.1	109.6	108.9	99.4	109.4
United Kingdom	172.1	135.0	119.6	121.4	120.9	115.9	111.1	105.5	95.4	91.6	87.5	85.7	83.3	80.5	74.7	74.3

See notes at end of table.

53. Continued— Annual indexes of manufacturing productivity and related measures, 19 countries

[2002 = 100]

Measure and country	1980	1990	1995	1997	1998	1999	2000	2001	2003	2004	2005	2006	2007	2008	2009	2010
Unit labor costs (national currency basis)																
United States	91.6	107.0	107.1	103.6	104.5	102.8	102.8	104.5	99.8	92.6	91.6	90.2	88.7	93.3	92.8	89.2
Australia	-	82.1	91.6	94.3	94.8	95.4	96.8	97.6	101.0	105.5	111.0	115.8	119.0	123.9	126.7	123.7
Belgium	80.8	93.6	97.0	95.1	95.3	97.3	95.1	99.0	100.3	98.0	98.1	100.7	100.8	103.9	108.3	104.8
Canada	65.8	96.6	97.9	97.3	97.8	95.8	93.5	98.4	103.7	106.5	107.7	110.3	113.0	117.6	114.8	109.9
Czech Republic	-	-	73.8	86.7	100.4	92.2	89.2	98.7	106.1	100.1	94.5	88.7	87.9	86.7	88.5	81.8
Denmark	49.4	86.4	87.3	90.0	92.9	93.7	92.3	96.5	102.5	100.6	103.0	101.8	105.1	104.7	109.2	102.5
Finland	75.2	126.4	118.0	114.8	112.9	109.0	101.6	104.6	96.8	94.3	93.9	87.0	81.8	86.9	103.5	92.0
France	60.7	99.1	102.2	102.2	98.2	97.4	96.7	98.0	99.1	98.7	97.8	97.8	97.3	103.4	108.6	102.7
Germany	65.7	85.5	100.8	98.9	99.9	99.7	98.1	98.6	98.7	95.7	92.9	89.2	87.7	94.4	109.2	100.4
Italy	34.5	78.6	87.7	94.4	94.0	95.6	93.2	96.1	106.0	108.1	110.0	110.3	112.9	121.2	133.7	127.6
Japan	105.4	109.2	110.8	106.8	108.3	105.4	99.5	102.9	91.6	86.4	81.8	80.1	76.0	74.9	83.2	72.1
Korea, Rep. of	40.4	72.4	109.2	110.7	107.8	96.2	93.8	98.8	98.8	102.7	106.9	105.2	104.6	104.8	109.1	108.3
Netherlands	86.0	91.0	93.9	95.3	96.8	96.3	93.8	97.5	101.5	99.1	95.9	95.0	92.9	98.1	106.4	98.2
Norway	35.3	66.6	78.5	82.7	89.9	91.8	94.1	97.0	95.8	93.4	94.5	102.4	107.7	112.8	118.0	117.2
Singapore	78.5	107.5	113.5	117.8	115.8	96.0	92.3	106.0	97.1	88.9	86.4	82.7	85.3	95.3	95.1	77.7
Spain	35.7	73.7	93.6	98.4	97.4	95.6	96.0	97.6	102.5	104.1	107.0	110.0	114.1	122.0	125.5	119.7
Sweden	67.2	123.3	110.6	110.9	108.1	102.2	99.0	106.1	96.5	89.2	86.6	82.2	85.0	92.6	104.0	89.5
Taiwan	69.3	108.5	123.1	121.0	120.0	115.5	110.9	112.4	96.2	94.5	92.6	90.4	84.3	85.0	78.7	70.2
United Kingdom	52.6	84.3	88.2	90.7	96.5	97.5	96.7	97.6	100.7	99.1	100.3	102.2	102.4	104.2	112.0	110.9
Unit labor costs (U.S. dollar basis)																
United States	91.6	107.0	107.1	103.6	104.5	102.8	102.8	104.5	99.8	92.6	91.6	90.2	88.7	93.3	92.8	89.2
Australia	-	118.0	124.8	129.0	109.7	113.2	103.6	92.8	121.2	142.9	155.7	160.5	183.6	194.6	184.7	209.3
Belgium	118.0	119.5	140.5	113.3	112.0	109.6	92.9	93.7	120.1	128.9	129.2	133.8	146.2	161.8	159.6	147.0
Canada	88.4	130.1	112.1	110.4	103.5	101.3	98.8	99.8	116.3	128.5	139.6	152.7	165.3	173.2	158.0	167.6
Czech Republic	-	-	91.0	89.5	101.8	87.3	75.6	85.0	123.1	127.6	129.2	128.5	140.2	166.4	152.0	140.1
Denmark	69.1	110.1	123.0	107.4	109.3	105.8	89.9	91.4	122.9	132.5	135.5	135.1	152.3	162.3	160.8	143.6
Finland	126.8	207.9	170.0	139.1	132.9	122.8	99.3	99.1	115.9	124.0	123.7	115.6	118.6	135.3	152.6	129.0
France	99.7	126.2	142.2	121.5	115.5	109.7	94.5	92.8	118.7	129.8	128.8	130.0	141.2	161.1	160.1	144.1
Germany	74.7	109.4	145.6	117.9	117.4	112.4	95.8	93.3	118.2	125.9	122.3	118.6	127.2	147.0	161.0	140.8
Italy	82.6	134.3	110.2	113.5	110.8	107.7	91.1	91.0	127.0	142.2	144.8	146.5	163.7	188.8	197.1	179.0
Japan	58.2	94.3	147.7	110.4	103.6	116.1	115.6	106.0	98.9	100.1	93.0	86.3	80.8	90.7	111.2	102.9
Korea, Rep. of	83.1	127.3	176.7	146.1	96.2	101.1	103.7	95.7	103.6	112.1	130.6	137.8	140.8	119.2	107.0	117.1
Netherlands	100.8	116.5	136.4	113.7	113.8	108.5	91.6	92.3	121.6	130.3	126.3	126.2	134.7	152.8	156.8	137.8
Norway	57.0	85.0	98.9	93.2	95.0	93.9	85.2	86.1	108.0	110.6	117.2	127.6	146.9	159.7	149.8	154.7
Singapore	65.7	106.2	143.4	142.0	124.0	101.4	95.8	105.9	99.7	94.2	93.0	93.3	101.5	120.6	117.1	102.1
Spain	87.6	127.3	132.2	118.1	114.8	107.7	93.8	92.4	122.7	136.9	140.9	146.2	165.5	190.1	185.0	168.0
Sweden	154.3	202.4	150.7	141.0	132.2	120.1	105.0	99.8	116.1	118.1	112.7	108.4	122.4	136.8	132.2	120.8
Taiwan	66.4	139.3	160.4	145.2	123.5	123.4	122.6	114.7	96.5	97.8	99.5	96.1	88.6	93.2	82.3	77.0
United Kingdom	81.4	100.1	92.7	98.9	106.5	104.9	97.5	93.5	109.5	120.8	121.6	125.4	136.5	128.6	116.7	114.1
Hourly compensation (national currency basis)																
United States	38.2	62.1	73.4	76.5	81.2	84.8	91.3	94.8	108.0	108.9	112.5	114.8	118.5	123.6	129.1	131.2
Australia	-	63.9	77.8	83.0	87.7	91.4	90.5	96.0	106.0	110.1	117.1	125.2	130.9	132.2	141.1	140.0
Belgium	40.8	70.1	84.5	89.3	90.6	91.8	93.5	96.5	101.9	103.0	104.8	108.0	112.2	115.8	123.0	123.0
Canada	36.3	68.3	81.6	84.9	89.3	91.2	94.2	96.7	104.0	108.0	112.8	117.2	121.2	122.9	121.0	120.9
Czech Republic	-	-	51.9	67.1	73.4	77.4	82.0	91.6	108.1	114.6	118.1	124.5	133.3	139.9	138.1	144.0
Denmark	32.6	68.5	79.3	85.3	87.6	89.8	91.6	95.9	106.8	110.9	117.2	121.6	128.3	131.2	134.9	138.6
Finland	21.8	60.6	77.6	81.6	85.0	88.1	91.9	98.2	102.9	106.9	111.6	115.5	118.8	122.2	125.2	129.5
France	28.2	64.1	79.4	83.7	84.4	87.3	91.9	94.3	102.5	105.9	109.7	113.9	116.2	119.3	122.9	125.4
Germany	35.8	59.7	81.2	86.7	88.0	90.0	94.7	97.6	102.2	102.8	104.1	108.4	109.4	112.4	118.1	116.0
Italy	19.6	61.3	82.5	91.1	89.4	91.7	94.1	97.2	103.8	107.4	110.8	113.2	116.4	121.1	125.4	128.1
Japan	50.4	77.4	92.4	96.4	98.8	98.6	98.0	99.3	97.8	98.8	99.6	98.5	97.0	98.4	99.5	98.2
Korea, Rep. of	-	24.1	56.9	72.7	79.3	79.6	85.2	89.1	105.5	120.3	139.8	153.2	163.4	164.8	173.6	187.2
Netherlands	42.8	63.1	77.0	80.3	83.7	86.6	90.7	94.7	103.9	108.4	109.9	113.1	116.4	120.4	124.4	125.3
Norway	24.7	58.5	69.2	75.3	79.7	84.2	89.0	94.4	104.1	107.5	112.6	119.5	125.0	132.1	139.4	144.9
Singapore	26.0	54.5	82.6	91.7	93.7	88.8	93.4	96.2	100.6	101.2	100.5	99.4	99.2	100.3	99.9	108.3
Spain	20.7	59.0	87.4	91.6	92.3	92.1	93.5	97.2	105.0	108.7	113.9	119.4	126.6	133.4	136.1	136.0
Sweden	27.0	61.0	71.8	81.6	84.7	87.4	90.7	94.9	104.4	107.2	110.8	114.1	121.2	124.4	129.4	126.3
Taiwan	19.8	57.0	80.5	88.5	91.4	93.3	94.9	101.0	103.1	106.4	112.7	119.5	120.7	123.7	119.9	123.3
United Kingdom	24.0	59.3	71.6	74.4	80.1	85.2	90.2	94.6	105.2	110.1	116.7	123.2	127.7	130.4	135.0	139.3

NOTE: Data for Germany for years before 1991 are for the former West Germany. Data for 1991 onward are for unified Germany. Dash indicates data not available

54. Occupational injury and illness rates by industry,[1] United States

Industry and type of case[2]	Incidence rates per 100 full-time workers[3]												
	1989[1]	1990	1991	1992	1993[4]	1994[4]	1995[4]	1996[4]	1997[4]	1998[4]	1999[4]	2000[4]	2001[4]
PRIVATE SECTOR[5]													
Total cases	8.6	8.8	8.4	8.9	8.5	8.4	8.1	7.4	7.1	6.7	6.3	6.1	5.7
Lost workday cases	4.0	4.1	3.9	3.9	3.8	3.8	3.6	3.4	3.3	3.1	3.0	3.0	2.8
Lost workdays	78.7	84.0	86.5	93.8	–	–	–	–	–	–	–	–	–
Agriculture, forestry, and fishing[5]													
Total cases	10.9	11.6	10.8	11.6	11.2	10.0	9.7	8.7	8.4	7.9	7.3	7.1	7.3
Lost workday cases	5.7	5.9	5.4	5.4	5.0	4.7	4.3	3.9	4.1	3.9	3.4	3.6	3.6
Lost workdays	100.9	112.2	108.3	126.9	–	–	–	–	–	–	–	–	–
Mining													
Total cases	8.5	8.3	7.4	7.3	6.8	6.3	6.2	5.4	5.9	4.9	4.4	4.7	4.0
Lost workday cases	4.8	5.0	4.5	4.1	3.9	3.9	3.9	3.2	3.7	2.9	2.7	3.0	2.4
Lost workdays	137.2	119.5	129.6	204.7	–	–	–	–	–	–	–	–	–
Construction													
Total cases	14.3	14.2	13.0	13.1	12.2	11.8	10.6	9.9	9.5	8.8	8.6	8.3	7.9
Lost workday cases	6.8	6.7	6.1	5.8	5.5	5.5	4.9	4.5	4.4	4.0	4.2	4.1	4.0
Lost workdays	143.3	147.9	148.1	161.9	–	–	–	–	–	–	–	–	–
General building contractors:													
Total cases	13.9	13.4	12.0	12.2	11.5	10.9	9.8	9.0	8.5	8.4	8.0	7.8	6.9
Lost workday cases	6.5	6.4	5.5	5.4	5.1	5.1	4.4	4.0	3.7	3.9	3.7	3.9	3.5
Lost workdays	137.3	137.6	132.0	142.7	–	–	–	–	–	–	–	–	–
Heavy construction, except building:													
Total cases	13.8	13.8	12.8	12.1	11.1	10.2	9.9	9.0	8.7	8.2	7.8	7.6	7.8
Lost workday cases	6.5	6.3	6.0	5.4	5.1	5.0	4.8	4.3	4.3	4.1	3.8	3.7	4.0
Lost workdays	147.1	144.6	160.1	165.8	–	–	–	–	–	–	–	–	–
Special trades contractors:													
Total cases	14.6	14.7	13.5	13.8	12.8	12.5	11.1	10.4	10.0	9.1	8.9	8.6	8.2
Lost workday cases	6.9	6.9	6.3	6.1	5.8	5.8	5.0	4.8	4.7	4.1	4.4	4.3	4.1
Lost workdays	144.9	153.1	151.3	168.3	–	–	–	–	–	–	–	–	–
Manufacturing													
Total cases	13.1	13.2	12.7	12.5	12.1	12.2	11.6	10.6	10.3	9.7	9.2	9.0	8.1
Lost workday cases	5.8	5.8	5.6	5.4	5.3	5.5	5.3	4.9	4.8	4.7	4.6	4.5	4.1
Lost workdays	113.0	120.7	121.5	124.6	–	–	–	–	–	–	–	–	–
Durable goods:													
Total cases	14.1	14.2	13.6	13.4	13.1	13.5	12.8	11.6	11.3	10.7	10.1	–	8.8
Lost workday cases	6.0	6.0	5.7	5.5	5.4	5.7	5.6	5.1	5.1	5.0	4.8	–	4.3
Lost workdays	116.5	123.3	122.9	126.7	–	–	–	–	–	–	–	–	–
Lumber and wood products:													
Total cases	18.4	18.1	16.8	16.3	15.9	15.7	14.9	14.2	13.5	13.2	13.0	12.1	10.6
Lost workday cases	9.4	8.8	8.3	7.6	7.6	7.7	7.0	6.8	6.5	6.8	6.7	6.1	5.5
Lost workdays	177.5	172.5	172.0	165.8	–	–	–	–	–	–	–	–	–
Furniture and fixtures:													
Total cases	16.1	16.9	15.9	14.8	14.6	15.0	13.9	12.2	12.0	11.4	11.5	11.2	11.0
Lost workday cases	7.2	7.8	7.2	6.6	6.5	7.0	6.4	5.4	5.8	5.7	5.9	5.9	5.7
Lost workdays	–	–	–	128.4	–	–	–	–	–	–	–	–	–
Stone, clay, and glass products:													
Total cases	15.5	15.4	14.8	13.6	13.8	13.2	12.3	12.4	11.8	11.8	10.7	10.4	10.1
Lost workday cases	7.4	7.3	6.8	6.1	6.3	6.5	5.7	6.0	5.7	6.0	5.4	5.5	5.1
Lost workdays	149.8	160.5	156.0	152.2	–	–	–	–	–	–	–	–	–
Primary metal industries:													
Total cases	18.7	19.0	17.7	17.5	17.0	16.8	16.5	15.0	15.0	14.0	12.9	12.6	10.7
Lost workday cases	8.1	8.1	7.4	7.1	7.3	7.2	7.2	6.8	7.2	7.0	6.3	6.3	5.3
Lost workdays	168.3	180.2	169.1	175.5	–	–	–	–	–	–	–	–	11.1
Fabricated metal products:													
Total cases	18.5	18.7	17.4	16.8	16.2	16.4	15.8	14.4	14.2	13.9	12.6	11.9	11.1
Lost workday cases	7.9	7.9	7.1	6.6	6.7	6.7	6.9	6.2	6.4	6.5	6.0	5.5	5.3
Lost workdays	147.6	155.7	146.6	144.0	–	–	–	–	–	–	–	–	–
Industrial machinery and equipment:													
Total cases	12.1	12.0	11.2	11.1	11.1	11.6	11.2	9.9	10.0	9.5	8.5	8.2	11.0
Lost workday cases	4.8	4.7	4.4	4.2	4.2	4.4	4.4	4.0	4.1	4.0	3.7	3.6	6.0
Lost workdays	86.8	88.9	86.6	87.7	–	–	–	–	–	–	–	–	–
Electronic and other electrical equipment:													
Total cases	9.1	9.1	8.6	8.4	8.3	8.3	7.6	6.8	6.6	5.9	5.7	5.7	5.0
Lost workday cases	3.9	3.8	3.7	3.6	3.5	3.6	3.3	3.1	3.1	2.8	2.8	2.9	2.5
Lost workdays	77.5	79.4	83.0	81.2	–	–	–	–	–	–	–	–	–
Transportation equipment:													
Total cases	17.7	17.8	18.3	18.7	18.5	19.6	18.6	16.3	15.4	14.6	13.7	13.7	12.6
Lost workday cases	6.8	6.9	7.0	7.1	7.1	7.8	7.9	7.0	6.6	6.6	6.4	6.3	6.0
Lost workdays	138.6	153.7	166.1	186.6	–	–	–	–	–	–	–	–	–
Instruments and related products:													
Total cases	5.6	5.9	6.0	5.9	5.6	5.9	5.3	5.1	4.8	4.0	4.0	4.5	4.0
Lost workday cases	2.5	2.7	2.7	2.7	2.5	2.7	2.4	2.3	2.3	1.9	1.8	2.2	2.0
Lost workdays	55.4	57.8	64.4	65.3	–	–	–	–	–	–	–	–	–
Miscellaneous manufacturing industries:													
Total cases	11.1	11.3	11.3	10.7	10.0	9.9	9.1	9.5	8.9	8.1	8.4	7.2	6.4
Lost workday cases	5.1	5.1	5.1	5.0	4.6	4.5	4.3	4.4	4.2	3.9	4.0	3.6	3.2
Lost workdays	97.6	113.1	104.0	108.2	–	–	–	–	–	–	–	–	–

See footnotes at end of table.

54. Continued—Occupational injury and illness rates by industry[1], United States

Industry and type of case[2]	Incidence rates per 100 workers[3]												
	1989[1]	1990	1991	1992	1993[4]	1994[4]	1995[4]	1996[4]	1997[4]	1998[4]	1999[4]	2000[4]	2001[4]
Nondurable goods:													
Total cases	11.6	11.7	11.5	11.3	10.7	10.5	9.9	9.2	8.8	8.2	7.8	7.8	6.8
Lost workday cases	5.5	5.6	5.5	5.3	5.0	5.1	4.9	4.6	4.4	4.3	4.2	4.2	3.8
Lost workdays	107.8	116.9	119.7	121.8	–	–	–	–	–	-	–	–	–
Food and kindred products:													
Total cases	18.5	20.0	19.5	18.8	17.6	17.1	16.3	15.0	14.5	13.6	12.7	12.4	10.9
Lost workday cases	9.3	9.9	9.9	9.5	8.9	9.2	8.7	8.0	8.0	7.5	7.3	7.3	6.3
Lost workdays	174.7	202.6	207.2	211.9	–	–	–	–	–	-	–	–	–
Tobacco products:													
Total cases	8.7	7.7	6.4	6.0	5.8	5.3	5.6	6.7	5.9	6.4	5.5	6.2	6.7
Lost workday cases	3.4	3.2	2.8	2.4	2.3	2.4	2.6	2.8	2.7	3.4	2.2	3.1	4.2
Lost workdays	64.2	62.3	52.0	42.9	–	–	–	–	–	-	–	–	–
Textile mill products:													
Total cases	10.3	9.6	10.1	9.9	9.7	8.7	8.2	7.8	6.7	7.4	6.4	6.0	5.2
Lost workday cases	4.2	4.0	4.4	4.2	4.1	4.0	4.1	3.6	3.1	3.4	3.2	3.2	2.7
Lost workdays	81.4	85.1	88.3	87.1	–	–	–	–	–	–	–	–	–
Apparel and other textile products:													
Total cases	8.6	8.8	9.2	9.5	9.0	8.9	8.2	7.4	7.0	6.2	5.8	6.1	5.0
Lost workday cases	3.8	3.9	4.2	4.0	3.8	3.9	3.6	3.3	3.1	2.6	2.8	3.0	2.4
Lost workdays	80.5	92.1	99.9	104.6	–	–	–	–	–	-	–	–	–
Paper and allied products:													
Total cases	12.7	12.1	11.2	11.0	9.9	9.6	8.5	7.9	7.3	7.1	7.0	6.5	6.0
Lost workday cases	5.8	5.5	5.0	5.0	4.6	4.5	4.2	3.8	3.7	3.7	3.7	3.4	3.2
Lost workdays	132.9	124.8	122.7	125.9	–	–	–	–	–	–	–	–	–
Printing and publishing:													
Total cases	6.9	6.9	6.7	7.3	6.9	6.7	6.4	6.0	5.7	5.4	5.0	5.1	4.6
Lost workday cases	3.3	3.3	3.2	3.2	3.1	3.0	3.0	2.8	2.7	2.8	2.6	2.6	2.4
Lost workdays	63.8	69.8	74.5	74.8	–	–	–	–	–	–	–	–	–
Chemicals and allied products:													
Total cases	7.0	6.5	6.4	6.0	5.9	5.7	5.5	4.8	4.8	4.2	4.4	4.2	4.0
Lost workday cases	3.2	3.1	3.1	2.8	2.7	2.8	2.7	2.4	2.3	2.1	2.3	2.2	2.1
Lost workdays	63.4	61.6	62.4	64.2	–	–	–	–	–	–	–	–	–
Petroleum and coal products:													
Total cases	6.6	6.6	6.2	5.9	5.2	4.7	4.8	4.6	4.3	3.9	4.1	3.7	2.9
Lost workday cases	3.3	3.1	2.9	2.8	2.5	2.3	2.4	2.5	2.2	1.8	1.8	1.9	1.4
Lost workdays	68.1	77.3	68.2	71.2	–	–	–	–	–	–	–	–	–
Rubber and miscellaneous plastics products:													
Total cases	16.2	16.2	15.1	14.5	13.9	14.0	12.9	12.3	11.9	11.2	10.1	10.7	8.7
Lost workday cases	8.0	7.8	7.2	6.8	6.5	6.7	6.5	6.3	5.8	5.8	5.5	5.8	4.8
Lost workdays	147.2	151.3	150.9	153.3	–	–	–	–	–	–	–	–	–
Leather and leather products:													
Total cases	13.6	12.1	12.5	12.1	12.1	12.0	11.4	10.7	10.6	9.8	10.3	9.0	8.7
Lost workday cases	6.5	5.9	5.9	5.4	5.5	5.3	4.8	4.5	4.3	4.5	5.0	4.3	4.4
Lost workdays	130.4	152.3	140.8	128.5	–	–	–	–	–	–	–	–	–
Transportation and public utilities													
Total cases	9.2	9.6	9.3	9.1	9.5	9.3	9.1	8.7	8.2	7.3	7.3	6.9	6.9
Lost workday cases	5.3	5.5	5.4	5.1	5.4	5.5	5.2	5.1	4.8	4.3	4.4	4.3	4.3
Lost workdays	121.5	134.1	140.0	144.0	–	–	–	–	–	–	–	–	–
Wholesale and retail trade													
Total cases	8.0	7.9	7.6	8.4	8.1	7.9	7.5	6.8	6.7	6.5	6.1	5.9	6.6
Lost workday cases	3.6	3.5	3.4	3.5	3.4	3.4	3.2	2.9	3.0	2.8	2.7	2.7	2.5
Lost workdays	63.5	65.6	72.0	80.1	–	–	–	–	–	–	–	–	–
Wholesale trade:													
Total cases	7.7	7.4	7.2	7.6	7.8	7.7	7.5	6.6	6.5	6.5	6.3	5.8	5.3
Lost workday cases	4.0	3.7	3.7	3.6	3.7	3.8	3.6	3.4	3.2	3.3	3.3	3.1	2.8
Lost workdays	71.9	71.5	79.2	82.4	–	–	–	–	–	–	–	–	–
Retail trade:													
Total cases	8.1	8.1	7.7	8.7	8.2	7.9	7.5	6.9	6.8	6.5	6.1	5.9	5.7
Lost workday cases	3.4	3.4	3.3	3.4	3.3	3.3	3.0	2.8	2.9	2.7	2.5	2.5	2.4
Lost workdays	60.0	63.2	69.1	79.2	–	–	–	–	–	–	–	–	–
Finance, insurance, and real estate													
Total cases	2.0	2.4	2.4	2.9	2.9	2.7	2.6	2.4	2.2	.7	1.8	1.9	1.8
Lost workday cases	.9	1.1	1.1	1.2	1.2	1.1	1.0	.9	.9	.5	.8	.8	.7
Lost workdays	17.6	27.3	24.1	32.9	–	–	–	–	–	–	–	–	–
Services													
Total cases	5.5	6.0	6.2	7.1	6.7	6.5	6.4	6.0	5.6	5.2	4.9	4.9	4.6
Lost workday cases	2.7	2.8	2.8	3.0	2.8	2.8	2.8	2.6	2.5	2.4	2.2	2.2	2.2
Lost workdays	51.2	56.4	60.0	68.6	–	–	–	–	–	–	–	–	–

[1] Data for 1989 and subsequent years are based on the *Standard Industrial Classification Manual*, 1987 Edition. For this reason, they are not strictly comparable with data for the years 1985–88, which were based on the *Standard Industrial Classification Manual*, 1972 Edition, 1977 Supplement.

[2] Beginning with the 1992 survey, the annual survey measures only nonfatal injuries and illnesses, while past surveys covered both fatal and nonfatal incidents. To better address fatalities, a basic element of workplace safety, BLS implemented the Census of Fatal Occupational Injuries.

[3] The incidence rates represent the number of injuries and illnesses or lost workdays per 100 full-time workers and were calculated as (N/EH) X 200,000, where:
N = number of injuries and illnesses or lost workdays;
EH = total hours worked by all employees during the calendar year; and
200,000 = base for 100 full-time equivalent workers (working 40 hours per week, 50 weeks per year).

[4] Beginning with the 1993 survey, lost workday estimates will not be generated. As of 1992, BLS began generating percent distributions and the median number of days away from work by industry and for groups of workers sustaining similar work disabilities.

[5] Excludes farms with fewer than 11 employees since 1976.

NOTE: Dash indicates data not available.

55. Fatal occupational injuries by event or exposure, 1996-2005

Event or exposure[1]	1996-2000 (average)	2001-2005 (average)[2]	2005[3]	
			Number	Percent
All events	6,094	5,704	5,734	100
Transportation incidents	2,608	2,451	2,493	43
Highway	1,408	1,394	1,437	25
Collision between vehicles, mobile equipment	685	686	718	13
Moving in same direction	117	151	175	3
Moving in opposite directions, oncoming	247	254	265	5
Moving in intersection	151	137	134	2
Vehicle struck stationary object or equipment on side of road	264	310	345	6
Noncollision	372	335	318	6
Jack-knifed or overturned--no collision	298	274	273	5
Nonhighway (farm, industrial premises)	378	335	340	6
Noncollision accident	321	277	281	5
Overturned	212	175	182	3
Worker struck by vehicle, mobile equipment	376	369	391	7
Worker struck by vehicle, mobile equipment in roadway	129	136	140	2
Worker struck by vehicle, mobile equipment in parking lot or non-road area	171	166	176	3
Water vehicle	105	82	88	2
Aircraft	263	206	149	3
Assaults and violent acts	1,015	850	792	14
Homicides	766	602	567	10
Shooting	617	465	441	8
Suicide, self-inflicted injury	216	207	180	3
Contact with objects and equipment	1,005	952	1,005	18
Struck by object	567	560	607	11
Struck by falling object	364	345	385	7
Struck by rolling, sliding objects on floor or ground level	77	89	94	2
Caught in or compressed by equipment or objects	293	256	278	5
Caught in running equipment or machinery	157	128	121	2
Caught in or crushed in collapsing materials	128	118	109	2
Falls	714	763	770	13
Fall to lower level	636	669	664	12
Fall from ladder	106	125	129	2
Fall from roof	153	154	160	3
Fall to lower level, n.e.c.	117	123	117	2
Exposure to harmful substances or environments	535	498	501	9
Contact with electric current	290	265	251	4
Contact with overhead power lines	132	118	112	2
Exposure to caustic, noxious, or allergenic substances	112	114	136	2
Oxygen deficiency	92	74	59	1
Fires and explosions	196	174	159	3
Fires--unintended or uncontrolled	103	95	93	2
Explosion	92	78	65	1

[1] Based on the 1992 BLS Occupational Injury and Illness Classification Manual.
[2] Excludes fatalities from the Sept. 11, 2001, terrorist attacks.
[3] The BLS news release of August 10, 2006, reported a total of 5,702 fatal work injuries for calendar year 2005. Since then, an additional 32 job-related fatalities were identified, bringing the total job-related fatality count for 2005 to 5,734.

NOTE: Totals for all years are revised and final. Totals for major categories may include subcategories not shown separately. Dashes indicate no data reported or data that do not meet publication criteria. N.e.c. means "not elsewhere classified."

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, in cooperation with State, New York City, District of Columbia, and Federal agencies, Census of Fatal Occupational Injuries.

The Relevance of Occupational Wage Leveling

by John E. Buckley
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For more than 50 years, the Bureau of Labor Statistics (BLS) National Compensation Survey (NCS) and its predecessor surveys were a principal source of occupational wage data broken out by work level. Occupational pay data by work level provide more refined results than data rolled up to a higher aggregated level. Leveling is the process that reflects differences in duties and responsibilities within the occupation. For example, the federal government recognizes eight levels of chemists, from entry-level chemist to a chemist who may have responsibility for an entire chemical program or equivalent responsibilities.

Having data without levels for an occupation—engineers, for example—would have limited value to a large company with several hundred engineers from entry level to engineering department manager. The federal government has a 15-grade General Schedule (GS) that covers a majority of its white-collar workers. This 15-grade system was used by the NCS to develop a system to classify by level the occupational data obtained from survey respondents.

The locality pay portion of the NCS, which produced the occupational levels, was used by the designated federal authority, the presidents pay agent, to adjust federal white-collar salaries. The publication of the 2010 NCS national estimates marked the end of wage estimates based on the locality pay program. Instead, an alternative program will produce occupational levels.

This article explains the importance of producing occupational wage level data, which are collected from sampled establishments by BLS field economists. Typically, the initial data collection was conducted through personal visit to the establishments' representatives, and data were updated annually by a combination of email, regular mail, and telephone. The publication National Compensation Survey: Occupational Earnings in the United States, 2010 presents published data for 10 aggregated (rolled up) levels of management occupations.[1] To illustrate, table 1 shows overall aggregated levels 9 and 12, along with data for four detailed management occupations at the same two levels.

Table 1. Mean hourly earnings in full-time management occupations, aggregated and detailed levels 9 and 12, private industry workers, National Compensation Survey, July 2010

Occupation	Level 9	Level 12	Level 12 as percent of level 9
Aggregated level	$31.20	$63.57	204
Finance managers	30.01	84.18	281
General and operations managers	30.83	63.38	206
Education administrators, postsecondary	29.99	81.59	272
Medical and health services managers	27.55	51.86	188

The weighted average hourly earnings rate for all level-9 management workers, $31.20, was close to the rates for the four detailed level-9 occupations, and, lacking detailed levels, could reasonably be a proxy for the detailed occupation. However, the aggregated level 12 is not a good substitute for detailed occupational levels. Without data by level for medical and health services managers, employers relying on the aggregated rate would be a paying a premium of approximately 23 percent, all other things being equal: [($63.57÷51.86) × 100]−100 = 22.6 percent. Occupational earnings by level can also indicate the career earnings path for different jobs. Table 2 shows average hourly earnings for selected level-5 (entry level), level-9 (midpoint career), and level-12 (journey level) management and professional jobs. In this example, average earnings of level-5 engineers are considerably higher than those of accountants and financial analysts at the same level. The differences in earnings are considerably narrower for level-9 professional jobs. The average hourly earnings of engineers and

accountants are not significantly different at level 12, but at this level the average earnings of financial analysts and advisors surpassed those of engineers by a significant amount.

Table 2. Mean hourly earnings in selected full-time management and professional occupations, levels 5, 9, and 12, private industry workers, National Compensation Survey, July 2010

Occupation	Level 5	Level 9	Level 12	Level 12 as percent of level 5
Accountants and auditors	$17.93	$29.92	$52.27	192
Financial analysts and advisors	19.52	33.04	71.09	264
Engineers	28.00	34.36	53.16	90

As indicated by the percentage figures in the right-hand column in table 2, higher or lower earnings at the entry level do not necessarily mean that the same patterns will be sustained at higher work levels. Level-5 engineers had considerably higher earnings than the earnings of level-5 accountants and financial analysts. At level 12, however, engineers' average earnings were a modest 90 percent higher than level-5 engineers, while level-12 financial analysts' earnings were 264 percent higher than level-5 financial analysts.

The Future Of Occupational Leveling

As noted previously, with the replacement of the locality pay portion of the National Compensation Survey, no BLS program will publish occupational wage data by level. The NCS is introducing a sample design under which it will continue to collect data by occupational level, but the sample sizes will not be sufficient to produce occupational detail by level. The Bureaus Occupational Employment Statistics (OES) program provides annual data on employment and wages by occupation and industry for over 800 occupations and for about 400 industries throughout the nation, as well as similar data for all states and selected metropolitan areas. The occupational data are not broken out by level; however, both the NCS and the OES staff are currently researching methods to incorporate the leveling data from the NCS with the OES data by means of modeling techniques. This will result in producing more leveling data for more areas than was the case under the locality pay survey.

How Occupations Are Leveled

Before the locality pay portion of the National Compensation Survey was replaced, the Bureaus field economists evaluated each sampled job, as the data were collected, using a point-factor method to determine its work level based on related duties and responsibilities. Four factors—*knowledge, job controls and complexity, contacts* (nature and purpose), and *physical environment*—were applied to each of the sampled jobs as they were slotted into one of 15 work levels based on the total number of points attained. The Bureaus publication National Compensation Survey: Guide for Evaluating Your Firms Jobs and Pay provides a full description of the leveling process with examples and worksheets.[2]

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Notes

1 See *National Compensation Survey: Occupational Earnings in the United States, 2010*, Bulletin 2753 (Bureau of Labor Statistics, May 2011), http://www.bls.gov/ncs/ncswage2010.htm.

2 *National Compensation Survey: Guide for Evaluating Your Firms Jobs and Pay* (Bureau of Labor Statistics, October 2003, http://www.bls.gov/ncs/ocs/sp/ncbr0004.pdf. This publication will be updated to reflect the replacement of the 2000 version of the Standard Occupational Classification system with the 2010 version. The basic leveling process remains unchanged. For a more in-depth discussion of the National Compensation Survey and of the methods and mechanics of leveling occupations, see Richard E. Schumann, "Occupational Selection and Leveling in the National Compensation Survey," *Compensation and Working Conditions Online* (August 31, 2011), http://www.bls.gov/opub/cwc/cm20110829ar01p1.htm; see also, John E. Buckley, "Fifty Years of BLS Surveys on Federal Employees Pay," *Monthly Labor Review* (September 2009), http://www.bls.gov/opub/mlr/2009/09/art3full.pdf, which provides a summary of the federal pay adjustment process and includes an example of how work levels are determined.

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